Chapter 2
Perspectives on Error Correction

2.1 Introduction

As should be clear from the discussion in the previous chapter, the opinions on the utility of the treatment of learner errors in speech and writing have been in a state of constant flux for many decades and they have been a close reflection of the major shifts of perspective on the value of form-focused instruction as such. Since the contribution of pedagogic intervention of this kind, despite being on the whole regarded as effective, facilitative or even necessary for language development and thus desirable in the majority of instructional settings (cf. Larsen-Freeman 2003, 2010a; Ellis 2006b, 2008, 2010a; Pawlak 2006a, 2013; Nassaji and Fotos 2007, 2011; Spada 2011), still has its detractors, it is not in the least surprising that the provision of corrective feedback also remains an exceedingly controversial issue which arouses heated debates among theorists and researchers. Perhaps the best illustration of this lack of consensus are pronouncements emanating from leading figures in the field of second language acquisition which clearly stand in stark contrast to each other. As Krashen (1982, p. 119) famously comments, for example, "even under the best of conditions, with the most learning-oriented students, teacher corrections will not produce results that will live up to the expectations of many instructors". Similar sentiments are echoed by Truscott, an extremely outspoken critic of oral and written correction in the use of grammatical structures, when he declares: "[m]y thesis is that grammar correction has no place in writing courses and should be abandoned" (1996, p. 328). As he adds in another publication, "[o]ral correction poses overwhelming problems for teachers and for students; research evidence suggests that it is not effective; and no good reasons have been offered for continuing this practice. The natural conclusion is that oral grammar correction should be abandoned" (1999, p. 453). In contrast to such reservation, Chaudron (1988, p. 133) wrote in his review of classroom-oriented research that "from the learners' point of view (…) the use of feedback may constitute the most potent source of improvement

M. Pawlak, *Error Correction in the Foreign Language Classroom*,
Second Language Learning and Teaching, DOI: 10.1007/978-3-642-38436-3_2,

in (…) target language development", a position that is supported by a growing number of specialists. As Larsen-Freeman (2003, p. 126) points out, "(…) feedback on learners' performance in an instructional environment presents an opportunity for learning to take place. An error potentially represents a teachable moment". Ellis (2009c, p. 6), in turn, is sanguine that "[t]here is increasing evidence that CF [corrective feedback] can assist learning (…), and current research has switched from addressing whether CF works to examining what kind works best (…)".

In view of such contrary and very strong opinions, there is an urgent need to reconsider the role of error correction in instructed second language acquisition by subjecting to close scrutiny the pertinent theoretical positions, the empirical evidence collected to date as well as the diverse pedagogic arguments that have been put forward either to cast doubt on or to lend support to the provision of negative feedback on inaccurate target language use in spoken and written output. This is precisely the rationale behind the present chapter which, on the one hand, is intended to present a brief overview of the opposing perspectives on the place of error treatment in the foreign language classroom, and, on the other, to make a compelling case for the contribution of this option in form-focused instruction to second language development in terms of the growth of both explicit and implicit knowledge. Accordingly, at the very outset, the requirements for successful language acquisition will be outlined, which will be followed by the discussion of the most important criticisms that have been frequently leveled at the use of corrective feedback in language teaching on theoretical, empirical and practical grounds. Since reservations of this kind, however strong and vocal they might be, have been to a large extent refuted by the proponents of form-focused instruction, subsequently, an attempt will be made to provide a justification for the utilization of error correction, also in this case drawing upon influential SLA theories and hypotheses, both psycholinguistic and sociolinguistic in nature, the copious research findings testifying to the utility of corrective reactions to learner errors, as well as purely pedagogical arguments, such as those related to the specificity of the foreign language context. Although the present author is fully cognizant of the fact that there are some crucial differences between oral and written error correction which admittedly go far beyond only the mode (i.e. oral production vs. written output) in which it occurs (see Sect. 3.3 in Chap. 3 for a comparison), a decision has been made to discuss the rationale for the two types of negative feedback jointly. The reason for this is not only the fact that exactly this approach is adopted in many recent overviews of the role of corrective feedback, such as those penned by Russell and Spada (2006), Sheen (2010b), Ellis (2009c, 2010b), or Sheen and Ellis (2011), but also the existence of striking similarities between these two modes as regards the overall rationale and pedagogical choices, not to mention the fact that even indisputable differences become blurred when written feedback is negotiated with learners (Nassaji 2007a) or in situations when corrective reactions to erroneous spoken or written output are delivered through the computer (Sagarra 2007).

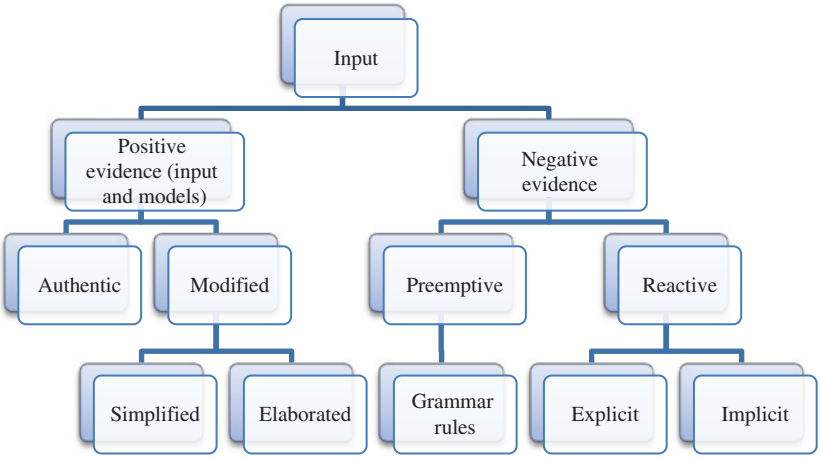

Fig. 2.1 Types of evidence for second language acquisition (adapted from Doughty 1998, p. 143, and Long and Robinson 1998, p. 19)

2.2 Requirements for Successful Second and Foreign Language Learning

Before taking stock of the contrasting positions on the role of error correction in the foreign language classroom, it is perhaps fitting to examine the conditions that have to be in place for the success of the acquisition of an additional language, irrespective of whether it takes place in a second or foreign language context. According to Gass (2003), these conditions include the availability of an adequate quantity of high quality exposure to target language samples and abundant opportunities to engage in the production of output, especially such that entails the use of linguistic resources in real-time communication.

As illustrated in Fig. 2.1, *exposure*, more commonly referred to in the literature as *target language input*, can take the form of *positive evidence*, understood as information about what is accurate and therefore possible and acceptable in a second language, or "language used, that is utterances in context" (Gregg 2001, p. 170), and *negative evidence*, defined as information that certain utterances are incorrect and thus impossible in that language, or "language mentioned" (Gregg 2001, p. 170).[1] Positive evidence

[1] The distinction between positive and negative evidence was first applied to first language acquisition, in which case the former refers to *primary linguistic data* (PLD), or the language that caretakers direct at children, whereas the latter indicates that a specific form or structure is not grammatical, and does not normally occur in child-directed speech (cf. Gregg 2001), although see note 4 in Chap. 1. Gass (2003) also mentions another type of evidence, known as *indirect negative evidence*, which provides information that certain features or rules are not possible since they fail to appear in relatively simple expressions in the expected environment. Although by Chomsky's (1981) own admission, this type of evidence may be relevant to the acquisition of the mother tongue, it has been subject to little empirical investigation, "perhaps because no theoretical arguments rest crucially on it" (Gass 2003, p. 249).

contains exemplars of accurate utterances in the ambient input as well as models of such utterances deliberately presented by the teacher in the classroom environment, and it can be *authentic* (e.g. a newspaper article intended for native speakers or a movie with an original soundtrack) and *modified* with the adjustments made in the latter involving either *simplification* (e.g. a coursebook text which contains a limited number of tokens and types of vocabulary items, and is written with the help of relatively simple grammatical structures) or *elaboration* (e.g. difficult words are defined and exemplified when the teacher is telling a story). When it comes to negative evidence, it can be *preemptive*, when pertinent rules are provided and grammatical explanations offered before the learner has a chance to make a mistake, or *reactive*, in which case it represents various options in error correction or negative feedback as it was described in the preceding chapter. Although the graphical representation suggests that such evidence can only be explicit (i.e. over or direct, as in the provision of the correct version) or implicit (i.e. covert or indirect, as in a recast or a clarification request), as was demonstrated in Sect. 1.6 of Chap. 1 and as will be further elaborated upon in Chap. 3, it can also differ along other dimensions, the most important of which concerns whether a particular corrective move is input-providing or output-inducing.

Commenting on the significance of these two types of data, Gass (2003, p. 226) writes that "[p]ositive evidence is the most obvious necessary requirement for learning. One must have exposure to the set of grammatical sentences in order for learning to take place. However, the role of negative evidence is less clear". Indeed, even a total layperson would be very unlikely to even contemplate the possibility that successful second language acquisition could ever occur without adequate access to utterances in the target language, be they spoken or written. By the same token, although influential SLA theories may differ with respect to a number of issues, such as the role of form-focused instruction, the requirement for comprehension and production, or the characteristics of input that would make it the most conducive to language development, all of them consider the presence of a sufficient amount of language data to be indispensible for learning. The situation is entirely different when it comes to various types of negative evidence, both preemptive and reactive, since, as was demonstrated in Sect. 1.4 of Chap. 1, its utility is called into question by the proponents of theoretical positions based on nativist accounts of language acquisition, such as Krashen's (1981, 1982) Monitor Model, which have provided an impetus for the advent of non-interventionist approaches embracing the zero grammar option (i.e. deep-end variants of CLT) and will be discussed in detail in the following section.

Since the arguments testifying to the beneficial contributions of negative evidence, especially of the reactive type, will be thoroughly discussed in Sect. 2.4, suffice it to say at this juncture that the need for some kind of pedagogic intervention is now recognized in most leading theories and hypotheses seeking to explain the process of second language acquisition and there is mounting empirical evidence that formal instruction works and its effects are durable (Pawlak 2006a; Ellis 2008, 2010a; Larsen-Freeman 2010a; Nassaji and Fotos 2011; Spada 2011). It should also be noted that the provision of negative evidence is seen as

indispensable even by those adherents of approaches based on Universal Grammar who adopt the so-called *indirect* or *partial access view*, which posits that principles continue to be available after the end of the critical period but learners cease to have access to the full range of parametric variation (e.g. Schachter 1996).[2] As a consequence, formal instruction is needed to highlight grammatical contrasts for features that have different parameter settings in the mother tongue and in the second language, and are therefore not learnable from positive evidence alone, as is the case with adverb placement in English and French (White 1991). To further complicate matters, reactive negative evidence, both preemptive and reactive, may in fact provide learners not only with information about what is inaccurate and unacceptable in the target language but also well-formed utterances and models of use, thus also supplying valuable positive evidence. This happens when the teacher explains the use of a new grammar structure with the help of numerous examples of authentic or contrived sentences or longer texts. Similarly, a recast used in response to inaccurate output on the part of a learner provides information about what is not permissible in the target language, at least when it is interpreted as negative feedback, which may not always happen (cf. Lyster 1998a), but, at the same time, being an implicit reformulation of what has been said, it also constitutes an important source of exposure as a TL model.

Equally controversial is the requirement that successful language acquisition is only possible when learners are provided with opportunities to generate output. This is evident in Krashen's (1981, 1985, 2003) claim that the availability of comprehensible input (i.e. input whose structural complexity only slightly exceeds learners' current level of competence) is all that is needed for interlanguage development, as expressed in his well-known pronouncement that "[s]peaking is the result of acquisition, not its cause. Speech cannot be taught directly, but 'emerges' on its own as a result of building competence via comprehensible input" (1985, p. 2). The role of production is also played down to some extent in VanPatten's (1996, 2002, 2007) Input Processing Theory which sets store by the strategies that learners employ to derive input from intake, thus attaching much more significance to the comprehension of target language structures. These theoretical positions have resulted in the emergence of the Natural Approach and Processing Instruction, respectively, which do not entirely obviate the need for output, but view its contribution to the process of acquisition as limited and are based on the assumption that it should be stimulated at later stages of the teaching process. A very different stance can be found in the tenets of interaction-based theoretical positions, both those emphasizing the psycholinguistic processes of acquisition and those stressing its social dimension, such as the Interaction Hypothesis (Long 1983, 1996), the Output Hypothesis (Swain 1985, 1995, 2005) and Sociocultural Theory (Lantolf 2006; Lantolf and Thorne 2007; Lantolf and Beckett 2009). As will be demonstrated in Sect. 2.4.1, which provides a more detailed account of

[2] A fuller account of the issue of accessibility of Universal Grammar in second language learning can be found in publications by White (2007) or Ellis (2008).

such theories and hypotheses, while the first two view output as a factor enabling the move from semantic to syntactic processing, triggering noticing, allowing hypothesis testing, encouraging reflection on target language use, and contributing to greater automaticity and fluency (Swain 1995, 2005; Gass 1997), the third is predicated on the belief that social interaction is indispensable because it mediates second language development.

Leaving such theoretical considerations aside, it should be clarified that opportunities to engage in output production also play such an essential role in language acquisition because oral and written interactions are bound to generate more positive and negative evidence that learners can make use of in restructuring their developing interlanguage systems. This is because, for example, active participation in conversational exchanges with more proficient interlocutors inevitably results in increased exposure to well-formed utterances in the target language as students listen to their questions and responses. On the other hand, the very act of language production creates numerous contexts in which errors are likely to be committed, which can provide a stimulus for the occurrence of negative evidence, as the use of incorrect forms provokes the provision of corrective feedback by native speakers, teachers, or more proficient peers. As mentioned above, such correction may in itself constitute positive evidence as well, let alone the fact that it can be accompanied by additional models when brief grammatical explanations are given.

2.3 Reservations About the Utility of Oral and Written Corrective Feedback

Doubts concerning the value of error correction in instructed second language acquisition are similar to the criticisms voiced about form-focused instruction as such, and they are related to its theoretical underpinnings, research findings demonstrating the existence of developmental sequences that are impervious to instruction, methodological problems visible in the studies of the effectiveness of corrective feedback, and purely practical concerns. As to the first of these, as was mentioned in Chap. 1 and was also pointed out in the preceding section, the need for the provision of corrective feedback, which constitutes a form of negative evidence, is all but denied by nativist learning theory and the related UG-based theories, according to which all that is needed for successful language learning is access to adequate second language data, or positive evidence, which sets in motion internal processing mechanisms. In fact, scholars such as Schwartz (1993) or Towell and Hawkins (1994) are highly skeptical of even the very modest role of formal instruction in allowing parameter resetting postulated by White (1991). They claim instead that although the presence of negative evidence may indeed aid learners in using the structures they are taught in immediate production or eliminating an error right after they are corrected, these effects are temporary and are bound to wear off very quickly because such pedagogic intervention does not

affect the development of implicit knowledge of the L2. The truth is, however, that no matter which variant of a UG-based approach is adopted, the full transfer, full access or partial access one, the contribution of form-focused instruction, including the treatment of learners' errors has to be viewed as marginal, confined at best to drawing students' attention to the parameter settings that are absent from their first language. This situation is pertinently summarized by Doughty and Williams (1998b, p. 201) when they write: "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". Doughty (2003, p. 257) adds to this that "[b]y the UG-based SLA account, then, instruction is either entirely or largely unnecessary", with instruction clearly also subsuming corrective reactions to learners' errors.

The main tenets of nativism found their reflection in two influential theories of second language acquisition which share many crucial characteristics, namely the Identity Hypothesis (e.g. Newmark 1966) and the Monitor Model (Krashen 1981, 1982). The first of these states on the basis of empirical evidence speaking to the existence of many similarities between the initial stages of first and second language acquisition (e.g. occurrence of overgeneralization errors, the use of formulaic expressions, silent period, relatively fixed orders and sequences of acquisition) that the two processes are essentially identical. Even though this view was later challenged by Bley-Vroman (1988) in his Fundamental Difference Hypothesis, it paved the way for the emergence of radical non-interventionist approaches such as the Cognitive Anti-Method (Newmark and Reibel 1968), which postulated that teachers should try to recreate in the classroom the conditions of native language acquisition, as this will allow effortless and automatic learning of second and foreign languages. Logically, such a stance was tantamount to total rejection of formal instruction in the form of rule explanation, controlled practice or error correction, a recommendation that was embraced by subsequent followers of the zero grammar option (cf. Krashen 1981; Prabhu 1987). As regards Krashen's (1981, 1982, 1985, 2003) Monitor Model, without doubt one of the most comprehensive and influential theories of SLA ever proposed, it built upon the assumptions of both nativist learning theory and the Identity Hypothesis, and was informed by the results of interlanguage studies conducted in the 1970s and 1980s (see below).

In its final version, the theory comprises five related hypotheses, all of which attribute only a minor role to formal instruction. According to the Acquisition-Learning Hypothesis, for example, explicit and implicit learning are two distinct processes and there is no transfer between explicit and implicit knowledge, a proposal that is referred to as the *non-interface position* (see Sect. 1.5 in Chap. 1 for the descriptions of these two types of representation and the possible relationships between them). The Monitor Hypothesis, in turn, claims that it is acquired (implicit) knowledge that initiates speech, underlies fluency and is responsible for intuitive judgments about correctness, whereas the role of learned (explicit) knowledge is limited to making minor modifications to the utterances generated in this

way. Severe limitations on the utility of instruction also derive from the Natural Order Hypothesis, according to which acquisition is constrained by the orders and sequences of acquisition, and the Comprehensible Input Hypothesis, which ascribes the main causative role in that process to exposure to *comprehensible input*, or language data that can be understood with effort, and not negative evidence or output production. Finally, the Affective Filter Hypothesis assumes that such individual variables as self-esteem, attitudes, motivation or anxiety may impinge on acquisition indirectly by influencing learners' readiness to seek opportunities for exposure as well as allowing or preventing input from reaching the language acquisition device, with the implication that instructional practices should be motivating and stress-free. Taken together, these hypotheses do not augur well for the effectiveness of error correction since not only is it expected to have no influence on the development of implicit knowledge, but can also lead to heightened anxiety levels and fear of output production. Although Krashen (2003) admits that error correction might assist learning, he leaves little doubt as to the scope of its effects, when he comments that such pedagogic intervention is only viable in the case of "(…) a small residue of grammar, punctuation, and spelling rules that even native speakers do not acquire, even after extensive aural and written comprehensible input" (2003, p. 3). Potential candidates for such treatment include, in his view, the 'lie/lay' or 'it's/its' distinction, or words which are notorious for difficult spelling such as 'commitment' or 'possess'. It is obvious, though, that these forms are not cause for too much concern for language teachers who typically provide corrective feedback on much simpler features which are used incorrectly in systematic ways.[3]

A case against error correction can also be made on the basis of research findings which provide unequivocal evidence that second language acquisition is subject to developmental constraints which cannot be easily overcome by formal instruction, also such that involves the treatment of errors committed by learners. For one thing, there are the so-called *morpheme order studies*, such as those conducted by Dulay and Burt (1974), Larsen-Freeman (1976) or Krashen (1977), which demonstrated that there exists a consistent order of acquisition of grammatical functors irrespective of the learners' age or nationality and provided a stimulus for Krashen's Monitor Model. Even when it is acknowledged that such studies suffer from serious methodological flaws and that full mastery of inflectional morphemes is often beyond the reach of even advanced learners (see Larsen-Freeman and Long 1991; Ellis 2008; Gass and Selinker 2008), it would clearly be imprudent not to take heed of such empirical findings. As Larsen-Freeman and Long (1991, p. 92) thoughtfully commented, "(…) the morpheme order studies provide

[3] Interestingly, misgivings about the usefulness of correction were also expressed in an earlier work by VanPatten (1992), who is on the whole a supporter of form-focused instruction, especially such that is comprehension-based (i.e. processing instruction, or PI). As he commented, "(…) correcting errors in learner output has a negligible effect on the developing system of most language learners" (1992, p. 24). However, he modified his stance in subsequent publications and recognized the role of negotiation in stimulating noticing, enabling learners to create connections between form and meaning, and therefore contributing to acquisition (cf. VanPatten 2003).

strong evidence that ILs exhibit common accuracy/acquisition orders. (…) there are (…) too many studies conducted with too much methodological rigor and showing sufficiently consistent general findings for the commonalities to be ignored".[4] Secondly, there is abundant longitudinal research which demonstrated the existence of regular *developmental stages* in the acquisition of a number of syntactic domains in a variety of languages, such as interrogatives, negatives, relative clauses or word order rules, patterns that are only minimally influenced by the first language background or learning environment (see Ellis 2008; Ortega 2009a, 2010; Spada and Lightbown 2010, for overviews of specific studies). Obviously, also here, it is possible to indicate a number of limitations such as the occurrence of substages in some languages (e.g. post-verbal negation used by German learners of English), excessive preoccupation with grammar, methodological problems as well as the fact that only a fraction of features in a handful of languages have been examined so far (cf. Ellis 2008; Ortega 2010). But again, the results are quite consistent and they definitely have to be reckoned with as they provide convincing evidence that "[i]nterlanguage development is systematic, not haphazard. For a substantial number of language areas, learners are seen to traverse several stages, each consisting of predictable solutions, on their way to developing the various full-fledged subsystems of the target language" (Ortega 2010, p. 83). Thirdly, once the existence of all these developmental patterns is recognized, there is a question as to whether they can be influenced by FFI. The available empirical evidence indicates that such regularities remain by and large unaffected by pedagogical intervention unless the learner has reached the necessary level of *psycholinguistic readiness*, understood within the framework of Pienemann's (1989, 2007) Processability Theory and Teachability Hypothesis as the ability to perform requisite syntactic operations (cf. Ellis 2008; Bardovi-Harlig and Comajona 2010; Ortega 2010). What is more, untimely instruction may foster the process of overgeneralization, as when learners overuse the present progressive '-ing' (Lightbown 1983), as well as avoidance, for example in situations when they deliberately fail to use adverb preposing (Pienemann 1989), thus having a detrimental effect on acquisition. In light of such empirical evidence, the utility of corrective feedback as one of the key options in form-focused instruction surely has to be regarded with much circumspection. After all, one might logically argue that there is little point in going to so much trouble correcting learners' oral and written errors if such treatment is very unlikely to result in immediate acquisition of the structures being the object of such treatment.

The contribution of error correction has also been called into question on the basis of the results of empirical investigations that have specifically addressed the effects of corrective feedback on errors committed by learners in speech and

[4] A thorough discussion of the potential factors which may account for the existence of fixed orders of acquisition of grammatical morphemes is undertaken by Goldschneider and DeKeyser (2001), while a state-of-the-art overview of current perspectives on the learning and processing of inflectional morphology by second language learners can be found in the first 2010 issue of *Language Learning* with excellent review papers by Gor (2010) and Larsen-Freeman (2010b).

writing, although, as will be shown in the following section, this interpretation is open to discussion in some cases and reflects the side of debate that its proponents situate themselves on. In the first place, as shown by Chaudron (1988) in his first major overview of classroom-oriented research, early studies failed to find evidence for the impact of error treatment on language development, good examples being the research projects conducted by Chaudron (1986) and Brock et al. (1986). In the former, it was determined that only 39 % of inaccurate forms corrected by the teacher in a French immersion class were eliminated in the subsequent utterance, while in the latter no beneficial effects of correction were observed in the short term, but the researchers did not rule out the possibility that they might appear in the future, a suggestion that is in line with the tenets of the Delayed-Effect Hypothesis (cf. Lightbown 1985, 1998). Reservations about the value of correction for foreign language pedagogy can also be raised in connection with the findings of *descriptive research* into the effectiveness of oral corrective feedback provided during naturally occurring classroom interaction, a line of inquiry that was largely inspired by Long's (1991) claim that teachers should draw learners' attention to target language features in the course of meaning and message communication. These studies, good examples of which are the research projects conducted by Lyster and Ranta (1997), Panova and Lyster (2002), Sheen (2004) or Pawlak (2005a), discussed in more detail in Sect. 4.3.2.1 in Chap. 4, address in particular the occurrence of incidental (extensive, spontaneous) reactive focus on form (see Sect. 1.6.1 in Chap. 1) and its influence on learners' subsequent language production. Although their findings indicate that at least some types of feedback generate successful output modifications (i.e. uptake and repair), thus testifying to immediate benefits of error correction, they do not provide adequate evidence for acquisition since such improvement may be temporary and erroneous forms may reappear at a later time (Leeman 2007; Long 2007), a pattern predicted by the adherents of UG-based approaches (e.g. Schwartz 1993; Towell and Hawkins 1994).

Similar criticisms have been leveled at research into written feedback, particularly such that investigates the effect of such feedback on learners' *revisions of the same paper* or, to be more precise, on their ability to eliminate the errors corrected in some way in a subsequent draft (e.g. Fathman and Whalley 1990; Ashwell 2000; Chandler 2003; Ferris and Roberts 2001; Ferris 2006). Some SLA researchers (e.g. Sheen 2007b, 2010b; Ellis et al. 2008) point to the flaw inherent in these studies which, similarly to descriptive research on oral error correction, pertains to the fact that they cannot demonstrate that the gains in accuracy will be carried over to writing assignments completed in the future. As Hyland and Hyland (2006, p. 85) comment, echoing the concerns raised by Truscott (1996), "(…) demonstrating that a student can utilize teacher feedback to successfully edit from one draft of a paper to the next tells us little about the learner's successful acquisition of the linguistic features addressed by the feedback". They elaborate on this critical limitation in the following way (2006, p. 86):

> (…) many studies of feedback on error have ignored how language acquisition occurs, although the influence of feedback on the learner's long term writing development fits closely with the SLA research (…). SLA studies indicate that second language acquisition

> takes place over time and that mistakes are an important part of the highly complex developmental process of acquiring the target language. In fact, there may be U-shaped course of development (Ellis 1997) where learners are initially able to use the correct forms, only to regress later, before finally using them according to the target language norms (…). We cannot, in other words, expect that a target form will be acquired either immediately or permanently after it has been highlighted through feedback. Even though explicit feedback can play an important role in second language acquisition, it needs time and repetition before it can help learners to notice correct forms, compare these with their own interlanguage and test their hypotheses about the target language.

The most severe criticism of research into feedback on learners' written production, however, comes from Truscott (1996, 1999, 2004, 2007), who mentions a number of studies which have proved the futility of grammar correction in written work, both such concerning the teaching of writing in the first language (e.g. Knoblauch and Brannon 1981) and, more importantly, such addressing this issue in second language instruction (e.g. Kepner 1991; Sheppard 1992). Some support for these reservations also comes from a study conducted by Lee (2004), which, similarly to other research projects of this kind (see Sect. 2.4.2.5), found that both teachers and students were in favor of corrective feedback, but only about half of the corrections provided were accurate. Of particular interest is the synthesis and meta-analysis of research into written error correction undertaken by Truscott (2007), who looked at both controlled (i.e. such that include a control group) and uncontrolled (i.e. such that do not contain a control group and measure the effects of pedagogic intervention in terms of absolute gains) studies, 12 in total, and concluded that: "(a) the best estimate is that correction has a small harmful effect on students' ability to write accurately, and (b) we can be 95 % confident that if it actually has any benefits, they are very small" (2007, p. 270). Also worth mentioning at this point is a recent study by Truscott and Hsu (2008), which found that the students who received feedback in the form of underlining did improve in comparison with the controls on a revision task, but the performance of the two groups was virtually identical on a guided narrative, based on a set of pictures.[5]

There are also more pedagogically oriented arguments that have been advanced against the provision of corrective feedback on inaccurate forms in learners' oral and written output. Some of them are the direct corollary of research into the process of first language acquisition and the characteristics of naturalistic discourse, taking place between native speakers as well as native speakers and second language learners outside the confines of the classroom. As to the former, although recent empirical evidence suggests that children's erroneous utterances can be implicitly reformulated by caretakers (cf. Snow 1986; Farrar 1992; Saxton 1997; see also note 4 in Chap. 1), child-directed speech has been shown to focus on

[5] An interesting critique of this particular study is offered by Bruton (2009), who argues that it suffers from inconsistency in terms of its design and argumentation. In particular, he points out that the errors made in the second narrative did not correspond to those corrected in the first narrative, and therefore it was impossible for the corrections and revisions to have an effect on subsequent writing.

factual content, social routines and communicative effectiveness, with the outcome that parents are not overly concerned with grammatical accuracy, they avoid explicit correction and therefore allow even the most blatant inaccuracies to go unnoticed (Brown 1977; Schmidt and Frota 1986; Mitchell and Miles 1998). The latter, in turn, demonstrated the soundness of Chaudron's (1988, p. 132) claim that "no one participant in natural communication is specified as having the automatic right to impose judgment on the other's behavior, especially linguistic behavior". To be more precise, it was found that there is marked preference in naturalistic discourse for self-initiated, self-completed repair, to the virtual absence of other-initiated, other completed corrections, with indications that something has gone wrong being modulated, tentative and realized by means of clarification requests and comprehension checks (cf. Schegloff et al. 1977; Gaskill 1980; Gaies 1987; van Lier 1988). It is not surprising that these findings should give methodologists and teachers serious food for thought with respect to the overall value of corrective feedback. This is because a valid point could be made that if children can succeed in mastering their first language without the benefit of corrective moves supplying them with negative evidence and the lack of error treatment does not have a negative impact on real-life communication and does not seem to adversely affect out-of-class learning, perhaps the best solution would be to emulate these interactional patterns in language classrooms, subscribing in this way to the main premises of non-interventionist approaches (see Sect. 1.4 in Chap. 1). Other potential problems connected with correction are highlighted by Krashen (1982, p. 74), who calls it "a serious mistake", arguing that it puts learners on the defensive, leads to their reluctance to use and experiment with difficult structures, and fosters the development of learned rather than acquired knowledge which underlies spontaneous language production.

The most extensive, forceful and cogent justification for the claim that error correction should be abandoned altogether is offered by Truscott (1996, 1999) in two successive papers, one dealing with the treatment of grammatical errors in writing and the other focusing on such corrective feedback in speaking activities. In the first of these, apart from presenting a range of theoretical arguments concerning the existence of the attested orders of acquisition and the occurrence of what he refers to as *pseudolearning* as well as reviewing the available empirical evidence, Truscott (1996) lists a number of practical problems involved in the correction of written errors. The most important of these include difficulty on the part of teachers to notice, understand, appropriately respond to and explain an error, and learners' inability to grasp, generalize and retain the metalinguistic explanation provided, all of which is compounded by the fact that teachers tend to be inconsistent and unsystematic in their corrections, whereas students may not have sufficient motivation to attend to numerous adjustments directed at the use of grammar forms. He also concurs with Krashen (1982) that error treatment is inherently unpleasant and discouraging since nobody enjoys the sight of excessive amounts of red ink on their written work, which may result in learners' use of less complex language and reluctance to take risks. Finally, he points to the time constraints which are an important factor for both students and their teachers because,

in his view, instead of working on error correction, the former would be much better off by channeling their energies into more productive learning activities, and the latter would have more time to illuminate more important aspects of writing such as appropriate organization or coherent argumentation. To quote Truscott (1996, p. 354), "[i]t can be concluded that one should not expect learners to benefit from grammar correction. Even if it could work in principle (which is doubtful), it is too inefficient to be of much use. So in at least the overwhelming majority of cases correction amounts to an unpleasant waste of time".

Many of these arguments are brought up one more time in his paper devoted to oral grammar correction (Truscott 1998), in which the discussion is mainly framed in terms of the problems likely to be encountered by teachers and learners alike. From the point of view of the practitioner, the most challenging issues involve understanding the nature of the error, presenting and explaining the correction in the right way, tailoring corrective feedback to the student, both with respect to affective considerations and individual differences, and ensuring that the task in hand retains its communicative focus and is not transformed into a controlled grammar exercise. When it comes to learners, they may experience difficulty in noticing and recognizing the correction, refuse to take the corrective move seriously, fail to process it due to limited attentional resources, the difficulty of the structure or fear of embarrassment, or have problems with understanding and then accepting the correction. Most crucially, though, they have to incorporate the correct form into their developing interlanguage systems, which, as discussed above, is by no means guaranteed even if they manage to immediately use the correct version in their output. Truscott (1998) is also of the opinion that these problems are not only alleviated but often even exacerbated when the teacher opts for delayed correction or elects to encourage peer correction. As is the case with negative feedback on students' written errors, also in this case he is adamant in his views and pedagogic recommendations. This is evident in his strong assertion that "[o]ral correction poses overwhelming problems for teachers and for students; research evidence suggests that it is not effective; and no good reasons have been offered for continuing this practice. The natural conclusion is that oral grammar correction should be abandoned" (1998, p. 453).

2.4 Rationale for the Provision of Corrective Feedback

Undeniably, many of the arguments proposed by the opponents of error correction presented at some length in the preceding section are quite coherent, mainly because they are grounded in influential theoretical positions, they draw upon concrete research findings, and they raise our awareness of some practical concerns that teachers and learners have to confront as they provide negative feedback on inaccurate target language forms and respond to such feedback. Nonetheless, there are even more numerous and much more convincing reasons why corrective feedback should be an integral component of teaching practices in the foreign

language classroom, both those that are more generally related to the beneficial contributions of form-focused instruction and those that are more specifically tied to the treatment of learners' oral and written errors. As is the case with the opinions expressed by the skeptics, the justification for this stance stems from the tenets of leading theories and hypotheses in the domain of second language acquisition, copious empirical evidence that has accumulated over the last three decades, as well as important pedagogical consideration.

Since the overriding goal here is to offer a compelling rationale for the effectiveness and utility of error correction, however, the discussion of the issues reflective of the three areas will be much more detailed, meticulous and thorough than above, which dictates that, for the sake of clarity, a separate subsection will be devoted to each of them. It should also be emphasized that the support for corrective feedback should not be regarded as unequivocal or unconditional, and it is by no means suggested that it should always be provided with little or no consideration of when and how it happens. In fact, the present author is aware that the extent to which error treatment can be expected to work is a function of a wide array of factors such as the techniques used, the targeted linguistic features, teachers' and students' beliefs, perceptions and preferences, individual variation, and the characteristics and realities of the particular instructional setting. Although these mediating variables are largely ignored in the following discussion, they are without doubt of paramount importance and their impact will thus be carefully considered in the remaining two chapters of the present work.

2.4.1 Theoretical Support

Before taking a closer look at the theories and hypotheses that can be cited in justification of the provision of corrective feedback on oral and written errors, several important caveats are in order. For one thing, it should be made clear that all of the theoretical positions described here are frequently referred to in more general deliberations over form-focused instruction, which only testifies to the soundness of the decision to view the treatment of learner errors as one of the options in teaching target language forms. It also has to be admitted that at least some of the theories and hypotheses were initially intended by their proponents to account for spoken interaction, as is the case, for example, with the Interaction Hypothesis (Long 1983, 1996), the Output Hypothesis (Swain 1985, 2005) or the Counterbalance Hypothesis (Lyster and Mori 2006). Still, they can also be invoked in support of written error correction in view of the fact that the distinctions between speaking and writing may become blurred in some contexts, and a particular instructional activity may consist of several phases, each drawing upon a different modality or a combination thereof. This is evident, among others, in the case of synchronous and asynchronous computer-mediated communication (e.g. Jepson 2005; Yilmaz 2011), the use of interactional negotiations to provide feedback on written errors after the completion of an assignment (e.g. Nassaji 2007a,

2011), and different types of text-reconstruction activities, such as dictogloss tasks (e.g. Fortune 2008) or text-reformulation tasks (e.g. Watanabe and Swain 2007).[6]

Another important qualification is that although the theoretical positions discussed below provide rather unequivocal support for corrective feedback, in most cases there is a caveat that such feedback should best be provided in the course of meaning and message conveyance, as when learners are requested to participate in a discussion, work on an information-gap activity, or employ a given TL feature to attain their interactional goals in focused communication or text-creation tasks. Nonetheless, some of them, such as the Noticing Hypothesis (Schmidt 1990, 2001), Skill-Learning Theory (Johnson 1996; DeKeyser 1998), Sociocultural Theory (Lantolf 2006; Lantolf and Thorne 2006, 2007) or Relevance Theory (Sperber and Wilson 1986; Niżegorodcew 2007a), provide a basis for reliance on error correction also during controlled activities, as long as some conditions are satisfied. It should also be pointed out here that even when conversational interaction is viewed as a prerequisite by some specialists, the empirical evidence they give in justification of their claims comes from studies where the requirement for meaningful communication is interpreted in a variety of ways and on some occasions the stretches of discourse subjected to analysis are not so meaning-oriented at all. For this reason, it is assumed here that different types of corrective feedback are theoretically plausible under different circumstances and their potential contributions during fluency-oriented tasks and accuracy-based activities will be considered in detail in Sect. 3.2 in Chap. 3.

Finally, it should be admitted that, given the complexity and multiplicity of theoretical positions on FFI, the choice of the theories and hypotheses outlined here is arbitrary and reflects the theoretical allegiances and pedagogical orientation of the present author, who, apart from carrying out research on second language learning and teaching, is also a methodologist and a practitioner, convinced of the importance of translating insights derived from empirical investigations into concrete and feasible guidelines for pedagogy. What is important, however, is that the case for the contribution of error correction is made both from the psycholinguistic and sociocultural standpoint, thereby subscribing to both what Sfard (1998) refers to as the *acquisition* and *participation metaphors*, and in fact attempting to reconcile the two. Although such a goal is seen as unattainable by some experts (cf. Zuengler and Miller 2006) due the disparate foci of these perspectives, it has been vigorously pursued by Swain and her collaborators (e.g. Swain 2000, 2006; Swain and Lapkin 2007; Suzuki and Itagaki 2009) and, in the view of the present author, it not only can, but in fact should be achieved in research into error correction, as this will ensure better understanding of this ubiquitous and to a large extent unavoidable aspect of foreign language instruction.

[6] A thorough overview of different types of text-reconstruction activities and the studies in which they have been utilized to date can be found in Pawlak (2011a), who explores their utility in teaching target language forms.

2.4.1.1 Noticing Hypothesis

A good starting point in this overview appears to be the Noticing Hypothesis (Schmidt 1990, 1994, 1995, 2001), not only because it provides the key underpinnings for many of the other theoretical perspectives discussed in this section, but also because it brings to the fore the simple, and yet not always a sufficiently emphasized fact that the provision of corrective feedback only makes sense if learners are capable of noticing and attending to the correction so that it can be interpreted as negative evidence and subsequently processed in the right way. In general, the hypothesis is predicated on the assumption that second language learning is not possible without a certain degree of *awareness at the level of noticing*, understood as the act of consciously registering a specific linguistic feature in the data afforded by the environment. As Schmidt (2001, pp. 3–4) explains, "(…) attention is necessary in order to understand virtually every aspect of second language acquisition (…). SLA is largely driven by what learners pay attention to and notice in target language input and what they understand the significance of noticed input to be". What this means in practice is that learners have to attend to the surface elements in the utterances in the incoming input, be they grammatical, lexical, phonological, sociopragmatic, discoursal or otherwise in nature, so that they can make internal comparisons between what they have said and the accurate version, or their communicative intention and the linguistic resources they have at their disposal. This enables them to identify the existing *mismatches*, or *gaps* (Schmidt and Frota 1986) and *holes* (Swain 1998), in their interlanguage systems, a step that is necessary for the conversion of input into intake and the activation of longer-term processes of language development.[7] In other words, to employ the terminology used by Doughty (2001), the *microprocesses* of *selective attention* and *cognitive comparison*, which are closely connected with noticing and thus open to external influences in the form of pedagogic intervention, are instrumental in making connections between known and unknown information, which paves the way for the usually automatic and inaccessible *macroprocesses* of *internalization of input*, *mapping*, *analysis* and *restructuring*.

Schmidt (1994, 1995, 2001) also sees a role for *metalinguistic awareness* which underlies learning at the higher level of understanding and may be a practical necessity for less salient or redundant aspects of the target language, such as similar sounds in the first or second language, differences in the use of tenses that are semantically close, or the properties of features that cannot be discovered from positive evidence alone (e.g. adverb placement, dropping pronouns in sentence-initial position). Although Schmidt recognizes that implicit, subliminal learning is possible, he is of the opinion that it is "of little practical value" (1995, p. 45) for

[7] A similar stance on the role of attention in second language learning is adopted by Robinson (1995), who considers it to be the result of the encoding of input in working memory, with such encoding being indispensable for the subsequent transfer of linguistic information to long-term memory. This clearly indicates that language learning cannot take place without noticing and a certain degree of attention (cf. Gass and Mackey 2007).

the acquisition of new linguistic material, since such non-conscious registration is mainly important for the activation of what the learner already knows. Given such premises, it is obvious that corrective feedback should be an integral part of teaching practices because it is the main tool by means of which the microprocesses of noticing, selective attention and cognitive comparison can be externally triggered and manipulated. Such feedback can be both explicit or implicit and input-providing or output-inducing, and while it is most conducive to learning in the context of meaningful communication, or fluency-oriented tasks, when form-function mappings are the most salient, it may enhance metalinguistic awareness or understanding as well in the course of controlled exercises, or accuracy-based activities.

2.4.1.2 Interaction Hypothesis and Output Hypothesis

Support for the treatment of learner errors also stems from the Interaction Hypothesis (Long 1983, 1996) and the Output Hypothesis (Swain 1985, 1995, 2005), both of which are very closely interwoven with the Noticing Hypothesis and can be viewed as falling within the scope of the *psychologically-grounded interactionist approach*. In the words of Gass and Mackey (2007, p. 176), this approach "(…) describes the processes involved when learners encounter input, are involved in interaction, and receive feedback and produce output [but it also] attempts to explain why interaction and learning can be linked, using cognitive concepts derived from psychology, such as noticing, working memory, and attention".

The beginnings of interest in the role of conversational interaction can be traced back to observational studies undertaken in the 1970s within the framework of discourse analysis, which led Hatch (1978, p. 404) to state that: "[o]ne learns how to do conversation, one learns how to interact verbally, and out of this interaction syntactic structures are developed". However, this line of inquiry only began to be pursued more vigorously with the emergence of the early version of Long's (1983) Interaction Hypothesis which, on the one hand, constituted an important extension of Krashen's (1985) Input Hypothesis in stressing the significance of the right kind of exposure, but, on the other, it all but rejected it by positing that the best way to ensure the provision of comprehensible input is through discourse modifications in response to interlocutor need rather than a priori linguistic modifications. It attributed particular importance to *negotiation of meaning*, defined as the interactive work done by interlocutors in order to ward off or resolve communication breakdowns which take place when the speaker's utterance is not clear or comprehensible to the listener. In such situations, the impending or existing communicative impasse is signaled by means of clarification requests, confirmation checks, comprehension checks and repetitions, which leads to *interactional modifications* involving simplification or elaboration of the initial message, thus making input comprehensible. Such stipulations spawned a substantial amount of descriptive, mainly laboratory-based research intended to investigate various patterns of negotiated interaction, pinpoint the impact of variables related to the type of task,

context and learner characteristics, and compare the value of native-speaker, simplified and interactionally modified input (e.g. during lectures). The main problem involved in such studies, though, was the fact that they were based on the assumption that if negotiation enhances comprehension, which is hypothesized to lead to acquisition, it must also logically contribute to acquisition, but failed to address that link directly, not to mention the fact that an abundance of negotiation of meaning may in fact obviate the need for learners to attend to morphosyntactic features in the input (cf. Pawlak 2004b, 2006a; Spada and Lightbown 2009).

These limitations are addressed in the revised formulation of the Interaction Hypothesis (Long 1996), which draws heavily upon Schmidt's (1990) Noticing Hypothesis in recognizing the importance in second language acquisition of individual cognitive processing manifesting itself in attention, noticing and cognitive comparison. As Long (1996, p. 417) explains, "(…) it is proposed that environmental contributions to acquisition are mediated by selective attention and the learner's developing L2 processing capacity, and these resources are brought together most usefully, although not exclusively, during *negotiation for meaning*" (emphasis original). Such interactive work, in turn, "and especially negotiation work that triggers *interactional* adjustments by the NS [native speaker] or more competent interlocutor, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways" (emphasis original) (1996, pp. 451–452). To be more precise, it is perhaps more suitable to talk here not only about *negotiation of meaning*, which is the main focus of the early version of the hypothesis and is connected with genuine communication breakdowns or incomplete understanding, but also *negotiation of form*, which covers responses to inaccurate use of target language features, both when the error impedes the flow of conversation and when it is addressed for pedagogic purposes.[8] For this reason, the benefits of participation in negotiated interactions are no longer confined to enhanced comprehension of input data which increases the likelihood of successful acquisition and they include:

(1) access to better quality positive evidence as a result of greater-salience of form-meaning-function mappings and segmentation of the incoming input into linguistic units (cf. Pica 1996);
(2) the provision of negative evidence in the form of different types of corrective feedback which, "(…) may be facilitative of SL [second language] development, at least for vocabulary, morphology and language-specific syntax, and essential for learning certain specifiable L1-L2 contrasts" (Long 1996, p. 417);
(3) opportunities to produce modified output as a result of the information included in the feedback move, cognitive comparison and noticing the gap.

Since these claims reflect the theoretical underpinnings of the focus on form approach (Long 1991; see Sect. 1.6 in Chap. 1), it is obvious that the positive

[8] This reflects the distinction between *conversational* and *didactic reactive focus on form* introduced by Ellis et al. (2002) and discussed in Sect. 1.6.1 in Chap. 1.

contributions of error correction are limited to situations when it takes place in the course of communication-based activities rather than highly controlled exercises. Another important qualification is that feedback should preferably be of the input-providing type, particularly such that is implemented by means of recasts, which rephrase the erroneous utterance but preserve its central meaning, thus making it possible for the learner to detect the mismatches between the two juxtaposed versions, an assumption that is in line with the premises of Direct Contrast Theory proposed for first language acquisition (cf. Saxton 1997; see note 4 in Chap. 1). One ramification of such a stance is that the correction may not always be explicit enough to be interpreted as negative evidence (cf. Lyster 1998a), a point that will be revisited later in this work. It should also be emphasized that the learner is under no obligation to employ the accurate form in his or her own production, which indicates that one of the main envisaged contributions of negotiated interaction, that is the occurrence of output modifications, may remain largely hypothetical as there is little time and space for the student to even attempt self-correction.

The significance of output production is emphasized to a much greater extent in Swain's (1985, 1995, 2000, 2005) Output Hypothesis, which, despite the recent attempts to integrate it with more socially oriented perspectives on the role of interaction (see below), shares many of its theoretical assumptions with the modified version of the Interaction Hypothesis. It was proposed to accommodate research findings demonstrating that non-interventionist Canadian immersion programs are inadequate when it comes to the development of learners' productive skills, grammatical and sociolinguistic competence that would be comparable to those of their native-speaker peers,[9] and it attributed this failure to insufficient opportunities to engage in language production and receive requisite negative feedback on spoken and written output. In contrast to Krashen (1985), Swain (1985, 1995) argues that comprehending input cannot guarantee the acquisition of morphosyntactic features since it is primarily based on *semantic* and *strategic processing*, which utilizes contextual clues and prior knowledge, and is aided by reliance on language learning and the use of language strategies. Production, on the other hand, places much greater demands on learners since it requires them to fall back upon *grammatical*, *syntactic processing*, as they have to retrieve the needed linguistic features from their implicit and explicit second language knowledge stores in order to actually construct TL utterances. Swain (2005) elaborates on this argument in her more recent publications in terms of *depth of processing* as well as the concept of *integrative processing* (cf. Graf 1994), citing the study by Izumi

[9] The two competences are understood here in the same way as in the model proposed by Canale and Swain (1980) and later extended by Canale (1983). The scholars make a crucial distinction between *grammatical competence* (i.e. the knowledge of language subsystems), *discourse competence* (i.e. the ability to create coherent and cohesive spoken and written texts), *sociolinguistic competence* (i.e. the ability to use language appropriately in a given context and in a way which respects the sociocultural rules of use), and *strategic competence* (i.e. the ability to use requisite communication strategies to get intended messages across or to make communication more effective).

(2002), who suggested that, in comparison with input enhancement, output production is more likely to trigger deeper and more elaborate processing of the target form, establish more durable memory traces, and serve as a catalyst for making connections between individual items and reorganizing form-meaning mappings.

Moreover, Swain (1985, 1995) is adamant that production is insufficient for acquisition in and of itself, and learners have to be encouraged to produce what she refers to as *comprehensible* or *pushed output*, or utterances that do not only succeed in attaining the intended communicative aim but are also accurate, precise and appropriate. In her opinion, for language learning to take place and to be facilitated, contexts should be created where "(…) in speaking and writing, learners can 'stretch' their interlanguages to meet their communicative goals" (2000, p. 99). She explicates this stance in the following way (Swain 1985, pp. 248–249):

> (…) the meaning of 'negotiated meaning' needs to be extended beyond the usual sense of simply 'getting one's messages across'. Getting one's messages across can and does occur with grammatically deviant forms and sociolinguistically inappropriate language. Negotiating meaning needs to incorporate the notion of being pushed toward the delivery of a message that is not only conveyed, but that is conveyed precisely, coherently and appropriately. Being 'pushed' in output (…) is a concept parallel to that of the i + 1 of comprehensible input.

Clearly, for such pushed output to be generated, learners have to be informed that what they have said is lacking in some respects, either because it contains grammatical errors, it is not polite enough in a specific situational context, it is ambiguous and vague, or it does not fit in with the preceding utterance in terms of coherence and cohesion. This inevitably entails the provision of corrective feedback which makes it possible for learners to notice gaps and holes in their interlanguage systems, allows the formulation and testing of hypotheses, and enables syntactic processing of the available linguistic resources. Obviously, to produce all of these benefits, such feedback has to be output-inducing, as is the case with the use of clarification requests, such as 'What do you mean?', since only in this case can negotiation of form occur and the onus is on the learner to adjust the deviant utterance in accordance with native speaker norms. Although it is clear that learners will not always wish or be able to respond in the right way to the corrective move, providing them with opportunities for modifying and repairing their utterances is of vital importance in Swain's view because "(…) the modified, or reprocessed, output can be considered to represent the leading edge of a learner's interlanguage" (1998, p. 68). It should also be pointed out that while the hypothesis places a premium on the treatment of errors in meaningful oral communication, the metalinguistic or reflective function of output as seen by Swain (1995, 2005) also assumes an important role for negative feedback which is supplied in somewhat less communicative activities, as is the case with text-reconstruction tasks (e.g. Kowal and Swain 1994; Fortune 2008), and written assignments, as exemplified by text-reformulation tasks (e.g. Sachs and Polio 2007; Watanabe and Swain 2007).

2.4.1.3 Counterbalance Hypothesis

The three hypotheses discussed above as well as the empirical investigations they instigated provided a stimulus for yet another, relatively recent, theoretical position that can be invoked in support of error treatment, namely the Counterbalance Hypothesis, proposed by Lyster and Mori (2006). The hypothesis emerged in reaction to research findings demonstrating that the effectiveness of interactional feedback may be a function of the instructional setting and that corrective moves that result in uptake (i.e. reaction to the correction) and repair (i.e. repetition or incorporation of the correct form, or self- or peer-correction) in some contexts, fail to achieve this goal in others. It was also based on the results of a study in which Lyster and Mori (2006) compared the patterns of interactional feedback, uptake and repair in French immersion classes in Canada and Japanese immersion classes in the United States, which both took place in elementary school but differed with regard to their communicative orientation, as measured by the Communicative Orientation in Language Teaching (COLT) observation and coding scheme (Allen et al. 1984).[10] They discovered that prompts (i.e. feedback moves intended to trigger negotiation of form such as clarification requests) turned out to be more effective in generating uptake and repair in interaction in French immersion, which was primarily experiential (i.e. meaning-focused), whereas it was recasts that proved to have these effects in discourse in Japanese immersion, which included exponents of analytic (i.e. form-focused) teaching, such as choral repetition and reading aloud. These findings led Lyster and Mori to hypothesize that: "[i]nstructional activities and interactional feedback that act as a counterbalance to the predominant communicative orientation of a given classroom setting will be more facilitative of interlanguage restructuring than instructional activities and interactional feedback that are congruent with the predominant communicative orientation" (2006, p. 294). They subsequently go on to explain that (2006, p. 294):

> [i]nstructional counterbalance thus refers to interventions that differ from the instructional activities and interactional feedback that otherwise typify the communicative orientation prevailing in a given classroom. Therefore, counterbalanced instruction extends the scope of form-focused instruction by encompassing instructional practices that range from form-focused interventions at one end of the spectrum to meaning-focused interventions at the other.

The justification for this stance comes from the assumption that attention is a principal component of language learning and that the restructuring of interlanguage systems requires learners to take part in instructional activities that involve a shift in attentional focus, a good case in point being the techniques and procedures characteristic of Long's (1991) focus on form. According to Lyster and Mori (2006), however, such a

[10] COLT is a tool for observing interaction in second language classrooms designed to capture a range of its pedagogical and organizational features, the combination of which constitutes a reflection of the overall communicative orientation of a particular lesson. It is divided into two parts: (1) Part A, which describes instructional practices in terms of the content, focus and organization of activity types, and (2) Part B, which focuses on selected facets of the language produced by teachers and students.

shift is beneficial irrespective of whether it occurs from meaning to form in a primarily meaning-oriented context or from form to meaning in a predominantly form-oriented instructional setting, as in both cases learners are expected to extend additional effort to cope with such a change of focus, which is believed to strengthen the links between output modifications and processes taking place in long-term memory.

What has to be stressed at this juncture is that such an approach has far-reaching ramifications for form-focused instruction in general and the provision of corrective feedback in particular in the foreign language setting. The most important perhaps is that, similarly to the position adopted by Fotos (1998, 2005), it recognizes the existence of educational contexts in which a more traditional focus on forms rather than a focus on form or a focus on meaning tends to be the norm, and suggests ways in which it can be augmented through the inclusion of communicative tasks. Secondly, it underscores the importance of directing error correction at features which are the focus of prior or concurrent pedagogic intervention because in this way learners are primed as to how to allocate their attentional resources, and they are more likely to interpret the corrective moves in the right way and actually use them in conducting cognitive comparisons. Even though Lyster and Mori (2006) believe that input-providing recasts are the most suitable in such contexts, as they "(…) enable learners to reorient their attentional resources toward meaning in ways that avert overemphasis on form at the expense of meaning" (2006, p. 295), it can reasonably be assumed that other types of feedback, such as output-inducing prompts or explicit corrections, will also be useful, depending on the type of task and the extent to which it is seen as part of the regular instructional agenda. Seen in this way, perhaps somewhat against the intentions of its proponents or even to their chagrin, the Counterbalance Hypothesis can be said to provide support for different types of corrective feedback in different kinds of activities, on condition that the former are adjusted to the latter and the overall orientation of the setting is taken into account.

2.4.1.4 Relevance Theory

The way in which learners perceive different types of pedagogic interventions and react to them in various situations can also be explained within the framework of Relevance Theory (Sperber and Wilson 1986, 1987), a cognitive psychological theory drawing upon information processing accounts which attempts to expand upon two of Grice's (1975, 1989) central claims concerning human communication. According to these assumptions, the main feature of communication is the expression and recognition of intentions and the speaker's utterances automatically create a set of expectations which allow the listener to understand the intended meanings and messages, with those expectations being expressed in terms of the *cooperative principle* and the *conversational maxims* of *quality* (truthfulness), *quantity* (informativeness), *relation* (relevance) and *manner* (clarity). In contrast to the code model of communication, Sperber and Wilson (1986, p. 9) argue that sheer decoding of incoming messages is insufficient to comprehend the information conveyed because "(…) there is a gap between the semantic representations of sentences and

the thoughts actually communicated by utterances. This gap is filled not by more coding but by inference". In other words, listeners have to interpret in the right way not only the *informative intention*, or the speaker's wish to inform other people of something, but also the *communicative intention*, or the speaker's wish to inform others about his or her informative intention, because erroneous or imprecise interpretation of the latter may hamper complete understanding of the former. Since the very act of interpretation itself requires the expenditure of processing effort on the part of the interlocutor, in the opinion of Sperber and Wilson (1986), input is most relevant when it generates the necessary contextual effect or allows listeners to rely on their present knowledge to identify the requisite contextual assumptions in a particular situation, but at the same time is the least demanding in terms of the attentional resources and effort that have to be invested for this goal to be accomplished. In other words, given the receiver's expectation of relevance, the gap between the informative and communicative intention should be minimized.

An interesting application of the tenets of Relevance Theory to instructional discourse in the language classroom comes from Niżegorodcew (2007a, b, 2011), who adopts it as a point of reference for explaining such key aspects of classroom communication as the choice of the language of instruction, the role of teacher- and learner-centered discourse and, what is most germane from the perspective of the present discussion, the effectiveness of different types of corrective feedback during fluency-oriented tasks and accuracy-based activities. She advances the important claim that "(…) the distinction between primary linguistic data [i.e. positive evidence] and secondary linguistic data [i.e. corrective negative evidence] cannot be maintained with reference to instructed L2 teaching/learning contexts on account of the fundamental purpose of language instruction: focusing the learners' attention on L2 forms in order to enable them to fluently express meanings" (2007a, p. 149). What this means in practice is that teachers' feedback moves perform the dual function of providing reactive negative evidence and serving as models of communication in the second language, with respective foci on form and meaning. Therefore, the provision of corrective feedback can be more or less effective depending on whether the informative intention of supplying the accurate form or getting the student to attend to his or her erroneous output is reflected in the communicative intention of responding to an utterance in semantic terms (e.g. commenting on or echoing the meaning expressed). While there is no danger of a mismatch in accuracy-based activities where the corrective information conveyed by the teacher's utterance is interpreted as relevant because of the overall context involving focus on language forms, the situation is much more complicated in meaningful interactions in which learners may be in a quandary as to how to interpret the communicative intention, and may wind up regarding the pragmatic and not the corrective function as the most relevant, thus remaining oblivious to the latter. This explains why recasts are frequently ignored and fail to trigger uptake or repair and suggests that either the pedagogic intervention as such should be more explicit or the broader context should make students aware of the corrective function of the more implicit types of feedback, which would be in line with the claims of the Counterbalance Hypothesis but would ensure as well that the negative rather than positive evidence becomes the most relevant.

In the light of these assumptions, it is clear that Relevance Theory attributes a vital role to error correction as a mechanism which ensures the relevance of information about formal aspects of the target language, both when it occurs in the course of highly controlled text-manipulation activities, and during text-creation activities as well as focused and unfocused communications tasks. Moreover, such claims could be extrapolated to written corrective feedback because, although it is always explicit, the relevance of, say, direct correction accompanied by a metalinguistic explanation may be greater than more indirect techniques, such as color-coding or underlining, devoid of such additional explanations.

2.4.1.5 Skill-Learning Theory

Yet another theoretical position which lends extensive support to the provision of corrective feedback is Skill-Learning Theory, also known as Skill-Acquisition Theory, which originates from rule-based theories of automatization, in particular Anderson's (1983, 1995) Adaptive Control of Thought Theory, and has been extended to the area of language learning mainly through the work of Johnson (1996) and DeKeyser (1998, 2001, 2003, 2007a, b, c). DeKeyser (2007c, p. 97) describes the general assumptions underlying this theoretical stance in the following way:

> The basic claim (…) is that the learning of a wide variety of skills shows a remarkable similarity in development from initial representation of knowledge through initial changes in behavior to eventual fluent, spontaneous, largely effortless, and highly skilled behavior, and that this set of phenomena can be accounted for by a set of basic principles common to the acquisition of all skills.

This characterization indicates that the theory perceives language learning as identical with the process of the acquisition of other complex skills, such as driving a car, playing a musical instrument, excelling at chess or solving complex math problems. Accordingly, to be able to use a specific target language feature in spontaneous, time-pressured communication, it is necessary to convert initial declarative knowledge, which is conscious and explicit and can be derived through deduction or induction, into procedural knowledge, which is subconscious and implicit, a transformation that is postulated by the strong interface position (see Sect. 1.5 in Chap. 1).

An important qualification that was elaborated upon earlier in this work and discussed at some length by DeKeyser (2010) is that learners may never forget the initial conscious representation of the pertinent rules or not really have the opportunity to develop full-fledged implicit representation due to scant exposure and participation in conversational interactions. For this reason, the proponents of the theory prefer to talk about *automatized knowledge*, with such automatization being a matter of degree rather than an all-or-nothing affair, which may be functionally indistinguishable from implicit knowledge and perform just as well in genuine communication. Irrespective of whether the final product is entirely implicit or not, such a transformation is of vital importance as it speeds up the processes of grammatical, lexical and phonological encoding (i.e. the conversion of the preverbal message into a speech plan at the stage of message formulation; see Kormos 2006), and enables the

allocation of the limited attentional and working memory resources to higher level skills (e.g. planning the following discourse, determining message content, monitoring) rather than lower levels skills (e.g. the selection of the accurate linguistic forms), both of which ensure fluent performance in real-time meaning and message conveyance (Segalowitz 2003). Such a change involves movement through three stages that have been referred to as *cognitive*, *associative* and *autonomous* (Fitts and Posner 1967), or *declarative*, *procedural* and *automatic* (Anderson 1995), and it is both quantitative and qualitative in nature. The processes which are involved in the progress through the stages are *automatization*, which involves accelerating performance, reducing the incidence of errors, and diminishing interference from other tasks, and *restructuring*, thanks to which subcomponents of knowledge and the ways they interact are modified (cf. DeKeyser 1998, 2007a, b).

When it comes to pedagogical procedures, the move from initial declarative knowledge to final procedural knowledge as well as the operation of the processes of automatization and restructuring require that learners are provided with ample opportunities for practice. This practice, however, has to be of the right kind and it has to be carefully adjusted to the stage of development, namely the transformation of declarative knowledge into procedural knowledge and the automatization of the latter. While the first of these consists in the use of the new rules in understanding, constructing and manipulating correct sentences, which may entail reliance on controlled exercises (e.g. completion, paraphrase, translation), the second is a much more arduous goal that takes time and calls for *meaningful practice*, such which enables the use of the structures taught to accomplish genuine communicative goals and the establishment of the requisite form-meaning mappings. As DeKeyser (2007b, p. 292) argues, "[g]ood practice needs to involve real operating conditions as soon as possible, which means comprehending and expressing real thoughts, and this necessarily involves a variety of structures, some of which will be much further along the declarative-procedural-automatic path than others". The use of the targeted linguistic features in real-time communication is also indispensable for the simple reason that the effects of practice are highly skill-specific, as reflected in the concept of *transfer-appropriate processing*, which posits that the knowledge and skills learned or taught in one context or task can only be successfully employed in another if the cognitive operations involved are similar (cf. Lightbown 2008). This means that if learners only use particular structures in controlled exercises, no matter how many of them, this is unlikely to affect their ability to fall back upon them in conversation, and the same caveat applies to comprehension and production.

Clearly, if language learning is conceptualized in this manner, it fits in with the PPP procedure that was mentioned on several occasions in the previous chapter, on condition that the production stage is sufficiently emphasized and it includes a wide range of text-creation activities and focused communication tasks, necessitating the use of the targeted features in situations when the scant pool of attention has to be divided between form and meaning. This being the case, corrective feedback, both oral and written, facilitates the processes of automatization and restructuring in distinct ways at different points of development, since proceduralization will perhaps best be served by direct and immediate error correction during accuracy-based controlled exercises,

while fluency-oriented target language use required for automatization will benefit from the input-providing and output-prompting feedback moves, recommended, but also hotly debated, by the proponents of the interactionist approaches discussed above. More specific contributions of feedback in the skill learning framework are suggested by Leeman (2007), who argues that it aids the acquisition of declarative knowledge, it assists proceduralization, fine-tuning and automatization by indicating that greater reliance on rules is needed or the scope of these rules has to be adjusted, and it may prevent learners from automatizing incorrect forms. She also draws attention to the fact that error correction allows learners to divide a complex task into more manageable ones, which reduces the cognitive load and boosts performance, and enables them to attend to their own output, thus enhancing its accuracy or priming them to the future use of problematic forms.[11]

2.4.1.6 Connectionism

The case for error correction can also be made on the grounds of connectionism, which was briefly referred to in the discussion of issues related to explicit and implicit knowledge in Chap. 1. Connectionist accounts of language learning, also known as *parallel distributed processing* or *emergentist models* (e.g. Rumelhart and McClelland 1986; Ellis 2003), have more recently been discussed in terms of what Ellis (2007) calls the *Associative-Cognitive CREED*, which postulates that the process of second language acquisition can be described as: (1) construction-based, (2) rational, (3) exemplar-driven, (4) emergent, and (5) dialectic, with the first letters of these labels accounting for the acronym. As is the case with Skill-Learning Theory, the model has its roots in the field of cognitive psychology and is predicated on the basic assumption that languages are learned through the same cognitive mechanisms that are employed for the acquisition of other kinds of knowledge and, therefore, there is no need to posit the existence of a separate module dedicated to this task such as Universal Grammar. This is where similarities between the two theories end, however, because, as Ortega (2007, p. 228) writes, "[t]he Associative-Cognitive CREED explains language learning as, by and large, an implicit inductive task and, therefore, is committed to incidental learning and unconscious representations. That is human learning capacities are thought to result from the extraction of statistical patterns from the input". More precisely, it is assumed that language is represented in the mind of the learner by means of *constructions*, defined as form-meaning mappings that are conventionalized in the speech community, symbolic in the sense that

[11] Leeman (2007) discusses the cognitive demands of a task in terms of competition between *accuracy*, *complexity* and *fluency*, regarded as the main dimensions of communicative language performance (Skehan 1998, 2009; Skehan and Foster 2001; Housen and Kuiken 2009; Larsen-Freeman 2009), as well as competition between linguistic lower-level skills and non-linguistic higher-level skills such as abstract reasoning. The cognitive load is lessened when feedback is directed at a specific aspect of performance or it is provided after the conceptual components of the task have been completed.

particular linguistic features (i.e. grammatical, lexical, phonological) are linked with specific semantic, pragmatic and discourse functions, and acquired by communicating with others.[12] In effect, in the words of Ellis (2007, p. 78), "(…) an individual's creative linguistic competence emerges from the combination of two things: the memories of all of the utterances encountered in communicative situations, and the induction of regularities in those utterances based on frequency".

What this means in practice is that that language learning is *associative* in nature and mainly depends on the frequency of use of specific structures in the input since this frequency determines the activation of neural networks in the learner's brain, leading to strengthening and weakening of complex clusters of links between information nodes (Mitchell and Myles 1998; Ellis 2003, 2007). Critical as they might be in shaping acquisition, these frequency effects are mediated by the salience of the form, the importance of the function it performs from the point of view of successful communication, and interference from possible forms and interpretations in a particular context, both in one language and across different languages (cf. Ellis 2007, 2010). To give an example, learning phrases such as 'he lives' or 'she believes' does not involve the application of abstract rules but is the result of the frequent co-occurrence of the component parts in the input, which increases the strength of connections in the neural networks, both for the forms in question and the semantic and pragmatic function of the expressions. Because the 's' ending has little salience and is functionally redundant, more exposure will be needed than in the case of more salient and semantically important features, and some degree of abstraction and generalization will also be involved in learning morphological patterns of this kind. When it comes to the remaining tenets of connectionist approaches, it is posited that language processing is *rational* as human beings construct the best model possible based on their prior experience, and productive patterns and other rule-like regularities such as those in the examples given above are *exemplar-based*. Language is also regarded as a *real-time activity*, it is composed of a number of interacting elements, it is *adaptive*, and it remains in a continuous state of flux, whereas its acquisition entails constant search for optimal solutions based on the tension between the output reflecting the current stage of interlanguage development and the feedback accrued from the ambient environment (cf. Ellis 2003).

The last property mentioned above, namely the *dialectic* nature of language acquisition, helps explain why a theory that underscores the primacy of incidental learning also envisages a place for form-focused instruction in general and error correction in particular. The need for pedagogic intervention is recognized even by staunch supporters of connectionism such as Ellis (2002, p. 174), who claims that "language acquisition can be speeded up by instruction", and MacWhinney (1997, p. 278), who argues that "[s]tudents who receive explicit instruction, as well as

[12] This view draws upon Construction Grammar (Goldberg 1995, 2006; Tomasello 2003) as well as other theories of first language learning (e.g. Langacker 1987, 2008; Taylor 2002; Croft and Cruise 2004) and second language acquisition (e.g. Robinson and Ellis 2008a, b), falling within the scope of cognitive linguistics (cf. Ellis 2010).

implicit exposure to forms, would seem to have the best of both worlds. (…) From the viewpoint of psycholinguistic theory, providing learners with explicit instruction along with standard implicit exposure would seem to be a no-lose proposition". Although they emphasize that the essence of second language acquisition and simultaneously the requirement for fluent performance is exposure to and internalization of form-function mappings in the input as well as the corresponding regularities, they acknowledge the utility of explicit instruction as long as the rules are accompanied by examples illustrating their actual use. As Ellis (2002, p. 175) explains, pedagogical intervention is necessary on account of the fact that "(…) without any focus on form or consciousness raising (…) formal accuracy is an unlikely result; relations that are not salient or essential for understanding the meaning of an utterance are otherwise only picked up very slowly, if at all". Additionally, form-focused instruction is beneficial as it fosters the acquisition of complex associations, enhances low-salience cues that compete with others, often under the influence of the first language cue strength hierarchy, directs attention to specific types of input, narrows the hypothesis space, tunes the weights in neural networks, consolidates memory traces, and acts as a priming device (MacWhinney 1997, 2001; Ellis 2005).

All of this indicates an important role for oral and written corrective feedback which, similarly to Skill-Learning Theory, can be provided in a multitude of ways, both during the completion of traditional exercises and communication-based tasks. In the former case, it will aid the understanding, application and retention of the pertinent rules and sensitize learners to the occurrence of the linguistic features taught in the input, while in the latter it will facilitate the noticing of non-salient and semantically redundant items, and foster the fine-tuning of the interlanguage system. It is also worth mentioning at this point Leeman's (2007) interpretation of the role of reactive negative evidence in MacWhinney's (1987) Competition Model, one manifestation of the Cognitive-Associative CREED, which assumes that positive evidence for a specific form and the meaning it encodes functions as negative evidence for all the other competing forms and meanings, thereby apparently downplaying the need for instruction and correction. She argues that even in this case input containing a corrective move that helps the learner detect the error is beneficial to acquisition, as it raises his or her awareness as to the language-internal cues that are most likely to prevail in a situation when a conflict between target language forms occurs. In her view, such awareness will increase future reliance on the cues characterized by stronger conflict validity and decrease the use of those whose validity is weaker.

2.4.1.7 Sociocultural Theory

While all the theoretical positions discussed thus far are psycholinguistic in nature and represent to a greater or lesser extent the computational model of second language acquisition, a convincing justification for the treatment of learner errors can also be derived from socially oriented accounts of that process, the best example being Sociocultural Theory (Lantolf 2006, 2011; Lantolf and Thorne 2006, 2007;

Lantolf and Beckett 2009).[13] Building upon the premises of Vygotsky's (1978) social constructivism, the theory views the mental functioning of human beings as a process that is mediated by cultural artifacts, activities and concepts, with language structure, organization and use being the primary tools of such *mediation*, allowing the achievement of *self-regulation* where the need for external support is minimized or eliminated altogether. To be more precise, human cognitive development, including the learning of first and additional languages, first takes place on the social plane in collaboration with others, and only later does it happen on the cognitive plane, when higher-order thinking develops and complex abilities and skills become available to an individual thanks to the process of *internalization*. The main process which renders this development possible is interaction with an individual who is more skilled in a particular area, known as *the more knowledgeable other*, in the *zone of proximal development* (ZPD), which Vygotsky (1978, p. 86) describes as "(…) 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". Engagement in learning tasks in such propitious circumstances "(…) enables an individual to experience success in doing things that they cannot otherwise do alone" (Lantolf 2011, p. 305) and as such is crucial to the internalization of externally-aided activities and ultimate self-regulation. As regards second language learning, the theory lays emphasis on the importance of *private speech*, which helps learners to regulate their mental functioning, and the provision of *scaffolding* by the teacher or more advanced language user, which allows the creation of *vertical constructions*, or the use of more complex utterances over several turns. Also of relevance are negotiation of form and meaning, collaborative construction of second language knowledge, or even the execution of challenging form-focused activities with the help of the teacher and other students (Lantolf and Thorne 2006, 2007; van Lier 2000; Swain 2000; Ohta 2001; Swain et al. 2009).

Considering the vast array of ways in which interaction in the zone of proximal development can be conceptualized and implemented, it is evident that Sociocultural Theory ascribes a facilitative role to different types of form-focused instruction, ranging from entirely explicit, as when rules are discovered and applied collaboratively, to quite implicit, as when more difficult utterances are co-constructed by a more proficient conversational partner. Whatever the variant, there is clearly a place for the provision of corrective feedback which can contribute to the process

[13] It should be pointed out that there have been attempts to reconcile psycholinguistic and sociocultural accounts of language acquisition. One of them, mentioned earlier in this chapter, has been undertaken by Swain within the framework of the Output Hypothesis and is evident in the concepts of *collaborative dialogue* (Swain 2000, 2005) and *languaging* (Swain 2006). Another is made by Lantolf and Thorne (2006) and Lantolf (2011), who argue that Sociocultural Theory can successfully be integrated with cognitive linguistics to create a unified and effective approach to instructed language acquisition. To be more precise, the latter is viewed as a potential source of conceptual knowledge that is supplied in the first stage of the so-called *systemic theoretical instruction* or *concept-based instruction* that draws on the principles espoused by the former.

of internalization as long as it is adjusted to the learner's level of development and thus constitutes part of his or her zone of proximal development. This could involve, for example, reacting to learners' errors by providing hints or explanations as they are struggling with translation, transformation or completion exercises, commenting on the inaccurate use of structures that are believed to be within the students' grasp by underlining and commenting on them in pieces of writing, or pushing learners to modify their inaccurate output by initiating negotiation of form as they are trying to convey a genuine message during whole-class discussion or group work.

A very instructive study on the use of error correction in line with the assumptions of Sociocultural Theory was conducted by Aljaafreh and Lantolf (1994). As Lantolf and Thorne (2007, p. 214) illuminate, in contrast to the numerous studies of corrective feedback grounded in interactional, psycholinguistically-oriented approaches, in such research:

> (…) corrective feedback and negotiation are conceptualized as a collaborative process in which the dynamics of the interaction itself shape the nature of the feedback and inform its usefulness to the learner (or learners in the case of more symmetrical peer interaction). There is also a concern with the timing and quality of the feedback as it aligns with the participant's ZPD.

In line with such guidelines, Aljaafreh and Lantolf (1994) investigated the evolving nature of negotiation between learners and their teacher, paying particular attention to the relevance of different types of corrective feedback determined on the basis of a student's responses. They based their reasoning on the preliminary assumption that such responses were as important indicators of progress in a second language as the actual forms produced by the students and looked in particular at the internalization of the negotiated solutions, as manifested by the learners' ability to utilize external assistance in the form of error correction. The participants, who were three ESL learners in an early-intermediate writing and reading course, were asked at the beginning of each sessions to read through their written assignments and to pinpoint problematic areas and mistakes. This was followed by reading the texts sentence by sentence together with the tutor who would start a discussion whenever a problem was identified. Each time prompts were used, which were general and implicit at the beginning, such as 'Do you notice any problem?', but gradually became more specific and explicit, such as 'Pay attention to the tense of the verb', and, in situations when assistance was still needed, direct correction took place and a grammatical explanation was provided (Aljaafreh and Lantolf 1994, pp. 469–470).

The analysis of the interactions showed that the learners gradually became more independent with respect to their ability to notice and self-correct their errors, moving through a series of stages characterized by differing quantity and quality of external assistance required for this to happen, which was interpreted as a sign of transition from interpsychological to intrapsychological functioning, or development from other-regulation to self-regulation. On this basis, Aljaafreh and Lantolf (1994) developed a thirteen-point scale of feedback practices, ranging from broad and implicit options involving the use of leading questions to specific and explicit options in the form of direct correction and explanation. The application of this tool in tracing the category and type of corrective feedback led them

to conclude that it is vital to assess not only the current level of development as indicated by test scores, but also the potential level of development. Yet other conclusions they arrived at were that the same error may be a manifestation of different problems for different learners, corrective feedback should be viewed as only potentially relevant for learning, and it should be dynamic in nature if it is to respect what constitutes the learner's ZPD at a particular point in time.

2.4.1.8 Delayed-Effect Hypothesis

To finish off the discussion of the theoretical support for error correction, it is warranted to mention what has come to be known as the Delayed-Effect Hypothesis (Lightbown 1985, 1998), according to which the effects of pedagogic intervention may not be immediate in the sense of translating into error-free performance, but they will become apparent after a certain amount of time has elapsed. In other words, although the learner may be unable to self-correct in response to an explicit indication of an error or a metalinguistic explanation in a controlled exercise, a recast or a prompt delivered during a communicative activity, or a direct comment on the margin of a written assignment, it should not be taken to mean that the time has been wasted and the correction is ineffective and inefficient, because its benefits can be reaped at a future time. In psycholinguistic terms, the provision of negative evidence could facilitate the acquisition of the targeted linguistic feature when learners have reached the requisite stage of interlanguage development (cf. Ellis 1997), or act as an advance organizer that will sensitize them to this form when it becomes available in the communicative input. In the latter case, we would be dealing with the so-called *priming effect* which has been hinted at in the preceding characterization of some of the theories and hypotheses since, to quote Doughty (2001, p. 250), "(…) it appears entirely plausible that some kind of cognitive preparation for focus on form would facilitate learner noticing of relevant input". It is also possible to talk about the correction helping students *store a trace* that will promote deeper levels of processing the next time the form is encountered (cf. Stevick 1996; Larsen-Freeman 2003), or the existence of an *incubation period* (Gass 1997, 2003) which is necessary before the required changes can take effect, a proposal that helps explain how utterances generated on the basis of explicit rules or memorized chunks can serve as auto-input to the learner and lead in due course to the restructuring of the interlanguage system (cf. Spada and Lightbown 1993, 1998). What is more, the concept of the delayed effect of error correction can also be applied to the Counterbalance Hypothesis and Relevance Theory since a consistent focus on a specific error over an extended period of time is likely to override the predominant orientation of the instructional context and enhance the relevance of corrective information that might normally go unnoticed, respectively. Last but not least, the recognition of the fact that second language development in reaction to corrective feedback is all but instantaneous also emanates from Sociocultural Theory as the move from external to internal regulation is bound to take time, an assumption that is well attested to in the study carried out by Aljaafreh and Lantolf (1994).

2.4.2 Empirical Evidence

As was the case with the theoretical assumptions discussed in the preceding sections, several important qualifications should be made before reviewing the research findings testifying to the effectiveness of the provision of corrective feedback in the foreign language classroom. In the first place, much of the empirical evidence of this kind derives from studies of the overall effects of form-focused instruction, which should not come as a surprise given the fact that, as was extensively demonstrated in Sect. 1.6 in Chap. 1, the treatment of learner errors is considered as one of the main options that teachers have at their disposal when introducing and having students practice targeted linguistic features. As a result, any overview of research into the contributions of error correction would have to be deemed incomplete, were it to take no heed of the outcomes of these more general empirical investigations. Still, since overviews of this research can be found in a number of other recent publications (e.g. Ellis 2001, 2005a, 2006b, 2010a; Pawlak 2006a, 2007a; Loewen 2011; Nassaji and Fotos 2011; Spada 2011) and exhaustive presentation thereof falls beyond the scope of this work, the discussion in the present section will be rather concise and confined to major generalizations as well as representative review papers and research syntheses and meta-analyses.

When it comes to research endeavors specifically undertaken to investigate the effects of error correction, it should be pointed out that although, on the whole, the studies of oral and written corrective feedback have been conducted separately and the two lines of inquiry have affected each other minimally (Sheen and Ellis 2011),[14] in some cases, review papers, state-of-the-art articles or meta-analyses are informed by both research strands (e.g. Russell and Spada 2006; Sheen 2010a, 2010b; Sheen and Ellis 2011), which makes it difficult to deal with them independently at all times. Yet another caveat pertains to the type and scope of the findings of empirical studies that are considered in the present section, because it is possible to pinpoint quite disparate research foci both in the case of oral and written error correction. On account of the fact that the present chapter is primarily intended to provide an overview of conflicting perspectives on reactive negative evidence and make a strong case for its overall usefulness, emphasis will be placed on studies that have examined the effects of correction globally and the recent syntheses and meta-analyses of the relevant empirical investigations, separately for the treatment of errors in speech and writing whenever possible. This means that research exploring the effectiveness of different types of correction, the impact of individual variation and learners' cognitions, reactions and engagement is taken into account here only to the extent to which it figures in the review papers just mentioned, whereas closer inspection of the results of such studies is reserved until Chap. 4. Finally, a decision was taken to include in the current discussion the research projects that tap learners' and teachers' beliefs, expectations and

[14] As will be seen from Sect. 3.6 in Chap. 3, the domain in which the two lines of inquiry can be said to converge to a considerable extent is research into computer-delivered negative feedback.

preferences concerning the provision of corrective feedback, for the reason that these perceptions should indubitably be taken into account if foreign language pedagogy aspires to be learner-centered and the guidelines furnished by scholars are to stand the chance of being transformed into actual instructional practices. Similarly to other studies cited in this section, however, the focus will be on the need for correction and its perceived effectiveness rather than predilections for a specific way in which it is handled since, again, such issues will be touched upon when necessary in Chap. 4 when going over the results of research into different feedback options as well as factors impacting them.

2.4.2.1 Research into Form-Focused Instruction

Despite occasional arguments to the contrary, which mainly come from Krashen and his faithful acolytes, the facilitative effects of form-focused instruction are taken for granted by the vast majority of theorists and researchers, although controversies undeniably abound as to its target, scope, manner, integration, or timing (cf. Ellis 2006b, 2008; Larsen-Freeman 2010a; Nassaji and Fotos 2011). This conviction permeates virtually all the review papers that have been published in the last decades and has become increasingly less qualified in most recent publications, with the caveat that the ways in which formal instruction is understood by their authors vary widely. Ellis (2010a, p. 452) points out, for example, that "(…) there is ample evidence that both proactive and reactive explicit FFI assist acquisition (…) [and] that this assistance can be seen even in measures of unplanned language use, which are hypothesized to tap L2 implicit knowledge". Similar assertions come from Nassaji and Fotos (2011, p. 14), who comment that "(…) if the goal of second language learning is to develop communicative competence and to enable learners to use language accurately and fluently for communicative purposes, a focus on grammar must be incorporated into L2 communicative instruction", and Spada (2011, p. 233), who writes that "[w]hile more work is needed to further investigate the question as to what type of knowledge results from instruction, there is increasing evidence that instruction, including explicit FFI, can positively contribute to unanalyzed spontaneous production, its benefits not being restricted to controlled/analyzed L2 knowledge". The very same specialists, however, emphasize the fact that the available research findings point to a number of limitations of formal instruction as well as the requirements that should be satisfied for it to produce the expected outcomes. They indicate, among other things, that the effects of instruction are not always positive, there are constraints on the teachability of some linguistic features, it affects different forms in different ways and to a different extent, its contributions may not be immediate and may not be retained over time, they are mediated by a whole gamut of individual differences, successful intervention has to be multifaceted, and teachers should be eclectic in their choice of instructional approaches (cf. Ellis 2008; Nassaji and Fotos 2011). Obviously, all of these important observations apply in equal measure to the provision of corrective feedback which is an integral part of form-focused instruction.

In recent years, FFI research has mainly been conducted with the purpose of comparing the relative effectiveness of different techniques and procedures (e.g. explicit and implicit, rule provision vs. consciousness-raising, production-oriented and comprehension-based, etc.) and, on a much smaller case, the impact of individual, linguistic and situational factors on learning outcomes (Ellis 2008, 2010a; Larsen-Freeman 2010a; Nassaji and Fotos 2011; Ur 2011). Insightful as they are, the findings of such studies will not be described here because it would be impossible to give justice to them in this limited space and they are not at any rate directly germane to the present discussion which is concerned with the global effects of formal instruction. These general contributions are typically considered with reference to comparisons between naturalistic and tutored learners and between meaning-focused and form-focused instruction, the impact of pedagogic intervention on the orders and sequences of acquisition, overall second language proficiency, the rate of acquisition and the ultimate level of attainment, as well as the effects of instruction on production accuracy, both immediate and longer-term (Ellis 1994, 2008; Pawlak 2006a). The most revealing and thus the most pertinent to the present discussion are studies falling into the last category since determining learning outcomes by means of establishing gains in production accuracy on posttests in comparison with pretests, sometimes coupled with measures of comprehension ability, has become the standard procedure in present-day FFI research. Given the wealth of such empirical evidence and the fact that most of the studies have aimed to appraise the utility of specific instructional options, only two well-known overviews of such research will be considered here, namely the often-cited synthesis and meta-analysis conducted by Norris and Ortega (2000, 2001) and the somewhat later review paper penned by Ellis (2002a).

When it comes to the former, Norris and Ortega (2000, 2001) calculated, combined and compared the effects sizes, established with the help of Cohen's *d*, for a total of 49 experimental and quasi-experimental studies exploring the effects of form-focused instruction, published between the years 1980-1998, in order to answer research questions concerning the effectiveness of instruction, the value of different types of FFI, the durability of treatment gains, as well as the impact of outcome measures and the length of the intervention. They concluded that "(…) L2 instruction can be characterized as effective in its own right, at least as operationalized and measured within the domain" (2001, p. 192). As for the remaining issues, the analysis showed that explicit treatments were superior to implicit treatments, even though the gains were not carried over from pretests to posttests in their entirety, the effects of the intervention were generally durable,[15] FFI was found to be more effective on measures of explicit rather than implicit knowledge, and the extent of improvement was influenced by the length of the treatment.

Even though the review carried out by Ellis (2002a) involved only 11 experimental and quasi-experimental studies, six of which were included in Norris and

[15] Evidence for the durability of pedagogic intervention was also reported by Keck et al. (2006) in their meta-analysis of studies investigating the effectiveness of task-based instruction. It will be considered later in this section, however, because it is more relevant to the discussion of the contributions of error correction rather than broadly defined form-focused instruction.

Ortega's (2000) meta-analysis, its significance lies in the fact that it explored the effects of form-focused instruction on the development of implicit knowledge, operationalized as the subjects' performance in free production, such as is required in focused communication tasks that fulfill Loschky and Bley-Vroman's (1990) condition of task-essentialness. It is also worth mentioning that as many as four of them, mainly the most recent included in the analysis, operationalized the treatment as some form of error correction. Apart from the overall impact of the intervention in terms of pretest–posttest gains, he was also interested in the role of such mediating variables as the age of the subjects (younger vs. older, with the cut-off point at the age of 12), the nature of the target structure (formulaic, morphological or syntactic), the extent of the treatment (extensive vs. limited, with the distinction being based on whether it was more than 2 h or one or two tasks), the type of instruction (focus on form vs. focus on forms), and the measure (oral as opposed to written free production). His overall conclusion is very similar to that reached by Norris and Ortega (2000, 2001) as he comments that "(…) the analysis demonstrated that FFI results in acquisition at least sometimes, and that when it does the effects are durable" (2002a, p. 233). He concedes, however, that the studies do not provide data concerning the quality of the subjects' performance, particularly with respect to fluency, which means that they could have relied on their highly automatized explicit knowledge.[16] As for the variables influencing the effects of form-focused instruction, the most important turned out to be the complexity of the structure being taught, with simple morphological features responding better than complex areas of syntax, the extent of the intervention, with longer treatments being more effective than shorter ones, and the availability of the targeted form in the input accessible to the learners outside the classroom.

2.4.2.2 Early Studies of Error Correction

Moving on to empirical investigations specifically designed to investigate the link between the provision of corrective feedback and acquisition, it is perhaps fitting to start this overview with examples of earlier research. In the case of oral correction, such research is understood here to include studies that were not inspired by the focus on form approach (Long 1991) and interactionist theoretical positions (Swain 1995; Long 1996), whereas, in the case or written correction, it is taken to encompass research projects that were conducted prior to Truscott's (1996) critique (see earlier in this chapter).

As regards the former, Ramirez and Stromquist (1979), for example, found a positive correlation between the treatment of learners' errors and gains in general

[16] As was mentioned in Sect. 1.5 in Chap. 1, it may be irrelevant whether learners rely on their implicit or highly automatized explicit (procedural) knowledge in the performance of such tasks in the light of DeKeyser's claim that the two types of representation may be functionally indistinguishable in some situations, and implicit knowledge may be difficult or even impossible to develop anyway in the case of limited exposure (cf. DeKeyser 2003; DeKeyser and Juffs 2005).

second language proficiency, but it should be noted that no attempt was made to determine whether the correction of specific errors led to the subsequent elimination of the incorrect form. Lightbown and Spada (1990), in turn, reported that reactive negative evidence delivered during communicative lessons conducted as part of an intensive ESL program contributed to diminished frequency of some types of errors, such as the use of 'It has' instead of 'There is'. In yet another study, Carroll, Swain and Roberge (1992) demonstrated that corrective feedback aided learners in distinguishing between different types of French nouns, but the positive effects were restricted to the words that were subjected to the treatment and failed to be generalized to novel forms, which suggests the occurrence of *item learning* rather than *system learning* (see e.g. Hulstijn and de Graaff 1994; Ellis 1997 or DeKeyser 2010, for a discussion of this distinction).

As for the latter, studies of the effects of written corrective feedback were few and far between prior to the mid-1990s owing to the fact that writing was first considered of lesser importance than other skills and later it was taught in accordance with the principles of the process paradigm and the non-interventionist approaches, both of which relegated accuracy to the back seat (Ferris 2010). Nonetheless, just as Truscott (1996) succeeded in locating research projects which cast doubt on the positive role of correction, it is also possible to track down a number of early empirical investigations that provide grounds for a more optimistic conclusion. These include, for instance, the studies by Landale (1982), Robb et al. (1986) or Frantzen (1995), which differed in their design to some extent (e.g. the number of groups, duration, type of student writing, specification of categories of errors, types of feedback provided, measures of learning outcomes), but all of which found improvement in accuracy over time.[17]

2.4.2.3 Recent Studies of Error Correction

More recent research into the effectiveness of oral and written corrective feedback can in both cases be divided into studies that examine the immediate contributions of correction, in the sense that they are limited to specific lessons, assignments and instances of error, and such that investigate the impact of error treatment in the long run and examine the subjects' ability to generalize beyond the particular forms that were the focus of pedagogic intervention.

The first category includes research projects the were mentioned in Sect. 2.3 as part of the discussion of the reservations concerning the utility of correction on account of the fact that, due to their design, they fail to provide evidence for second language development over time. As will be recalled, these are descriptive

[17] It is interesting to note at this point that some of the studies that Truscott (1996) cites in support of his claim that written corrective feedback is ineffective are interpreted by Ferris (2004) as providing evidence that it works, good examples being research projects by Kepner (1991) and Sheppard (1992), mentioned earlier in the present chapter.

classroom discourse studies examining the types and instant effects of reactive focus on form (e.g. Lyster and Ranta 1997; Panova and Lyster 2002; Sheen 2004; Pawlak 2005a, 2009a; Lyster and Mori 2006) and revision studies investigating the impact of correction on the accuracy of subsequent versions of the same text (e.g. Fathman and Whalley 1990; Ashwell 2000; Ferris and Roberts 2001; Chandler 2003; Ferris 2006). While the criticisms and doubts presented above are valid to some extent, an equally, if not more, plausible interpretation could be that if learners manage to eliminate errors in their subsequent output, be it a response to the teacher's corrective move or a revised draft, it does testify to the effectiveness of the intervention, and lack of evidence that they would be able to modify their oral or written production in a similar way or apply the rule to other forms after some time cannot be automatically taken to mean that this does not happen. Moreover, even when they cannot self-correct and use the target linguistic feature accurately in response to negative feedback, it could still be argued on the basis of the Delayed-Effect Hypothesis (see Sect. 2.4.1.8) that the pedagogic intervention is facilitative as it could leave a memory trace or prime future noticing. Truth be told, it seems to be injudicious, to say the least, to offer a critique of error correction based on studies which demonstrate that it works, even if these beneficial effects cannot be shown to extend beyond one exchange, task, lesson or writing assignment.

The second strand groups together experimental and quasi-experimental, laboratory and classroom-based studies which have primarily looked at the acquisition of specific features in response to different types of oral (e.g. Lyster 2004; Ammar and Spada 2006; Ellis et al. 2006; Ellis 2007; Loewen and Nabei 2007; Sheen 2007a; Ammar 2008; Pawlak 2008b; Lyster and Izquierdo 2009; Sauro 2009; Erlam and Loewen 2010; Gatis 2010; Nipaspong and Chinokul 2010; Yang and Lyster 2010; Saito and Lyster 2012) and written (e.g. Bitchener et al. 2005; Sheen 2007b; Bitchener 2008; Bitchener and Knoch 2008, 2009, 2010; Ellis et al. 2008; Sheen et al. 2009) corrective feedback over time and produced unequivocal evidence that pedagogic intervention of this kind is effective. Since such empirical investigations have mainly explored the efficacy of correction in terms of some mediating variables, such as feedback type, target language form, individual differences, or learner noticing and response, they will be discussed in more detail in Chapter Four and thus will not be considered here, all the more so that many of them have been included in the review papers and syntheses presented below. It seems warranted, though, to mention two studies that were inspired by Sociocultural Theory and the notion of interaction in the zone of proximal development, but are also longitudinal in their design and have provided convincing evidence for the contributions of interactional corrective feedback on inaccurate forms in learners' written production (see Sect. 2.4.1). The first one was conducted by Aljaafreh and Lantolf (1994), it was qualitative in nature and was already described at some length earlier in the present chapter. The second, undertaken by Nassaji and Swain (2000), incorporated a microgenetic perspective within an overall experimental design and examined the effectiveness of corrective feedback in promoting the acquisition of English by two Korean learners. It turned out that

the subject who received assistance within her ZPD, fashioned after the explicit-implicit scale devised by Aljaafreh and Lantolf (1994), arrived at the correct form with increasingly less direct intervention and employed it correctly on a posttest in the form of a cloze test based on a composition the learner had previously written. By contrast, no such effects were found for the other learner who received assistance in a random manner.

Finally, support for the utility of error correction also comes from studies investigating the effectiveness of the so-called *dynamic written corrective feedback*, or such that addresses a variety of errors in accordance with the assumption that the intervention should reflect individual learner needs, as well as being manageable, meaningful, timely and constant for teachers and learners (Evans et al. 2010; see also Sect. 3.5.4.2 in Chap. 3). One such research project was conducted by Evans et al. (2011), who demonstrated that students who received such feedback over the period of one semester outperformed the controls who attended a traditional process writing course on a posttest, and improved dramatically in comparison to the pretest, while the scores of the control group deteriorated over time.

2.4.2.4 Review Papers and Research Syntheses and Meta-Analyses

Recent years have yielded several important review papers devoted to research into the occurrence and effectiveness of corrective feedback as well as influential syntheses and meta-analyses of the studies conducted to date, although it must be admitted that most of them have dealt with oral rather than written error correction. It perhaps makes sense to first offer insight into publications in which the results of research projects on the treatment of inaccuracies in learners' spoken and written error are considered together. Two of these are state-of-the art papers by Sheen (2010a) and Sheen and Ellis (2011), the first of which is relatively short as it serves as an introduction to a special topical issue of *Studies in Second Language Acquisition* and concentrates on general contributions of corrective feedback, the effectiveness of its main types, factors influencing this effectiveness and methodological issues. The second is part of an edited volume on research into second language teaching and learning (Hinkel 2011b), and it touches upon the differences between oral and written correction, theoretical support for its delivery, the pedagogical choices teachers have at their disposal and the outcomes of relevant empirical investigations. Both of them, however, reach similar conclusions, namely that, as Sheen and Ellis (2011, p. 605) point out, "(…) there is now clear evidence that oral CF – in one form or another – can benefit acquisition", but at the same time caution that "[o]ne or two studies showing that focused written CF can lead to acquisition are unlikely to convince the skeptics" (2011, p. 607). They also underscore the multitude of factors that impinge on the value of correction, many of which will figure prominently in the research syntheses and analyses reported below and will be considered in the remaining two chapters of the present work, and the importance of research in this area for reconciling theory and practice, thus bridging the gap between the worlds of theorists and researchers, on

the one hand, and teachers, on the other (cf. Ellis 1997, 1998; Pawlak 2007c). As Sheen (2010a, p. 177) insightfully remarks:

> One of the key contributions CF research has made to date is to highlight the importance of taking into account multiple factors in explanations of SLA. In the case of CF, these factors include feedback type, error type, interaction type, mode (oral vs. written vs. computer-mediated), L2 instructional contexts, age, proficiency, L1 transfer, learner orientation, anxiety, and cognitive abilities. CF research is also of obvious relevance to language pedagogy: It helps to inform when, how, and how often learner errors should be corrected. CF is an ideal object of inquiry for researcher-teacher collaboration and constitutes an area of inquiry that can connect theory, research and practice.

A synthesis and research meta-analysis conducted by Russell and Spada (2006) also examines the joint contributions of oral and written corrective feedback. The scholars set out to determine the general effectiveness of feedback for learning a second language, to identify the features and variables included in primary research, as well as to establish whether such factors mediate the benefits of error correction. They initially located and coded 56 studies of negative feedback on spoken and written errors conducted between the years 1977 and 2003, either in a classroom or a laboratory context, but only 15 of these provided sufficient data for the calculation of effect sizes expressed by Cohen's *d* and were included in the meta-analysis. When it comes to the efficacy of error correction, the mean effect size equaled 1.16, a value that is deemed very large (cf. Cooper and Hedges 1994; Mackey and Gass 2005), which led them to conclude that corrective feedback has a substantial effect on acquisition and it is on the whole durable, even allowing for the possibility that methodological problems related to reliability and validity that afflicted some studies may have exaggerated its potential. They also identified such moderating variables as the type, source, mode and focus of corrective feedback, the mode of correction, and the context in which a particular study took place. The results were inconclusive with respect to the relative value of explicit and implicit CF, no difference was found in the contribution of general (i.e. unfocused) and specific (i.e. focused) treatment, and most of the corrections were teacher-generated, with effect sizes being large. In contrast to other overviews (e.g. Nicholas et al. 2001; Spada and Lightbown 2009), Russell and Spada (2006) did not find evidence that the setting in which research is conducted (i.e. classroom vs. laboratory) impinges upon the effect size of the treatment gains, but they are at pains to point out that both here and in many other cases the lack of differences can be attributed to the small number of studies included in the analysis.

The other four research syntheses and research meta-analyses that will be reported here were undertaken, in chronological order, by Keck et al. (2006), Mackey and Goo (2007), Li (2010) and Lyster and Saito (2010), and all of them focus upon the effects of oral corrective feedback either in their entirety or in part, with the qualification that feedback of this kind can be delivered in face-to-face interactions or via the computer. The main thrust of Keck et al. s' (2006) study was to synthesize the findings of experimental studies published between 1980 and 2003 which set out to examine the link between task-based interaction and acquisition of grammatical and lexical features, and thus it is germane to the present

discussion inasmuch as it investigates the effects of opportunities for pushed output, which are inextricably connected with the provision of corrective feedback. Out of the initial batch of 100 identified studies, 14 unique sample studies were finally included in the meta-analysis, the main selection criterion being the possibility of calculating Cohen's *d* values on the basis of the data provided. Ten of those were designed in such a way that there was a requirement on the part of at least some of the participants to produce at least some of the targeted features and to modify their output in the course of the treatment. The effect sizes proved to be larger for tasks encouraging pushed output than for those that did not, and the sizable gains of the former were maintained over time, especially on immediate posttests. Commenting on this result, Keck et al. (2006, p. 122) point out that "[t]he robust *+PO* findings lend support to arguments made by Swain (1985, 2000) that opportunities for pushed output play a crucial role in the acquisition process".

Mackey and Goo's (2007) meta-analysis also dealt with empirical investigations into the contributions of interaction and it addressed some of the questions tackled by Russell and Spada (2006) and Keck et al. (2006), "(…) partially replicating, updating, and extending their research" (2007, p. 408). The study involved 27 unique sample studies gleaned from 28 research reports that were published between 1990 and 2006, and were selected in accordance with a number of criteria (e.g. an experimental or quasi-experimental design, focus on a specific grammatical or lexical feature, inclusion of one or more communication tasks as part of the treatment, the occurrence of synchronous communication). The analysis aimed to determine the overall effectiveness of interaction in promoting the acquisition of the targeted feature and to investigate the impact of a range of theoretical factors (i.e. type of the targeted form, occurrence of interactional feedback, type of feedback, focus of feedback, and opportunities for modified output) as well as contextual and methodological factors (i.e. context, setting, outcome measure). As was the case with the previous two syntheses, the selected studies were coded according to these factors and effect sizes in the form of Cohen's *d* and Cohen's *h* were calculated for each such variable.

Since the studies qualified for the investigation manifested large mean effect sizes, it was concluded that "[i]nteraction plays a strong facilitative role in the learning of lexical and grammatical target items" (2007, p. 438). Other important findings were as follows: (1) the effects of interaction were positive regardless of the target feature, but the effects sizes were significantly larger for lexis than for grammar on immediate posttests, but more durable in the case of grammatical features, (2) there was no immediate benefit of the feedback condition over the no feedback condition, but a significant difference emerged on short-term posttests to disappear again at the time of delayed posttests, (3) recasts proved to be successful in triggering language learning, (4) there was no difference between feedback narrowly focused on a set of linguistic features and correction that indiscriminately addressed a wide range of errors on immediate posttests, but the former turned out to be more effective over time, (5) interaction deprived of the opportunity for output modifications proved to be more beneficial for acquisition than interaction rich in such opportunities, both immediately and in the long term, (6) foreign

language contexts produced stronger effects for interaction than second language contexts, (7) classroom and laboratory settings generated large mean effect sizes on immediate and delayed posttest, but the gains were significantly greater in the latter, and (8) in line with the findings of Norris and Ortega's (2000, 2001) synthesis, the largest effect sizes were observed for the outcome measures relying on close-ended prompted production, but an increasing trend was observed to draw on measures of free production. All of these findings provide a basis for Mackey and Goo's (2007, p. 446) pronouncement that:

> [a]lthough feedback (including recasts) and modified output seem to be important interactional features that contribute to the beneficial effects of interaction for language learners on their acquisition of an L2, more research specifically designed to examine the effects of different feedback types and opportunities for modified output is necessary to obtain a clearer understanding of their roles in language learning.

A few studies that have been carried out since Mackey and Goo's (2007) synthesis have addressed some of the concerns raised above and their findings have been taken into account in two very recent meta-analyses of research into the effectiveness of oral corrective feedback undertaken by Li (2010) and Lyster and Saito (2010). The former was aimed to fill in the gaps in the previous research of this kind and eliminate some of its shortcomings by including unpublished doctoral dissertations, excluding studies of written correction, including variables that had not been previously dealt with, examining the provision of corrective feedback as a sole construct rather than together with other types of intervention, and following as much as possible the principle that one study could generate just one effect size. The meta-analysis took place on the basis of data retrieved from 33 primary studies that were coded according to the predetermined criteria and sought to probe into three independent variables, that is the provision of feedback, different types of feedback and the timing of posttests. Similarly to earlier research analyses, it explored a number of moderator variables, albeit at times under different labels, namely: research setting (foreign vs. second), research context (laboratory vs. classroom), task type (communicative vs. mechanical activities), delivery mode (through the computer or in face-to-face interaction), outcome measure (metalinguistic judgment, selected, constrained and free constructed response), publication type (published in a journal or having the status of a dissertation), length of treatment (short if 50 min or less, medium if falling between 60 and 120 min, and long if exceeding 120 min), as well as participants' age (interpreted as a continuous variable).

The main finding was that on the whole corrective feedback manifested a medium effect on acquisition and this effect was maintained over time, but its magnitude was smaller than in the meta-analyses mentioned previously. Another interesting result was that although explicit feedback was more effective in the short term, the long-term effects were slightly larger for implicit feedback, which, as Li (2010) speculates, might indicate that the latter is better suited to the development of implicit, or highly automatized L2 knowledge, with the caveat that a propitious constellation of mediating factors is needed for this to take place. As to the impact of these variables, the analysis revealed that foreign language contexts and artificial settings produce larger effects than second language contexts and real-classroom

settings, the findings which are accounted for in terms of more positive attitudes towards error correction on the part of learners (e.g. Loewen et al. 2009; Pawlak 2010a) and insufficient salience of recasts in naturally occurring educational discourse (Lyster 1998a; Nicholas et al. 2001). It also turned out that feedback supplied during accuracy-based activities generated larger effect sizes than correction provided in the course of fluency-oriented tasks, which was attributed to prevalence of the former in lab-based studies and the resemblance of treatment tasks to measures of learning outcomes in this condition. In contrast to the findings reported by Norris and Ortega (2000, 2001) or Mackey and Goo (2007), the effects were larger for studies which evaluated performance by means of tasks based on free constructed responses than those containing constrained responses or metalinguistic judgment tests, which Li (2010) explains in terms of the fact that while the former enable avoidance of difficult structures, the latter necessitate the use of features that learners may be uncertain about. It was also shown that treatments lasting more than 50 min generated the largest effect sizes, but interventions of such limited duration were the hallmark of laboratory research which was more effective in general, and it is obvious that this variable interacts in intricate ways with the properties of the target feature, type and intensity of feedback, individual learner differences and other factors. Last but not least, feedback provided by native speakers or delivered through the computer was more effective than teacher correction in the classroom, and it worked somewhat better in the case of learning English than learning French or Spanish, while no significant effects were identified for age, mode of delivery and publication year. Given the complex and multifaceted picture that emerges for the meta-analysis, it is perhaps not surprising that Li (2010) should call for even more research in the area of corrective feedback that should focus, among others, on child learners, languages other than English, higher proficiency and the use of computers, and examine such moderator variables as age, gender, the complexity of the target feature, L1 transfer, culture or interlocutor type. As he comments at the close of his paper, "(…) now that the effect of corrective feedback has been established, researchers should embark on the mission of investigating the factors constraining its effectiveness" (Li 2010, p. 349).

Lyster and Saito (2010), in turn, embrace a more pedagogically oriented perspective in that, apart from pursuing the theoretical and empirical agenda, they are interested in appraising the educational value of corrective feedback and offering concrete guidelines for instruction. In effect, their meta-analysis is based on the assumption that only classroom-based research should be taken under consideration and it is thus restricted to 15 quasi-experimental studies involving 827 learners, which were located through electronic databases listing publications from leading journals. Similarly to other meta-analyses, it consisted in calculating Cohen's *d* index and coding the studies in relation to the variables specified in the research questions. Those questions were related to the efficacy of oral correction in fostering classroom language development and the potential impact in this area of such factors as: types of CF (i.e. recasts, explicit correction and prompts), types and timing of outcome measures (free constructed-response, constrained constructed-response, selected response and metalinguistic judgment formats, immediate vs. delayed—1 week vs.

2–6 weeks), instructional setting (second vs. foreign), treatment length (brief—less than 1 h, short—1–2 h, medium—3–6 h, and long—more than 7 h), and learners' age (children—10–12 years of age, young adults—17–20 years of age, and adult learners—above 23 years of age).

While some findings mirror those of the meta-analyses by Russell and Spada (2006), Mackey and Goo (2007), and Li (2010), others contradict previous observations, which is in all likelihood the corollary of the exclusive focus on pedagogic interventions implemented in the classroom. In the first place, as was the case with the three studies just mentioned, it was apparent that "(…) irrespective of instructional settings, CF is facilitative of L2 development and that its impact is sustained at least until delayed posttests" (Lyster and Saito 2010, p. 294), with the effect sizes ranging from medium to large. Secondly, all feedback types yielded significant effects, but prompts turned out to be more effective than recasts and the effects of explicit correction were indistinguishable from those of the other two corrective moves. This result is in line with Li's (2010) finding that recasting works better in the laboratory and testifies to the fact that, in the words of Lyster and Saito (2010, p. 290), "CF in classroom settings may be more effective when its delivery is more pedagogically oriented (i.e. prompts) than conversationally oriented (i.e. recasts)". As regards the other moderator variables, free constructed-response measures produced larger effects for CF than the remaining three types of measures, a result that is attributable to the operation of transfer-appropriate processing (Lightbown 2008; see discussion of Skill-Learning Theory in Sect. 2.4.1.5), younger learners were shown to benefit from negative feedback significantly more than older learners, with CF being hypothesized to engage implicit learning mechanisms (cf. Mackey and Oliver 2002), and the impact of the length of treatment did not yield itself to easy interpretations because longer treatments turned out to be more effective than short-to-medium interventions, but not brief ones. The recommendations for future research projects that Lyster and Saito (2010) put forward concur to a large extent with the guidelines advanced by Li (2010), as they stress the need to pay more attention to the benefits of recasts and prompts, to gauge the components of corrective moves which underlie their effectiveness, and to gain more insights into the impact of learner characteristics. The results of this and the other reviews and research meta-analyses discussed in this section clearly indicate then that although there is substantial empirical evidence for the positive effects of error correction, the extent to which it spurs language acquisition hinges upon a multitude of variables which are manifested in the pedagogical choices made by practitioners, some of which will be touched upon in the following chapters.

2.4.2.5 Learners' and Teachers' Beliefs

The present discussion would be incomplete without taking a look at the outcomes of research projects that have tapped learners' and teachers' beliefs about the utility of feedback for the simple reason that although such perceptions are

subjective and thus they do not describe in and of themselves the true efficacy of instructional options, their significance lies in the fact that they might impact upon students' behaviors (cf. Grotjahn 1991; Dörnyei 2005) and affect teaching practices (cf. Burgess and Etherington 2002; Borg 2003, 2006). This influence also holds for the provision of oral and written corrective feedback because, for example, positive or negative attitudes in this area may determine whether and how it is employed by teachers and whether students display the requisite level of engagement by attending to it or making an attempt to modify their output (cf. Ellis 2010b). In fact, these beliefs may play a decisive part in shaping the effectiveness of different feedback types, as it is obvious that if learners show a proclivity towards explicit correction, they may ignore implicit recasts, either deliberately or unwittingly, since they will fail to discern the teacher's informative intention, thus treating the negative evidence as irrelevant (see the discussion of Relevance Theory above).

Also, here it is justified to start the overview of relevant research with a brief inspection of studies that have aimed to explore learners' and teachers' beliefs about broadly defined form-focused instruction and sometimes to compare them, all the more so that the data collection tools used for this purpose typically contain items dealing with different aspects of error correction. Although a thorough discussion of this line of inquiry is beyond the scope of the present work, even a cursory look at the available empirical evidence demonstrates that both learners and teachers assume that formal instruction including error correction is necessary and they are convinced of its value, with the former often manifesting much more positive beliefs in this respect than the latter. As regards learners, such findings have been reported by Schulz (1996, 2001), Peacock (2001), Brown (2009), Loewen et al. (2009) or Pawlak (2011b) for different nationalities, educational settings and foreign languages.[18] Empirical evidence of this kind is even more abundant in the case of practitioners, both in-service teachers and teacher trainees, as evidenced in research projects conducted by, among others, Schulz (1996, 2001), Burgess and Etherington (2002), Pawlak (2006b), Pawlak and Droździał-Szelest (2007), Borg and Burns (2008), and Wach (2011).[19] Even when discrepancies in the perceptions of the two groups were detected, as is the case with the studies carried out by Schulz (1996, 2001), for instance, or as has been thoroughly documented in the works by Borg (2003, 2006), they were typically a matter of degree rather than extreme divergence. An exception to this general tendency is the research project undertaken by Pawlak (2013b), who not only found that learners were on the

[18] It should be noted that some of these studies identified slight divergences in the beliefs manifested by students representing different nationalities, instructional contexts, or target languages (e.g. Schulz 2001; Loewen et al. 2009; Pawlak 2011b). Such differences are not highlighted and elaborated upon, however, as they are not directly relevant to the present discussion.

[19] Most of the studies mentioned here investigated different facets of form-focused instruction and it is obvious that the participants' attitudes and beliefs were more or less positive depending on the area. In all of them, however, there was a clear preference for some kind of pedagogic intervention, which is of primary significance from the point of view of the present deliberations.

whole more convinced of the contributions of different types of FFI than teachers, but also managed to pinpoint divergences in specific areas (i.e. the design of FFI lessons, introducing and practicing grammar structures, correcting grammar errors).

A similar conclusion can be reached with respect to empirical investigations that have squarely focused on the provision of different forms of oral and written corrective feedback. In two early studies devoted to this issue, for example, Cathcart and Olsen (1976) found that learners express a preference for more frequent correction than is usually the case during their language lessons, whereas Chenoweth et al. (1983) reported that their subjects wanted to have their erroneous utterances treated not only in the course of form-focused activities, but also in communicative exchanges. It should be noted, however, that the former study also showed that learners' perceptions may undergo a major change when a stricter policy towards errors is in fact implemented and the nature of classroom interaction becomes so controlled and rigid that it ceases to be acceptable. More recent research has by and large corroborated such early findings but has also managed to identify learners' preferences with respect to specific aspects of corrective feedback, although such trends will only be signaled here owing to the fact that the pertinent studies will be invoked when discussing the effectiveness of different types of correction in the following chapters. Suffice it to say at this point that that Nagata (1993) and Kim and Mathes (2001) found a marked preference for explicit correction among the learners whose beliefs they explored, a finding that was confirmed by Griffiths and Chunhong (2008), who additionally reported that learners are in favor of instantaneous correction supplied by the teacher as well as demonstrating that there exists a positive, statistically significant correlation between the preference for immediate error treatment and end-of-semester grades. Similarly to research into perceptions of form-focused instruction in its entirely described briefly above, also here some differences between learners' and teachers' views can be detected (e.g. Nunan 1988; Yoshida 2010), but, again, such discrepancies are not dramatic and they pertain more to specific choices teachers have at their disposal rather than the value of error treatment as such.

It is also warranted to include in the present discussion the findings of a few selected studies that have looked more specifically at the beliefs concerning the provision of corrective feedback in response to spoken and written inaccuracies separately. When it comes to oral error correction, one such research project was carried out by Pawlak (2010a), who examined learners' perceptions of the importance of feedback in the course of fluency-oriented tasks and accuracy-based activities, focusing in particular on its source, type and timing, as well as the relationship between preferences in these areas and proficiency, operationalized as end-of-semester grades in English. The findings mirrored to a large extent those of the other research projects mentioned in this section since the participants were very positively predisposed to error correction in general, but they were more convinced of the need for negative feedback in controlled exercises than in communication-based tasks. They favored in particular direct (i.e. explicit) feedback provided by the teacher and although they were much less enthusiastic

about immediate, public error treatment or the prospect of self-correction, even in these areas their perceptions were on the positive side, only approximating neutrality in the case of peer correction. These results found reflection in the students' responses to open-ended queries, and significant positive correlations were revealed between attainment and overall importance of correction, the provision of CF during fluency-oriented activities and teacher correction.

Several interesting studies of oral feedback have also been conducted by Yoshida (2008, 2009, 2010), who is particularly interested in the differences between teachers' and learners' perceptions of corrective moves, but investigates them in a more dynamic and situated manner as they are manifested in classroom discourse. In her recent research project, she found that learners' reactions to feedback were sometimes indicative of the failure to notice the corrective information while teachers displayed a tendency to overestimate the levels of noticing and understanding of feedback on the part of more advanced students, but at the same time to withhold further reactive negative evidence from learners that they perceived as less capable..[20] As Yoshida notes, "[i]n both cases, the result was that further negotiation, which might have elicited learners' noticing and understanding of correct forms, did not occur" (2010, p. 311). Even though these findings testify to the need to reconcile learners' and teachers' perceptions of corrective feedback to enhance its effectiveness, they are based on the assumption that correction is instrumental in promoting second language development and it is clear that this conviction is shared by the participants of the study.

Moving on to written corrective feedback, Hyland and Hyland (2006, p. 84) point out in their state-of the-art paper that "[r]esearch on student preferences has consistently found that students expect teachers to comment on their written errors and are frustrated if this does not happen". This is evident, for instance, in the studies conducted by Leki (1991), which showed that most students display a strong preference for teacher correction, and Hedgcock and Lefkowitz (1991), who identified similar beliefs among learners of English as both a foreign and second language, an additional finding being that the former preferred to be corrected on grammar, learning and mechanics of writing while the latter favored feedback on content and organization. Also of interest are two studies conducted by Lee, one of which (Lee 2004) showed that teachers and students in Hong Kong manifest a predilection for comprehensive written error correction, and the other (Lee 2008) zoomed in on practitioners only, confirming earlier findings and showing that they mainly focus on grammatical errors, and are influenced in their choices by a myriad of contextual factors (beliefs, knowledge, institutional policies, etc.). The final research project to be mentioned here was conducted by Montgomery and Baker (2007), who found that there was much overlap between the way

[20] Although this study is unequivocally related to perceptions and beliefs about correction, which is the reason why it is mentioned here, it also provides insights into learner engagement and thus it will be referred to as well in the overview of research on oral CF that will be presented in Chap. 4.

learners of English of different nationalities perceived the feedback they received from teachers and those teachers' self-assessments of how they conducted error treatment.[21] Even though the reported practices of the teachers deviated to some extent from what they actually did in that they in fact mainly concentrated on local errors (e.g. grammar) rather than global errors (e.g. organization), their learners were content with this focus of correction. Both this and other studies of learners' and teachers' perceptions of error correction dealt with above then illustrate extremely favorable views on the need for and value of feedback. Although these perceptions might vary to some extent as a function of the type of feedback and there may be some divergences between the beliefs held by the two groups, on the whole, they are nonetheless overwhelmingly positive.

2.4.3 Pedagogical Considerations

Compelling as they might be, the theoretical and empirical arguments for corrective feedback are perhaps not of immediate relevance for practitioners who are in the vast majority of cases unfamiliar with the latest theoretical positions or research findings, but who have to face the exigencies and constraints of classroom instruction on a daily basis. Most of them, especially those working in foreign language contexts, would in fact be in for quite a surprise were they to read Truscott's (1996, 1999) elaborate and vociferous critiques of oral and written error correction for the reason that they take it for granted and feel that it is their responsibility to respond to inaccuracies in their students' output. They would also in all likelihood concur with Larsen-Freeman (2003, p. 127), who points out that "[p]roviding feedback is an essential function of teaching", and adds a little later down the page that "[t]eaching is not a mere reflex of language acquisition. Our job as teachers is to accelerate, not to emulate, the natural language acquisition process". In fact, it is possible to come up with as convincing a rationale for the provision of negative feedback on pedagogical grounds as Krashen (1981, 1982) and Truscott (1996, 1999) do for its abandonment, and while these two scholars are likely to remain adamant in their claims, such argumentation will be more persuasive than the justifications offered by the detractors of correction. Following the solution adopted in the preceding sections, these pedagogical considerations will first be briefly discussed with respect to formal instruction in general and later the focus will be narrowed down to oral and written error correction, with the caveat that no attempt will be made to distinguish between the two.

A thoroughgoing discussion of the pedagogic arguments that can be invoked in support of form-focused instruction, of which, it should be reminded, negative feedback is an inherent part, is presented by Pawlak (2006a), who frames it

[21] This study will also be invoked in Chap. 4 when discussing learners' engagement with written corrective feedback.

in terms of the glaring shortcomings of the purely communicative approaches. For one thing, even if teachers wholeheartedly wanted to replicate in their classrooms the interactional patterns of naturalistic discourse, thus turning them into what Ellis (1992) refers to acquisition-rich environments, their efforts are bound to be futile or at best fall far short of their expectations. This is because, due to, among others, the scant number of classes, restricted out-of class exposure, lacking teachers' communicative competence, educational traditions, examination requirements and prevalent expectations, interaction in the foreign language classroom is bound to be characterized by a low quantity and quality of target language input, common reliance on the first language and very limited opportunities for communicative output, and, as research into immersion programs has aptly demonstrated (cf. Swain 1985; Tarone and Swain 1995), these weaknesses are by no means the bane of one instructional context. Moreover, as the present author found in a descriptive study that aimed to compare facets of classroom discourse in lessons conducted by Polish and American teachers, "(…) replicating the characteristics of general conversation in the foreign language classroom does not necessarily promote language development, and, in some cases, can even hinder rather than foster that process" (Pawlak 2004b, p. 103). In light of such realities, it would be imprudent to deprive learners of teaching strategies that can enhance acquisition, with different options in form-focused instruction clearly representing potentially beneficial classroom practices.

Another argument rests on an assumption that language instruction should take heed of learner characteristics, needs, and preferences, which is one of the main planks of learner-centeredness, a concept so ardently subscribed to by the proponents of non-intervention. If this recommendation is to be taken seriously, there should surely be a place for drawing learners' attention to formal aspects of language in a variety of ways since, as was shown above, they express a strong wish to be corrected, and many of them are likely to benefit from such pedagogical intervention on account of their cognitive, affective and social profiles. It should also be noted that FFI based to some extent on a structural syllabus ensures comprehensive and systematic coverage of target language forms learners might need (Ellis 2002c), high levels of accuracy may be at a premium in some circumstances, and awareness of language structure sometimes ensures greater precision of expression (Swan 2002). Lastly, there are many educational contexts, including the Polish one, where the strong version of the communicative approach has not made significant inroads, mainly because the educational traditions, curricular requirements, deeply ingrained beliefs and, crucially, scant access to the TL all dictate that language forms be taught and errors corrected (Fotos 1998, 2005).

Shifting the focus more specifically to error correction, it is enlightening to begin with a quote from Allwright and Bailey (1991, p. 99), who write that: "[i]f one of our goals as language teachers is to help our learners move along the interlanguage continuum, getting closer and closer to the target language norm, then, the thinking goes, we must provide them with the feedback they need to modify their hypotheses about the functions and linguistic forms they use". Indeed, a question immediately comes to mind how learners are supposed to determine

whether what they are saying or writing is correct or not, or whether their utterances convey their intended meanings with sufficient precision if they should be left to their own devices. After all, they can only consult a dictionary or a grammar book if they realize themselves that there is a problem with the use of a grammar structure, the choice of a particular word, or its pronunciation, which is in most situations not the case, and, when exposure is scarce, they are not likely to find confirming or disconfirming evidence in the available, often impoverished, input. Without correction then, students may keep producing inaccurate forms over a long time being convinced that the rules they are operating with are accurate, which might from the psycholinguistic perspective impede the processes of proceduralization and automatization, and, from the sociocultural perspective, hamper the onset of internalization and self-regulation (see Sect. 2.4.1). Even worse, as Schachter (1988) suggested, such erroneous output may serve as input both to the speaker or writer and to the listener or reader, which may be responsible for retention or formulation of incorrect hypotheses, thus putting a brake on the development of explicit and implicit knowledge. All of this clearly indicates that corrective feedback should be regarded as an ally rather than an enemy of second language acquisition in the classroom and it should thus be an integral part of instruction, on the obvious condition that it is provided in the right way, a point that will be considered later in this book. In other words, error correction is one of the main responsibilities of the language teacher who cannot just abdicate it in pursuit of teaching more naturally, as this will inevitably have a detrimental effect on the learning process. Besides, as was made plain in Sect. 1.3, error correction is so deeply ingrained in language education and so much a fact of life for teachers and learners, that the prospect of abandoning it altogether is neither realistic nor feasible.

To conclude the discussion of the pedagogical considerations providing support for the role of corrective feedback, it is also worthwhile to respond briefly to some of the criticisms raised by Truscott (1996, 1999) that were presented in Sect. 2.3. In the first place, whether or not learners notice, respond to and understand the corrective move depends to a large extent on how this moves is realized, what happens before and after the pedagogic intervention, as well as learners' characteristics, expectations and goals. The same factors will determine to a large extent the degree of retention of the negative evidence, although this is a slippery concept given the claims of the Delayed-Effect Hypothesis that noticing, priming and narrowing hypothesis space may be as important. When it comes to the lack of consistency and systematicity of CF, it has indeed been attested in a number of studies (e.g. Long 1977; Nystrom 1983), but it is somewhat misguided to unequivocally stigmatize it as a liability and a sign of inefficacy. Quite on the contrary, inconsistency might be as beneficial and desirable as it is inevitable given the fact that it may be interpreted as a sign that the teacher is trying to cater to individual learner needs (cf. Allwright 1975), and, aside from this, there is no reason to believe that the input provided during language lessons should be more consistent and less random than negative feedback (cf. Lyster et al. 1999). Counterarguments can also be provided in response to affective concerns as it is clear to anyone involved in

the business of language teaching that correction does not have to be inherently embarrassing because most learners expect and require it anyway, and teachers can adjust it drawing upon their knowledge of learners' personality and preferences. What is more, there is no reason why students should lack the motivation to attend to oral correction, to engage in negotiation of form or to revise their written errors when they actually express an explicit wish to receive feedback and when they are sensitized to the principles according to which it is supplied. Lastly, as Lyster et al. (1999) emphasize, there is no reason to believe that learners benefit only from negative evidence that is matched to their developmental stage and there is copious evidence that CF can be successfully integrated in communicative activities. On this last point, the main premise of this book is that error correction may be particularly facilitative of the development of implicit knowledge when it occurs in the course of meaning and message conveyance, which is a logical and reasonable assumption in light of the copious empirical evidence.

All of this is not to say of course that many of the reservations brought up by Truscott (1996, 1999) are not valid in situations when feedback is provided in indiscriminate, erratic, haphazard and uninformed ways. Still, the danger that an instructional option may not work as well as it should and it may not be effective under some circumstances surely does not provide a basis for rejecting it out of hand as useless and even harmless. Rather, it falls upon theoreticians, researchers and methodologists to furnish practitioners with a set clear of guidelines which would help them become cognizant of the potential pitfalls, try to avoid them and maximize the value of the feedback they provide. This is certainly the rationale underlying the present volume, which views theoretical positions and research findings as an important foundation for pedagogical implications and concrete proposals for everyday classroom practice.

2.5 Conclusion

The main aim of the present chapter was to present contrasting opinions on the place of oral and written corrective feedback in the foreign language classroom and, on the basis of their careful consideration, to provide a convincing rationale for the facilitative contributions of the treatment of learner errors. First, the conditions that have to be met for successful language acquisition were outlined which include the provision of positive evidence, negative evidence and abundant opportunities for output production, with the last two implicating the necessity of correction. The subsequent section was devoted to the discussion of the key arguments against error correction which have been advanced on theoretical, empirical as well as purely practical grounds. The most extensive and at the same time the most crucial part of the chapter, however, dealt with the justifications for the provision of CF on inaccurate forms in learners' spoken and written output, both such that are tied to generally conceived FFI, of which error correction is an integral part, and such that are specifically related to corrective reactions to learners'

errors. In this case, the arguments were also outlined with reference to leading theories and hypothesis in the domain of SLA which envisage an important role for error treatment, the research findings speaking to the effectiveness of this instructional option and testifying to the positive perceptions thereof on the part of teachers and learners, as well as more pedagogically orientated considerations. It should also be noted that since the chapter addressed the overall contributions of corrective feedback, no attempt was made to maintain the distinction between oral and written correction at all times, the discussion of the empirical evidence mainly focused upon the latest state-of-the-art papers as well as research syntheses and meta-analyses, with the consequence that the impact of specific feedback types and other moderator variables was merely signaled, and the choices teachers have at their disposal were not described in any systematic ways.

The conclusion that can be reached on the basis of these deliberations is that, thanks to its capacity to simultaneously serve as positive and negative evidence and to generate output, corrective feedback, whether it occurs in the oral or written mode, fosters second language development and there are good reasons to utilize it in the course of both controlled exercises and communication-based tasks. What is of particular importance, such support derives from both psycholinguistic and sociocultural accounts of second language acquisition, since error correction is hypothesized to activate the microprocesses of attention, cognitive comparison and noticing the gap, to assist the transformation of declarative knowledge into automatized procedural knowledge, to act as a priming device, to augment the relevance of input, to ensure instructional counterbalance as well as to promote internalization and the move to the stage of self-regulation through stimulating social interaction in the zone of proximal development. Of pivotal importance is the fact that such theoretical claims have been by and large substantiated by research findings which have unequivocally demonstrated that not only does CF work and its effects are durable, but also that it contributes to the development of both explicit and implicit knowledge. Moreover, even in the case of studies that do not rely on a pretest–posttest design, but focus on immediate uptake and repair or successful reformulation of the same text, it would be imprudent to claim that the lack of evidence that correction has a beneficial effect over time automatically means that it cannot happen. In fact, even a failure to modify one's output does not constitute proof of the inefficacy of CF, on account of the fact that, as posited by the Delayed-Effect Hypothesis, progress may manifest itself at a later time. Equally significant is the empirical evidence showing that learners tend to express a strong preference for correction and, despite some divergences, these sentiments are largely shared by teachers. Finally, it has been clearly shown that error correction is not only pedagogically viable, it does not have to impede the flow of communication and put learners on the defensive, but also that it is the responsibility of the teacher to provide it, it may prevent the formulation of erroneous hypotheses and it may indeed be indispensable in some instructional settings.

On the other hand, however, it should be emphasized that the beneficial effects of error correction should by no means be taken for granted because its indiscriminate, random and unpremeditated occurrence may not only turn out to be of

little value, but, in some cases, it may also confuse and embarrass the learners, thus confirming the reservations expressed by Krashen (1982) and Truscott (1996, 1999). In other words, it is not being suggested here that all errors should on principle be immediately corrected with little consideration given to such issues as the overall instructional agenda of a given lesson, the activity being performed, the properties of the linguistic feature that has been applied incorrectly, learner characteristics or contextual circumstances. This is because, as is abundantly evident from the foregoing discussion of the theoretical positions and empirical evidence, and specifically the insights gained from the latest research syntheses and meta-analyses, the provision of CF is an exceedingly complex task that has to take into account a wide array of variables related not only to the nature of the corrective move *per se* but also the type of error being treated, the psycholinguistic readiness to acquire a specific form, the task in hand, the objectives of the lesson, the instructional setting, and individual variation which manifests itself in such factors as age, level of proficiency, aptitude, learning styles, motivation, anxiety levels or learning goals, to name just a few. In other words, corrective feedback that proves to work splendidly for a particular learner working on a particular task in a particular situation may fail dismally for another under a different set of circumstances. All of this demonstrates that it is necessary to take a closer look at the choices that teachers have at their disposal when embarking on the treatment of learner errors and the factors that shape the effectiveness of such treatment. These will be the leading themes of the two remaining chapters of the present work.

http://www.springer.com/978-3-642-38435-6

Error Correction in the Foreign Language Classroom
Reconsidering the Issues
Pawlak, M.
2014, XII, 288 p., Hardcover
ISBN: 978-3-642-38435-6