Chapter 2
The L1 in L2 Learning and Teaching

2.1 Introduction

The previous chapter has looked at several issues relevant to the L1 in L2 learning and teaching. The current chapter mainly aims to examine the arguments about the role of the L1 in the two major areas of L2 learning and L2 teaching, and to provide a review of relevant empirical studies. This chapter also critically reviews empirical studies specifically on teachers’ use of the L1 and L2 in L2 classrooms.

2.2 The Role of the L1 in L2 Learning

The role of the L1 in L2 learning has been discussed extensively in the literature. According to Ellis (1994: 300), learners’ prior linguistic knowledge is an important factor in L2 acquisition, and theories of L2 acquisition ignoring learners’ L1 cannot be considered complete. Since the recent history of research and theories in L2 acquisition reveals that the L1 has a two-sided role in L2 learning, this section focuses on reviewing influential theories suggesting either a negative or a positive role of the L1 in L2 acquisition. It also presents relevant findings of empirical studies.

2.2.1 Arguments for the Negative Role of the L1 in L2 Learning

In examining the role of the L1 in L2 learning, there is a need to mention one of the early theories in second language acquisition, namely behaviourist learning theory, which was a theory of general learning and then became a dominant school in psychology. According to behaviourism, language learning, like any other kind of learning behaviour, can be seen as the formation of habits, that is, the process of
creating stimulus-response associations through imitation or reinforcement (Mitchell and Myles 2004: 30).

Although in the behaviourist view both L1 and L2 learning are considered as forming a set of language habits, the process of L2 learning is very different from that of L1 learning. As Mitchell and Myles (2004: 31) put it:

When learning a first language, the process is relatively simple: all we have to do is learn a set of new habits as we learn to respond to stimuli in our environment. When learning a second language, however, we run into problems: we already have a set of well-established responses in our mother tongue. The SLL process therefore involves replacing those habits by a set of new ones.

In the foreword to Lado (1957), Fries also wrote:

Learning a second language…constitutes a very different task from learning the first language. The basic problems arise not out of any essential difficulty in the features of the new language themselves but primarily out of the special “set” created by the first language habits.

Behaviourist learning theory believes that the old habits of the L1 inevitably interfere with the process of learning the new habits of the L2, and predicts that the similarities between the L1 and L2 facilitate L2 learning while the differences between the two languages lead to negative transfer and errors (Ellis 1985: 22). Although the behaviourist account of L2 learning seems to indicate that the L1 plays both a negative and a positive role in L2 learning, it puts more emphasis on the negative influence of the L1. For example, Ellis (1994: 299) pointed out that ‘according to behaviourist theories, the main impediment to learning was interference from prior knowledge’. Corder (1981: 1) also mentioned that this theory predicted errors to be ‘the results of the persistence of existing mother tongue habits in the new language’ and that ‘consequently a major part of applied linguistic research was devoted to comparing the mother tongue and the target language in order to predict or explain the errors made by learners of any particular language background’.

On the basis of the behaviourist view, Lado was among the first to compare two languages, with a view to fighting off L1 interference and improving the efficiency of L2 teaching. Lado’s Contrastive Analysis (CA) was based on a fundamental assumption that ‘in the comparison between native and foreign language lies the key to ease or difficulty in foreign language learning’ (Lado 1957: 1). To be specific, it is assumed that ‘the student who comes in contact with a foreign language will find some features of it quite easy and others extremely difficult. Those elements that are similar to his native language will be simple for him, and those elements that are different will be difficult’ (Lado 1957: 2). Therefore, in order to overcome the negative influence of the L1 on L2 education, L2 teachers need to identify the differences between students’ L1 and L2, and to direct students’ attention to potential errors and the areas of difficulty. As Lado (1957: 2) noted, ‘the teacher who has made a comparison of the foreign language with the native language of the students will know better what the real learning problems are and can better provide for teaching them’.

The behaviourist view of language learning was later challenged by Chomsky’s mentalist view which emphasized what he referred to as learners’ language
acquisition device rather than linguistic environment (Ellis 1985: 12). In his critical review of Skinner’s ‘Verbal Behaviour’, Chomsky (1959: 30–31) pointed out that Skinner used experimental results of studies of animal behaviour as the evidence for the nature of language behaviour, and that the notions of ‘stimulus’ and ‘response’ seem to be empty in terms of language behaviour. The importance of ‘reinforcement’ was also doubted since ‘it is simply not true that children can learn language only through “meticulous care” on the part of adults who shape their verbal repertoire through careful differential reinforcement’ (Chomsky 1959: 42). In addition, he argued (1959: 57) that behaviourist learning theory seems unable to explain how a child acquires its first language at very early age. In doing so,

…the young child has succeeded in carrying out what from the formal point of view, at least, seems to be a remarkable type of theory construction. Furthermore, this task is accomplished in an astonishingly short time, to a large extent independently of intelligence, and in a comparable way by all children.

The criticism of Contrastive Analysis was based on empirical, theoretical, and practical considerations (Ellis 1985: 27). In a review of several empirical studies systematically investigating L2 learners’ errors, Ellis (1985: 28–29) reported that the percentage of interference errors reported by these studies varied from 3 % (Dulay and Burt 1973) to 51 % (Tran-Chi-Chau 1975), and that many errors predicted by CA did not occur and many errors which were not predicted by it did occur. These studies provided empirical evidence for the insufficiencies of CA, in terms of predicting potential errors and difficulties as well as accounting for most of them. Ellis attributed the problem of CA to its failure to recognize sources of difficulty other than the influence of the L1, and identified many possible explanations for the difficulty of a given structure, for example, ‘its saliency, its communicative value to the learner, the extent to which it is marked or unmarked, or the ease with which it can be processed in production or comprehension’ (Ellis 1994: 308).

As a result of the attack on behaviourism and CA, some researchers (see, for example, Newmark and Reibel 1968; Dulay and Burt 1972) have argued that the influence of the L1 is of little importance in L2 learning. Ellis (1994: 315) believed that this ‘minimalist position’, as he called it, was an overreaction caused by overestimating the closeness of the relationship between interference and behaviourism. Newmark and Reibel (1968: 159), for example, considered L1 interference only as a manifestation of ignorance:

…a person knows how to speak one language, say his native one; but in the early stages of learning his new one, there are many things that he has not yet learned to do…What can he do other than use what he already knows to make up for what he does not know? To an observer who knows the target language, the learner will be seen to be stubbornly substituting the native habits for target habits. But from the learners’ point of view, all he is doing is the best he can: to fill in his gaps of training he refers for help to what he already knows.

Dulay and Burt (1972, cited in Ellis 1994: 314) used a new concept, ‘general processing strategies’, rather than ‘interference’ to explain different types of errors of L2 learners. Moreover, in contrast to theorists and proponents of behaviourism, the researchers holding the minimalist position claimed that L2 acquisition was
essentially similar to L1 acquisition (Ellis 1994: 314; Odlin 1989: 22). Odlin (1989: 22) argued that although they recognized that differences existed in the success achieved in L2 acquisition in comparison with L1 acquisition, they saw such differences as the result of factors such as motivation, anxiety about making errors, and the learner’s environment. The minimalist view seemed to imply that the way children acquired their L1 was the best method of learning a language, and that L2 learners should acquire the L2 the same way as children acquired their L1, rather than relying on their L1. Therefore, it seemed that both maximizing L2 input and avoiding the use of the L1 were necessary in L2 classrooms. This view was indeed common around the 1970s.

Like the researchers mentioned above, Krashen adopted a minimalist position on the role of the L1. His Monitor Model theory consists of five hypotheses about second language acquisition (Krashen 1982; Krashen and Terrell 1983):

1. The acquisition-learning hypothesis
2. The natural order hypothesis
3. The monitor hypothesis
4. The input hypothesis
5. The affective filter hypothesis

The acquisition-learning distinction states that adults can develop competence in a second language in two distinct and independent ways: acquisition and learning. While acquisition is a subconscious process in which learners acquire a language ‘naturally’ through real communication, learning is conscious, and refers to developing ‘formal knowledge’ of a language. According to Krashen, like children, adults still have the ability to acquire a second language. The natural order hypothesis claims that ‘grammatical structures are acquired in a predictable order’ (Krashen and Terrell 1983: 28). The monitor hypothesis explicitly states that L2 learners depend only on the acquired system to generate utterances, and that the conscious learning can only be used as a monitor to make changes to the utterances generated by the acquired system, either before or after they are actually produced. Furthermore, monitor use is said to be very limited, since three requirements have to be met in order to use the monitor: (1) the learner has enough time; (2) the learner is thinking about correctness; (3) the learner knows the rule. While the monitor hypothesis indicates a central role for acquisition in the development of second language competence, the input hypothesis answers how acquisition takes place. It states that acquisition takes place when acquirers understand input which is a little beyond their current level of competence, that is, they can move from stage i to the next stage i + 1 by understanding input containing i + 1 (i represents their current competence). The affective filter hypothesis says that attitudinal factors, such as motivation, relate to subconscious language acquisition, and that learners with optimal attitudes will obtain more input and acquire more.

While Krashen and Terrell (1983: 42) recognized that the L1 could be used as a short-term solution to meet the immediate needs of learners in L2 communication before they acquire sufficient L2 competence, they acknowledged falling back on the L1 could have a negative influence on L2 learning, for example, errors emerging
as a result of the inconsistency between the L1 and L2 rules. Furthermore, unlike behaviourists who claimed that interference was caused by negative transfer of learners’ knowledge of their L1, Krashen and Terrell (1983: 41–42) adopted Newmark’s ideas and interpreted interference as the result of a strategy for communication, which learners used when they did not have sufficient knowledge of the L2. They also believed that the disadvantages of falling back on the L1 outweighed the advantages in the long run.

Moreover, unlike CA encouraging teachers to make changes in pedagogy to help fight off L1 interference, the cure proposed by Krashen and Terrell (1983: 41) for interference is acquisition coming only from comprehensible input. This seems to indicate that the main responsibility for L2 teachers in their teaching is simply to provide sufficient comprehensible L2 input. They further explained that L1 interference took place because ‘the second language performers have to talk “too early”, before they have had the time and input to build enough competence to use acquired competence’ (Krashen and Terrell 1983: 42). Therefore, in order to overcome L1 interference, they suggested that learners should wait for sufficient competence to build up through input before communicating in the L2 rather than using the L1 as a temporary substitute, that is, the L2 should be acquired separately from learners’ L1 to avoid negative influence of the L1.

Krashen’s view that input at the appropriate level of difficulty is sufficient for L2 acquisition to take place has been regarded as inadequate in more recent theories (Mitchell and Myles 2004: 20). Although the importance of comprehensible input had been widely recognized, Swain (cited in Wong-Fillmore 1985: 33) claimed that comprehensible input alone is by no means a sufficient condition leading to successful language learning, and that, in addition to comprehensible input, comprehensible output is a key factor in second language development, since it reflects learners’ attempts to understand the structure of the L2 by putting their own communicative intentions into practice. Regarding the contribution of language output to L2 learning, Mitchell and Myles (2004: 21) also stated that ‘when we try to say something in our chosen second language, we are forced to make grammatical choices and hypotheses in order to put our utterances together’.

Furthermore, second language interaction is valued because it offers the opportunities to L2 learners to adapt the input to their needs and it is believed that the utterances produced in second language interaction will be at the appropriate level of difficulty to provide true ‘comprehensible input’ (Mitchell and Myles 2004: 22). Similarly, Long (1996, cited in Turnbull and Arnett 2002: 205) argued that learners internalize the L2 input, once given the opportunity to interact with and negotiate the meaning of the input. In this sense, it seems more suitable to use the L2 rather than the L1 as the language of instruction, especially for classroom interaction. Conversely, as Cook (2001: 409) said, using the L1 for classroom interaction was considered to be ‘depriving the students of the only true experience of the L2 that they may ever encounter’. Littlewood (1991: 45) also claimed that ‘many learners are likely to remain unconvinced by our attempts to make them accept the foreign language as an effective means of satisfying their communicative
needs if we abandon it ourselves as soon as such needs arise in the immediate classroom situation’.

2.2.2 Arguments for the Positive Role of the L1 in L2 Learning

As mentioned earlier, traditional CA was criticized largely for ‘its predictive and explanatory claims and its behaviouristic-structuralistic rationale’ (Kupferberg 1999: 212). It viewed L1 interference as the main or even the only impediment to L2 learning and played down the benefits of positive transfer of the L1. However, CA was not abandoned immediately. Rather, it was developed to explain what took place ‘when two languages come into contact in the bilingual brain’ (James 1996: 143), since learners were found to be often curious about the relationships between the L2 and their L1 (Seliger 1983: 181).

As Kellerman (1995, cited in James 1996: 145) pointed out, both the theory and practice of CA have changed since it was incorporated into a cognitive framework, ‘where the learner is more in charge of his own learning destiny, and whose explicit goals now include even cultural understanding as well as accuracy’. CA is now often done by learners in classrooms rather than by applied linguists. Poldauf (1995: 6) suggested that the implementation of CA should proceed from the similarities to the differences between the L1 and L2 language systems. Although it used to be thought that this probably gave learners a false impression of ‘a pervasive sameness’, research on learners’ psychotypological selectivity in language transfer has suggested that this is not a problem (James 1996: 145).

Later studies on CA (see, for example, James 1996; Kupferberg and Olshtain 1996, Kupferberg 1999; Doughty 1991) have been primarily concerned with engaging learners’ attention in the differences between the L1 and L2, and raising their cross-linguistic awareness by using cross-lingual teaching strategies, in order to facilitate L2 learning.

James (1996: 146–147) discussed effective ways to raise learners’ cross-linguistic awareness in L2 teaching: firstly, establishing a link between an L2 form and its corresponding L1 form can make learners conscious of the target form, and assist them in memorizing it, since the relationship between the L1 and L2 is often asymmetrical; secondly, translation can be particularly effective, since two manifestations of the L1 and L2 are juxtaposed in the act of translation and language juxtaposition is the essence of CA.

Kupferberg and Olshtain (1996) and Kupferberg (1999) examined the effect of contrastive metalinguistic input (CMI) on learners’ grammar acquisition. CMI, according to them, was defined as ‘teacher-induced salience which foregrounds differences between the learners’ L1 and L2 which have been established as areas of difficulty in studies independent of the CA’ (Kupferberg 1999: 212). These studies both showed that CMI focusing attention on explicit differences between the
languages facilitated the acquisition of difficult L2 structures. Moreover, they supported the theoretical claim that L2 learners often made a cognitive comparison between the L2 input they noticed and their L1 (Kupferberg 1999: 212), as well as the view that assisting learners in making an L1-L2 comparison could be beneficial to L2 learning and teaching.

The term ‘interlanguage’, coined by Selinker in 1972, is an important concept in discussing L2 learners’ cognitive processes. According to Ellis (1985: 47), some other early researchers used different terms for this phenomenon, for example, Nemser (1971) used ‘approximative systems’ and Corder (1971) used ‘idiosyncratic dialects’ and ‘transitional competence’. Interlanguage theory, as Ellis (1994: 350) pointed out, ‘was the first major attempt to provide an explanation of L2 acquisition’.

In the article introducing the concept ‘interlanguage’, Selinker (1972: 214) argued that ‘in the making of the constructs relevant to a theory of second-language learning, one would be completely justified in hypothesizing, perhaps even compelled to hypothesize, the existence of a separate linguistic system (interlanguage) based on the observable output which results from a learner’s attempted production of a TL norm’, because it could be observed that ‘this set of utterances (the L2 utterances produced by learners) for most learners of a second language is not identical to the hypothesized corresponding set of utterances which would have been produced by a native speaker of the TL had he attempted to express the same meaning as the learner’.

Although interlanguage studies began with study of the problems resulting from the comparison of the L2 with the L1 (Selinker 1992: 23), they ‘moved one step beyond error analysis, by focusing on the learner system as a whole, rather than only on its non-target-like features’ (Mitchell and Myles 2004: 9).

In order to explain L2 acquisition, Selinker (1972: 215) identified five cognitive processes involved in interlanguage construction:

1. language transfer
2. transfer-of-training
3. strategies of second-language learning
4. strategies of second-language communication
5. overgeneralization of TL linguistic material

Here, ‘language transfer’ refers specifically to the influence of the L1. It seems clear that within this framework Selinker viewed the L1 as a major determinant contributing to interlanguage development.

Moreover, there is controversy regarding the starting point of the interlanguage continuum, which is a dynamic system evolving over time. The question is, ‘whether the starting point is some remembered early version of the L1, which is complexified through the general process of hypothesis-testing, or whether it is the innate knowledge of language which all children bring to the task of learning their L1, as proposed by Chomsky (1965)’ (Ellis 1994: 353). Nevertheless, Ellis (1994: 353) argued that in some aspects of language, such as phonology, the starting point of L2 acquisition might be the L1.
In an attempt to understand language transfer as a cognitive process, Ellis (1994: 338) considered how learners’ L1 influenced L2 learning, and proposed the following framework:

While in interlanguage theory Selinker categorized language transfer separately from L2 learning and communication strategies, Ellis (1994: 337–338) proposed that the L1 is utilized in both L2 communication and learning, that is, the L1 system is used not only by language comprehension and production mechanisms, but also in the hypothesis construction responsible for interlanguage development (see Fig. 2.1). He also claimed (1994: 339) that the L1 system can help to make L2 input and output comprehensible. Thus it seems that the cognitive turn of L2 learning theories has led to a reinterpretation of the role of the L1 in L2 learning. As Ellis (1994: 343) said:

...whereas in behaviourist accounts it (the influence of the L1) was seen as an impediment (a cause of errors), in cognitive accounts it is viewed as a resource which the learner actively draws in interlanguage development.

Although behaviourist learning theory seemed to overemphasize the errors resulting from negative transfer, it is now acknowledged that L1 transfer can also have very positive effects on L2 learning. For instance, Odlin (1989) investigated L1 transfer in different aspects of L2 learning such as semantics, phonology, writing systems and syntax and claimed that ‘much of the influence of the native language can be very helpful, especially when the differences between two languages are

![Fig. 2.1 The role of the L1 in L2 communication and learning (Ellis 1994: 338)](image-url)
relatively few’ (Odlin 1989: 26). Ellis (1994: 303) also argued that facilitation is obvious not only in a reduced number of errors but also in the rate of learning.

A number of empirical studies (see, for example, Gass 1979; Hyltenstam 1984) have observed positive transfer by examining L2 learners with different L1s. Jiang (2002, 2004) carried out two studies of semantic transfer from the L1 to the L2 in the area of vocabulary, by comparing the reaction of native and non-native English speakers to the two types of related word pairs: same-translation pairs and different-translation pairs. For example, ‘problem’ and ‘question’ share the same Chinese translation ‘问题’, whereas ‘painter’ and ‘artist’, which are also related in meaning, have different translations in Chinese. The non-native speaker participants in these two studies were graduate students from China and Korea studying in the United States of America. All of the participants were presented with both related and unrelated English word pairs and then were asked to determine whether two English words were related in meaning. These studies showed that although the native speakers’ performance was not influenced by whether or not an L2 word pair shared the same L1 translation, the non-native speakers responded to the same-translation pairs much faster than to the different-translation pairs. Accordingly, Jiang (2002: 617) claimed that ‘L2 lexical forms are often mapped to the existing semantic content of their first language translations rather than to new semantic specifications of their own’. Based on the evidence for a positive effect of semantic transfer on non-native speakers’ L2 lexical processing, Jiang (2004: 425) also suggested that the L1 can be used positively in L2 vocabulary teaching ‘as a means of semantization and ways to help learners overcome semantic fossilization’.

The relationship between the word forms of the L1 and L2 and concepts in L2 learners’ minds has been examined by a number of researchers (see, for example, Cook 2002b; De Groot 2002; Kroll 1993) using the basic hierarchical three-component model below (Fig. 2.2).

Several models have been proposed to illustrate how the three components connect to each other across the two levels.

As seen in Fig. 2.3, in the word-association model, the L2 word form is directly related to the corresponding L1 word form and only the L1 word form connects with a concept. In the conception-mediation model (see Fig. 2.4), the word forms of the L1 and L2 are not related to each other, but both of them are related to a concept. These models propose two possible ways for assigning meaning to the L2

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**Fig. 2.2** The three-components two-levels overall model of L2 lexical representation (Cook 2002b: 30)
word form, that is, through the connection between the L1 and L2, or the connection between the L2 and conceptual meaning, which is in accordance with Ellis’s statement that ‘the acquisition of L2 words usually involves a mapping of the new word form onto pre-existing conceptual meanings or onto L1 translation equivalents as approximations’ (Ellis 1997: 133).

Kroll (1993) proposed another version of the three-component model (see Fig. 2.5), which is more than a combination of the word-association and concept-mediation models (De Groot 2002: 39). This model uses solid lines and broken lines to represent strong connections and weak connections respectively. As shown in Fig. 2.5, the connection between the concept and the L1 word form is stronger than that between the concept and the L2 word form. Moreover, this model assumes two connections between the word forms in the L1 and L2: a strong link from the L2 to L1 and a weak link from the L1 to L2. The link from the L2 to L1, which is stronger than the link between the L2 and the concept, indicates that in the first instance L2 learners are more likely to acquire L2 words through L1 translations (Kroll and Stewart 1994: 158).

Fig. 2.3 The word-association model (potter et al. 1984, cited in De Groot 2002: 37)

Fig. 2.4 The concept-mediation model (potter et al. 1984, cited in De Groot 2002: 37)

Fig. 2.5 The asymmetrical model (Kroll 1993: 69)
The distributed model was designed by De Groot (2002) to explain the fact that ‘the two words in translation pairs very often (maybe even most often) do not share meaning completely’ (De Groot 2002: 49). As shown in Fig. 2.6, conceptual meaning consists of elements which belong specifically to the L1 and L2.

Although these models have suggested different relationships that may exist among the L1, the L2 and conceptual meaning in L2 learners’ minds, all of them seem to indicate that the L1 is a natural part of L2 learners’ thinking, and that it plays a significant role in L2 learning, especially in L2 vocabulary acquisition. As Cook (2001: 407) noted, ‘the L2 meanings do not exist separately from the L1 meanings in the learners’ mind, regardless of whether they are part of the same vocabulary store or parts of different stores mediated by a single conceptual system’. Similarly, Kern (1994: 442) said that L1 use in the form of mental translation is probably inevitable, especially for L2 learners at early stage. Stern (1992: 282) also claimed that ‘the L1-L2 connection is an indisputable fact of life’.

Cook (1991, 1992, 1999, 2001, 2002a, 2005) has investigated some distinctive characteristics of L2 users as well as the relationship between the L1 and L2 in their minds. He proposed the term ‘multicompetence’ to refer to the compound state of a mind with a knowledge of more than one language. In view of the evidence that L2 users differ from monolinguals in many respects including L1 knowledge, L2 knowledge, metalinguistic awareness and cognitive processes, Cook (1992: 557) argued that people with multicompetence have ‘a distinct state of mind’ which is not simply equivalent to two monolinguals but a unique combination. From the multicompetence perspective, L2 acquisition should be examined based on the whole mind of L2 learners rather than simply their L1 or L2.

To illustrate how the L1 and L2 coexist in L2 learners’ minds, Cook (2002a: 11) presented an integration continuum which could be applied across different areas of language, such as phonology and grammar, shown in Fig. 2.7.

As seen in Fig. 2.7, three possible relationships exist between the two language systems in multicompetence: total separation, interconnection, and total integration. In most cases, the two languages are more or less interconnected. Total separation and total integration at the two ends of the integration continuum are the two extreme possibilities that rarely take place.
It seems clear that multicompetence theory provides a rationale for some (though perhaps limited) use of the L1 positively in L2 learning. As Cook (2001: 408) put it: Keeping the languages visibly separate in language teaching is contradicted by the invisible processes in students’ minds. Language teaching that works with this fact of life is more likely to be successful than teaching that works against it.

Socio-cultural theory, which has been applied only recently to the area of L2 learning, is also of great importance in the discussion of the role of the L1 in L2 learning. This theory was developed by the Soviet psychologist Vygotsky between 1925 and 1934. Within a socio-cultural perspective, all learning is viewed as first social and inter-mental, then individual and intra-mental (Mitchell and Myles 2004: 221).

Lantolf is probably the most influential figure advocating applying Vygotsky’s socio-cultural theory to L2 learning (Mitchell and Myles 2004: 193). Among several socio-cultural concepts related to learning processes, such as mediation, the zone of proximal development (ZPD), scaffolding, and private speech, Lantolf (2000b: 1) argued that the most basic and central element of this theory is that ‘the human mind is mediated’. He explained that this view was derived from the ideas of Vygotsky:

Vygotsky (1987) argued that just as humans do not act directly on the physical world but rely, instead, on tools and labour activity, we also use symbolic tools, or signs, to mediate and regulate our relationships with others and with ourselves. Physical and symbolic tools are artefacts created by human culture(s) over time and are made available to succeeding generations, which often modify these artefacts before passing them on to future generations. Included among symbolic tools are numbers and arithmetic systems, music, art, and above all language. As with physical tools, humans use symbolic artefacts to establish an indirect, or mediated, relationship between ourselves and the world. The task for psychology, in Vygotsky’s view, is to understand how human social and mental activity is organised through culturally constructed artefacts and social relationships.

(Lantolf 2000a: 80)
Now, it is clear that from the perspective of socio-cultural theory, language functions as a tool for mediation, and language learning viewed as a social and inter-mental activity is a mediated process. Furthermore, the development of learning resulting from useful mediation occurs within the ZPD, in which ‘the learner is not yet capable of independent functioning, but can achieve the desired outcome given relevant scaffolded help’ (Mitchell and Myles 2004: 196). According to Lantolf (2000b: 17), this concept is ‘a metaphor for observing and understanding how mediational means are appropriated and internalized’.

According to socio-cultural theory, collaborative interaction is essential to learning. As Swain and Lapkin (1998: 321) pointed out, ‘what occurs in collaborative dialogues is learning’. So the studies of L2 learning as a mediated process have focused on looking at how L2 learning is mediated by language use in collaborative interactions between students and between teacher and students, and a number of them (see, for example, Anton and DiCamilla 1999; Brooks and Donato 1994; Brooks et al. 1997; Villamil and De Guerrero 1996; De Guerrero and Villamil 2000; Swain and Lapkin 1999; Donato and Lantolf 1990) have discussed the role of the L1, and the functions it serves in collaborative interaction in the L2 classroom.

Anton and DiCamilla (1999) examined the role of the L1 in the collaborative interactions of five dyads of learners of Spanish completing a writing task, and found that ‘use of L1 is beneficial for language learning, since it acts as a critical psychological tool that enables learners to construct effective collaborative dialogue in the completion of meaning-based language tasks by performing three important functions: construction of scaffolded help, establishment of intersubjectivity, and use of private speech’ (Anton and DiCamilla 1999: 245). Similarly, Villamil and De Guerrero (1996: 60) claimed that for most of their Spanish students learning to write in English, ‘the L1 was an essential tool for making meaning of text, retrieving language from memory, exploring and expanding content, guiding their action through the task, and maintaining dialogue’. In a review article published in 2000, Lantolf summarized the current state of understanding on mediation through the L1 and suggested that ‘it does make sense to recognise that the L1 plays a key role in helping learners to mediate each other, and … themselves, in the appropriation of another language’ (Lantolf 2000a: 87). More importantly, he pointed out (2000a: 87) that learners’ L2 proficiency is not the only determinant of the use of the L1 for mediation since language is strongly implicated in their identity as thinking beings.

The relationship between L1 and L2 acquisition is important, because it affects L2 learning and teaching. If L2 acquisition is no different from L1 acquisition, it is felt that L2 learning and teaching should be based on the features of child first language acquisition. Concerning this issue, while some researchers, such as Dulay, Burt, and Krashen, have emphasized the similarities largely based on the evidence for developmental sequences (Odlin 1989: 21), others have pointed out that L1 and L2 acquisition may differ in many aspects. For instance, Dodson (1972: 59) provided a comprehensive description of the differences between L1 and L2 learners:
First-language learner | Second-language learner
---|---
1. He has no command of another language before learning the target language | 1. He has command of another language before learning the target language
2. He is neurologically immature, thus his mother tongue is not fixed | 2. He is neurologically mature, thus his mother tongue is fixed
3. He learns to recognize and cope with reality through the target language | 3. He learns to recognize and cope with reality through the mother tongue, not the target language
4. He requires a high contact-frequency with the target language to learn that all things have names | 4. He already knows that all things have names
5. He requires a high contact-frequency with the target language to recognize the meaning of sounds representing the names of things, because he is neurologically immature, because his range of experience with the outside world is limited and as he has no knowledge of the equivalent meaning of sounds from another language for the same things | 5. He has already experienced the process, involving high contact-frequency and maturation, of recognizing the meaning of sounds representing the names of things in his mother tongue. As he is now neurologically mature, he need not be subjected a second time to the same process in the new target language merely to recognize the equivalent meaning of target-language sounds for the same things. (Recognition of the sound representing the thing should not be confused with the integration of the sound with the thing, see 6)
6. He requires a high contact-frequency to establish integration of mother-tongue sounds with things | 6. He has already established integration of mother-tongue sounds with things, but requires high contact-frequency to establish new integration of target-language sounds with the same things
7. He cannot read before learning the target language | 7. He can read before learning the target language
8. He cannot write before learning the target language | 8. He can write before learning the target language

(Dodson 1972: 59)

More researchers have made similar arguments later on when comparing L1 and L2 acquisition. For example, Macaro (2000: 173) said that the L1 is another resource available to L2 learners. Cook (2001: 406) argued that ‘the L1 monolingual child does not have another language; it is the one element that teaching could never duplicate’. Singleton (1989) claimed that ‘L2 learners have more mature minds, greater social development and a larger short-term memory capacity’ (Cook 2001: 406).

There has been considerable discussion of issues relating to the learner’s age. According to Felix (1987, cited in Davies 2003: 35), L1 and L2 acquisition differ in the crucial respect that for adult L2 learners, two different cognitive systems, the language-specific system and the problem-solving system which compete against each other in the processing of language data, are both available from the onset of
puberty, whereas for children learning their L1, only the language-specific system is available. Moreover, although there is a theoretical argument that both L1 and L2 learners are innately equipped with a ‘Language Acquisition Device’ (Chomsky 1965) or ‘Universal Grammar’ (Chomsky 1980), Lenneberg’s (1967) critical period hypothesis holds that the access to this device is only available during a biologically determined period and that language acquisition becomes much more difficult after this period. Similarly, Macaro (2000: 173) claimed that for L2 learners at a certain age, the language acquisition device is superseded by ‘high level cognitive skills which have been developed through the L1’. In addition, Selinker (1972) proposed the term ‘fossilization’ to refer to ‘the process by which non-target forms become fixed in interlanguage’ (Ellis 1994: 353). Selinker and Lamendella (1978, cited in Ellis 1994: 354) identified several possible causes of fossilization and among these, age was considered a major internal factor, that is, certain linguistic features could not be mastered because learners’ brains lost plasticity when they reached a critical age.

To sum up, it seems evident that learners’ prior linguistic knowledge and their age are two major unalterable internal factors resulting in the differences between L1 and L2 acquisition, although some researchers (see, for example, Dulay, Burt and Krashen) have attributed the differential success achieved by L1 and L2 learners to external environmental factors and individual learner factors (see Sect. 2.2.1). The aforementioned essential differences between L1 and L2 acquisition seem to indicate the impracticality of learning the L2 in a way which exactly mimics child first language acquisition.

### 2.3 The L1 in L2 Teaching

This section chronologically reviews some major methodologies which have greatly impacted L2 teaching in various periods, and discusses the role of the L1 in each of them.

A close look at the history of language teaching reveals that the role of the L1 in L2 classrooms has been the focus of controversy and that both theorists’ and empiricists’ attitudes towards it have changed periodically.

#### 2.3.1 An Early Attempt to Conduct L2 Teaching in the L2

According to Kelly (1969: 287), an early attempt to conduct L2 classes in the L2 dates back to the system of encouraging spoken Latin in school in the Middle Ages and the early Renaissance, when teachers commonly held the belief that fluency and readiness in Latin could only be achieved through regular practice in oral production, and that speaking Latin in class could provide plenty of such practice. However, this system had been criticized for various reasons since the fifteenth
century. For example, it would probably ‘weaken stylistic sense’ (Kelly 1968: 288). The argument over whether to run Latin classes in Latin continued until the development of ‘logical and rule-governed approaches’ (Kelly 1969: 288), which focused more on teaching Latin grammar.

2.3.2 The Grammar-Translation Method

The Grammar-Translation Method had its roots in the teaching of Latin in school during the period from the sixteenth to the eighteenth centuries. It had become the widely accepted way of teaching foreign languages in schools by the nineteenth century, and dominated L2 teaching from the 1840s to the 1940s (Richards and Rodgers 2001: 4–6). Despite its name, the original motivation for this method was not to teach languages by grammar and translation, but to reform the traditional scholastic approach which was usually employed by highly educated individual adults to ‘acquire a reading knowledge of foreign languages by studying a grammar and applying this knowledge to the interpretation of texts with the use of a dictionary’, and adapt it to the requirements of younger school learners and group-teaching in classrooms (Howatt 1984: 131).

The basic goal of the Grammar-Translation Method is to enable learners to read literature in the L2 (Larsen-Freeman 2000; Richards and Rodgers 2001). Thus the teachers who use this method put primary focus on grammar rules, vocabulary, reading and writing. In the teaching process, grammar rules, vocabulary and examples of the L2 are often taught through L1 translation or equivalents, and then students are required to memorize them and to practise what they have learned through translation exercises.

The role of the L1 in the Grammar-Translation Method is particularly important, since the L1 is used extensively to explain the meaning of the L2 and translation is used as a major technique of practice. As Stern (1983: 455) mentioned, the L1 is the reference system in L2 learning. In contrast, the L2 plays little role in this method and students are not encouraged to speak the L2 in class.

The Grammar-Translation Method came under attack in the mid-nineteenth century for various reasons. As Richards and Rodgers (2001: 8) pointed out:

Educators recognized the need for speaking proficiency rather than reading comprehension, grammar, or literacy appreciation as the goal for foreign language programs; there was an interest in how children learn languages, which prompted attempts to develop teaching principles from observation of (or, more typically, reflections about) child language learning.

Moreover, it often creates frustration for students, because for them this method means ‘a tedious experience of memorizing unusable endless lists of grammar rules and vocabulary and attempting to produce perfect translations of stilted or literary prose’ (Richards and Rodgers 2001: 6).

More importantly, it is a method with no explicit underlying theory, and no literature offers a theoretical rationale or justification for it (Richards and Rodgers
For this and other reasons, this approach went out of favour, although ‘in modified form it continues to be widely used in some parts of the world today’, especially in the circumstances where the purpose of L2 learning was to understand literary texts rather than to speak the language (Richards and Rodgers 2001: 6–7).

### 2.3.3 The Direct Method

In the late nineteenth century, the failure of L2 teaching was often attributed to the prevailing Grammar-Translation Methodology. So the reform movement began: the reformers, including both language education specialists and linguists, such as Macel, Gouin, Sweet, and Passy, attempted to make changes to the teaching methodology for the purpose of improving the efficiency of L2 teaching. According to Howatt (1984: 173), one of the principles of the reform movement was the priority of oral methods in the classroom, that is, teachers were expected to use the L2 as the medium of instruction in class and to keep the L1 only for explaining new grammar points and vocabulary. It seems clear that the reform movement did not completely exclude the use of the L1 from L2 classrooms, although it basically followed the monolingual principle.

A number of new methods in L2 teaching were developed during this period, such as ‘the Natural Method’, ‘the Psychological Method’ and ‘the Phonetic Method’, and later these methods were commonly referred to as the ‘Direct Method’. The Direct Method originated from the attempt to promote a methodology based on the observed features of child language learning. It aims to enable students to communicate in the L2 for everyday purposes, and follows a basic natural language learning principle that the L2 should be taught without using students’ L1 or translation. Thus teachers using the Direct Method are normally expected to encourage students to build a direct link between meaning and the L2. Although they are not allowed to convey meaning through translation, they can use other methods such as demonstration, action, realia and pictures.

Although the Direct Method was often characterized by the rejection of the use of the L1 and translation, not all Direct Methodists denied the value of the L1 entirely. For example, as Passy (cited in Kelly 1969: 25) noted,

> As any hint of exaggeration must be avoided, I must add that it would not be good to reject, absolutely and systematically, all recourse to the mother tongue. In exceptional circumstances it could happen that one might be in too much of a hurry to use gestures and explanations in the foreign language.

In response to Franke, who provided a theoretical rationale for a monolingual approach by investigating the psychological principles of direct connection between L2 forms and concept (Richards and Rodgers 2001: 11), Hagboldt (cited in Kelly 1969: 26) argued that the avoidance of some recall of L1 words is almost impossible when connecting a familiar concept with the L2. According to Kelly (1969:
26), the extremism of the later Direct Methodists who rejected every part of the old approach was a reaction to the scorn of traditional teachers.

Although the Direct Method attracted much attention, it was felt to have several drawbacks, which were summarized by Richards and Rodgers (2001: 12–13):

1. It overemphasized and distorted the similarities between naturalistic first language learning and classroom foreign language learning and failed to consider the practical realities of the classroom.
2. …it lacked a rigorous basis in applied linguistic theory.
3. It required teachers who were native speakers or who had nativelike fluency in the foreign language.
4. …strict adherence to Direct Method principles was often counterproductive, since teachers were required to go to great lengths to avoid using the native language, when sometimes a simple, brief explanation in the students’ native language would have been a more efficient route to comprehension.

2.3.4 The Audiolingual Method

The Audiolingual Method originated from the ‘army method’ which was used in the United States of America in World War II to train people to use the L2 quickly for special military purposes. Although, like the Direct Method, the Audiolingual Method aims to prepare students to use the L2 to communicate, it has many unique features. Firstly, it has a theoretical basis in structural linguistics, which assumes that ‘the phonological and grammatical systems of the language constitute the organization of language and by implication the units of production and comprehension’ (Richards and Rodgers 2001: 55). Therefore, while students taught with the Direct Method are expected to take in grammatical patterns gradually through exposure to the L2, the Audiolingual Method perceives grammatical structures and sentence patterns as the starting point of L2 learning and holds that the L2 should be taught ‘by systematic attention to pronunciation and by intensive oral drilling of its basic sentence patterns’ (Richards and Rodgers 2001: 52). Another learning principle underlying Audiolingualism is that listening and speaking skills have priority over reading and writing skills in language teaching. As Rivers points out, ‘language skills are learned more effectively if the items to be learned in the target language are presented in spoken form before they are seen in written form’ (Rivers 1964: 20), which is based on an important idea emanating from structural linguistics, that is, ‘the primary medium of language is oral’ (Richards and Rodgers 2001: 55). Secondly, the Audiolingual Method draws on the theory of behaviourist learning (see also Sect. 2.2.1). According to this theory, human learning, including language learning, is in essence a process of habit formation which depends on three major elements: stimulus, response and reinforcement. In order to form strong new habits in the L2, students are expected to overlearn the L2 so that they can use it without stopping to think (Larsen-Freeman 2000: 43). Furthermore, since it is
believed that students need to replace the old habits in the L1 with the new habits in the L2 in the process of their L2 learning, the L1 is viewed as the major interference in their L2 learning. Thus, as with the Direct Method, it is assumed that the L2 rather than the L1 should be used as the medium of instruction in L2 classrooms. However, L1 use is not as severely restricted in the Audiolingual Method as it was in the Direct Method (Stern 1983: 464). In order to predict potential difficulties students may encounter, teachers can use Contrastive Analysis to identify the differences between the L1 and L2. This method was finally rejected because of the strong attack on its theoretical groundings in behaviourist theory of learning and structural linguistics.

### 2.3.5 Communicative Language Teaching

Since its first introduction in the 1970s, Communicative Language Teaching has quickly become an influential approach, attracting attention from language teachers all over the world. Unlike the preceding methods with their emphasis on grammatical competence, the goal of this approach is to develop learners’ ‘communicative competence’, which was proposed by Hymes (1972) in order to contrast it with what Chomsky referred to as ‘linguistic competence’ (Richards and Rodgers 2001: 159). Both concepts are useful, but communicative competence is arguably more important as a goal for teachers, since ‘one can master the rules of sentence formation in a language and still not be very successful at being able to use the language for meaningful communication’ (Richards 2006: 3). Therefore, as Spada (2007: 273) pointed out, ‘Hymes’ theory of communicative competence and the notion that knowing a language includes more than a knowledge of the rules of grammar (i.e. linguistic competence) but also a knowledge of the rules of language use (i.e. communicative competence) had a significant impact on CLT’. Various researchers have suggested that communicative competence should be divided into components. For example, Canale and Swain (1980) argued that it consists of three elements: grammatical competence, sociolinguistic competence and strategic competence. Canale (1983) added another element—discourse competence.

Communicative Language Teaching has been interpreted and implemented in various ways by language practitioners. As Richards and Rodgers (2001: 155) pointed out, ‘there is no single text or authority on it, nor any single model that is universally accepted as authoritative’. Howatt (1984) made a distinction between the ‘strong’ version and the ‘weak’ version of communicative language teaching. While the weak version emphasizes ‘the importance of providing learners with opportunities to use their English for communicative purposes’, the strong version holds that ‘language is acquired through communication’ (Howatt 1984: 279). Thus, the former is described as ‘learning to use English’, whereas the latter is regarded as ‘using English to learn it’ (Howatt 1984: 279).
According to Howatt (1988: 25), although Communicative Language Teaching has made many changes to L2 classrooms, such as involving communicative activities, emphasizing the value of authentic texts and valuing the needs and interests of learners, it has some characteristics of the Direct Method, including the monolingual principle:

CLT has adopted all the major principles of 19th century reform: the primacy of the spoken language, for instance, the inductive teaching of grammar, the belief in connected texts and, most significant of all, the monolingual (direct method) principle that languages should be taught in the target language, not in the pupils’ mother tongue.

It seems clear that L1 use should be minimized in the communicative classroom. The L2 should be used not only during communicative activities, but also for explaining activities or assigning homework to students (Larsen-Freeman 2000: 135). When using students’ L1 for classroom management, teachers are ‘sacrificing valuable opportunities for well-motivated foreign language use’ (Littlewood 1991: 45). In this case, students are expected to ‘learn from these classroom management exchanges, and realize that the target language is a vehicle for communication, not just an object to be studied’ (Larsen-Freeman 2000: 135).

### 2.3.6 The Natural Approach

The Natural Approach was not as popular as the methods discussed above. It was proposed by Krashen and Terrell in 1983, on the basis of Krashen’s Monitor Model (see Sect. 2.2.1). Krashen and Terrell (1983: 57) grouped the Natural Approach with ‘traditional’ approaches, which were ‘based on the use of language in communicative situations without recourse to the native language’ (Krashen and Terrell 1983: 9), such as the Direct Method. They also pointed out that this approach ‘is similar to other communicative approaches being developed today’ (Krashen and Terrell 1983: 17) since it aimed to develop learners’ ability to communicate with native speakers of the L2.

Unlike the methods attaching great importance to grammar, such as the Audiolingual Method, Krashen and Terrell believed that grammar played a very limited role in L2 teaching although it could be taught for monitor use. One of the key principles of the Natural Approach is that ‘comprehension precedes production’ (Krashen and Terrell 1983: 20). Thus, listening and reading are given priority over speaking and writing. In addition, since this approach places an emphasis on comprehension and input, teachers are expected to speak the L2 all the time to provide comprehensible input for acquisition and to help students understand. Therefore, the L1 seems to have a minimal role in the natural approach.
2.3.7 Summary

In this section I have reviewed several influential methodologies in language teaching. While the Grammar-Translation Method involves L1 use, others such as the Direct Method and the Audiolingual Method, minimize or completely reject the L1.

The Grammar-Translation Method was the most widely practised method deliberately involving the use of the L1. After its decline in the late nineteenth century, some more recent methods sharing features with it also suggest the positive role of the L1 in L2 teaching.

For example, the Cognitive-code Method, developed under the influence of cognitive psychology and transformational grammar as a response to the criticisms against Audiolingualism, was ‘a return to grammar explanation’ (Krashen and Terrell 1983: 16). According to Richards and Rodgers (2001: 66), there was a considerable interest in applying the cognitive-code theory to language teaching in the 1970s, however, ‘no clear-cut methodological guidelines emerged, nor did any particular method incorporating this view of learning’.

Cook (2001) examined four methods that actively use the L1 in L2 classrooms, including alternating language approaches, the New Concurrent Method, Community Language Learning and Dodson’s Bilingual Method, and concluded that ‘none of them have probably been practised on a larger scale, nor do any represent a complete approach that can apply to a variety of situations’.

Larsen-Freeman (2000) also explained how Suggestopedia (Lozanov 1978) allowed teachers to use the L1 when necessary, especially to explain meaning. However, this method has similarly not received extensive academic attention.

Thus it seems that the use of the L1 has been gradually viewed less favourably by L2 teaching theorists after the Grammar-Translation Method lost its prominent role. One reason may be that L2 teaching shifted its focus away from ‘the acquisition of the language system’ to ‘communicative skills’ (Corder 1992: 18).

2.3.8 L2 Teaching Methods in China

If we turn to the recent history of language teaching in China, the context of the present study, certain theories mentioned above can be seen to be especially relevant.

The following table shows Adamson’s summary of two other writers.

As seen in Table 2.1, although the Grammar-Translation Method and Audiolingualism have lost favour in language teaching theory, they have been persistently used in the Chinese EFL classrooms. Such a mismatch between theory and practice is common in many human activities and may reflect other factors affecting social behaviour. For instance, Chinese students’ experience of learning to read and write their first language may influence their expectations of English learning (see the discussion in Sect. 1.2.4).
2.4 Empirical Studies on Teachers’ L1 and L2 Use

Studies of teachers’ language use have primarily focused on investigating how much, in what situations and for what functions teachers use the L1 and L2 in L2 classrooms. Some of these studies have also made attempts to explore factors probably influencing teachers’ language choice, teachers’ perceptions of L1 use, and students’ perceptions of their teachers’ language use.

<table>
<thead>
<tr>
<th>Year (Range)</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958–66</td>
<td>Grammar-Translation; classroom-centred, teacher-centred, textbook-centred</td>
</tr>
<tr>
<td>1966–76</td>
<td>Grammar-Translation</td>
</tr>
<tr>
<td>1977–80</td>
<td>Audiolinguism and Grammar-Translation; pattern drills plus memorization and references to mother tongue</td>
</tr>
<tr>
<td>1980</td>
<td>Grammar-Translation, Audiolinguism and eclectic communicative approaches</td>
</tr>
</tbody>
</table>

Table 2.1 Teaching methods in the history of English teaching in China (Adamson 1998: 18)

2.4.1 Quantity of Teachers’ L1 and L2 Use

Most studies examining the quantity of L1 and L2 use by teachers have shown substantial variation across teachers even in the same teaching context. For example, Kim and Elder (2005) observed seven native speaker teachers of four foreign languages at secondary schools in New Zealand and found that their use of students’ L1 varied from 10 to 66 %. Liu et al. (2004) investigated thirteen Korean high school English teachers and showed that the amount of Korean used by these teachers ranged from 10 to 90 %. Duff and Polio (1990) looked at thirteen foreign language courses offered at the University of California and found that the amount of L1 use among these teachers varied from 0 to 90 %. Guthrie (1987) observed that L2 use in university-level French classes ranged from 59 to 98 %.

Some other studies have shown a relatively small percentage of L1 use. For instance, Macaro (2001) found from 0 to 15.2 % L1 use in French classes of six
English student teachers in secondary schools, with a median of 4.8%. Rolin-Ianziti and Brownlie (2002) also reported an average of 8.8 % L1 use by the four teachers in their study. Song and Andrews (2009) reported that the proportion of L1 use by the four Chinese English teachers ranged from 10.5 to 32.2 %. Mitchell and Johnstone (cited in Chaudron 1988: 124) indicated that L2 use by the secondary school French teachers they observed was about 70 %.

As we shall see, these studies have examined the percentages of L1 and L2 use by L2 teachers who taught students at different levels in a wide range of contexts. Despite the varying levels of L1 use, very few teachers in these studies completely abandoned using the L1 in their teaching, which seemed to be in accordance with Mitchell’s (1988) findings that only a small number of teachers interviewed believed L2 exclusivity was appropriate, and most of them approved of mixed language use of the L1 and L2.

2.4.2 Functions of Teachers’ L1 Use

Since it seems inadequate to take the proportion of L2 use as the main benchmark for assessing the quality of classroom instruction, many recent studies have used qualitative methods to explore teachers’ language use in L2 classrooms and most of them have focused on examining various functions of teachers’ L1 use.

For example, Polio and Duff (1994) identified eight categories of functions for which the observed teachers used the students’ L1, including classroom administrative vocabulary, grammar instruction, classroom management, solidarity, practicing English, unknown vocabulary, lack of comprehension and interactive effect involving students’ use of English. Kim and Elder (2005) developed a complex category system to describe the pedagogical functions of teaching acts, such as directive, cue, prompt, evaluate, check, discipline, nominate, display question, accept, and metastatement, and reported that the most frequent functions that L1 use served in their study included accept, starter, marker, discipline, nominate and check. Liu et al. (2004) identified several linguistic functions of L1 use by 13 high school Korean teachers of English, such as explaining difficult vocabulary and grammar, giving background information, overcoming communicative difficulties, saving time, highlighting important information and managing student behaviour.

Researchers’ views about the appropriateness of the types of L1 use have varied widely. For example, Cook (2001) proposed two broad areas in which the L1 could be used positively by teachers in L2 teaching: (1) to convey meaning, including conveying and checking meaning of words or sentences and explaining grammar; (2) to organize classes, for example, organizing tasks, maintaining discipline, contacting individual students, and testing. He believed (2001: 418) that the L1 should be used when ‘the cost of the TL is too great’, that is, whenever it was too difficult or time-consuming for students to comprehend the L2. Atkinson (1987) also suggested that L1 use could serve a wide variety of purposes in L2 classrooms,
such as eliciting language, checking comprehension, giving instructions, supporting co-operation among learners, discussing classroom methodology, providing reinforcement of language, and testing. In contrast, many others suggested the L1 should be used in more limited areas. For instance, Castellotiti (1997, cited in Turnbull and Arnett 2002: 209) argued that the L1 was beneficial when used as a way of enhancing the input to help students understand, for example, checking comprehension, highlighting important points or salient vocabulary and drawing students’ attention to what they already know or have studied. Harbord (1992) divided a variety of L1 strategies into three categories: facilitating teacher-student communication, facilitating teacher-student relationships, and facilitating L2 learning. In his opinion, however, the L1 should be used only to support students’ L2 learning. Turnbull (2001b, cited in Turnbull and Arnett 2002: 207) claimed that teachers should use the L1 for the sole purpose of ensuring students’ understanding of a grammatical concept or vocabulary item.

Although many of these researchers have suggested some similar areas in which the L1 can be used positively, individual teachers’ L1 use may still vary widely due to a variety of factors.

2.4.3 Factors Influencing Teachers’ Language Choice

A small number of studies have explored the factors that may influence teachers’ language choice. Duff and Polio (1990: 161) proposed several classroom-external and classroom-internal variables that might affect teachers’ language use, such as students’ L2 proficiency, teachers’ perception of L1 and L2 distance, teachers’ experience, departmental policy concerning the language of instruction, the function and difficulty of the utterances, and the language used by students in the previous utterance.

Franklin (1990: 21) identified several factors that the teachers in her study considered important in terms of the possible influence on their language use, for example, their confidence in speaking the L2, the size of the class, the reaction of the students when they spoke the L2, the presence of many low-level students in the class, the behaviour of the students and how tired they were on a given day.

Similarly, Song and Andrews (2009) identified major factors influencing four Chinese EFL teachers’ beliefs about the issue of the medium of instruction and their behaviour, which included students’ abilities, teachers’ abilities, observation by ‘experts’ and time pressure.

Johnson (1983) and Pennington (1995) found a systematic relationship between language choice and particular functions. According to Johnson (1983, cited in Song and Andrews 2009: 58), teachers normally used the L2 to present content of the textbook and to give related instruction, whereas they used the L1 mainly for personal interaction and explanation. Based on her studies of classroom language
use, Pennington (1995) also listed possible motives for teachers’ use of the L1 and L2, as shown in Table 2.2.

### 2.4.4 Teachers’ Perceptions of L1 Use

A number of studies on teachers’ perceptions of their own L1 use have focused on examining for what purposes they think they resort to the L1. Most of these studies have been summarized by Macaro (2000), as shown in Table 2.3.

It can be observed from Table 2.3 that the teachers investigated in these studies across different learning contexts used the L1 in their teaching, and that they believed the L1 could be used positively for various purposes. Their perceptions of the purposes of their own L1 use have many categories in common. For example, many of them reported that they used the L1 for the purpose of grammar explanation, discipline and complex procedural instructions.

In addition to investigating teachers’ purposes of using the L1, some studies have also explored their beliefs about L1 use in L2 classrooms, as well as their reasons for using the L1.

For example, in his TARCLINDY project, Macaro (1997, cited in Macaro 2009: 35–36) investigated teacher beliefs and attitudes regarding L1 use, and suggested that teachers had three different theoretical positions: some holding the ‘virtual position’ believed that the L2 could only be learnt through itself, and that L2-only
classrooms could create a ‘virtual reality’ which mirrored the environment of the target language country; some holding the ‘maximal position’ believed that learning the L2 through L2-only was an ideal but unattainable learning condition in L2 classrooms, and therefore they thought that L2 use should be maximized; some

Table 2.3  Studies of teachers’ use of target language (Macaro 2000: 178)

<table>
<thead>
<tr>
<th>Study author(s) and date</th>
<th>L2 teaching context</th>
<th>Data collection instruments</th>
<th>Purposes of L1 use by teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wragg 1970</td>
<td>England; Secondary</td>
<td>Classroom observation</td>
<td>Criticism of learners; lexical contrasting</td>
</tr>
<tr>
<td>Wing 1980</td>
<td>US; Secondary</td>
<td>Teacher self report sheets</td>
<td>Discipline; explanations of grammar</td>
</tr>
<tr>
<td>Prabhu 1987</td>
<td>India; Secondary</td>
<td>Case study</td>
<td>Glossing of lexical items; complex procedural instructions</td>
</tr>
<tr>
<td>Mitchell 1988</td>
<td>Scotland; Secondary</td>
<td>Interviews and observations</td>
<td>Explanations of grammar; discipline activity instructions teaching background</td>
</tr>
<tr>
<td>Kharma and Hajjaj 1989</td>
<td>Arabic L1, country not specified, secondary</td>
<td>Questionnaires; classroom observation; interviews</td>
<td>Explanations of complex lexical items; speeding up the teaching/learning process</td>
</tr>
<tr>
<td>Hopkins 1989</td>
<td>England ESL secondary and further education</td>
<td>Questionnaire</td>
<td>Instructions and explanations comparison of cultural differences</td>
</tr>
<tr>
<td>Franklin 1990</td>
<td>Scotland secondary</td>
<td>Questionnaire</td>
<td>Discipline; explanations of grammar; discussing language objectives; teaching background</td>
</tr>
<tr>
<td>Duff and Polio 1990</td>
<td>US; university</td>
<td>Observations; questionnaires; classroom observation; interviews</td>
<td>Explanations of grammar; speeding up the teaching/learning process</td>
</tr>
<tr>
<td>Macaro 1995</td>
<td>Italy secondary</td>
<td>Questionnaire; interview</td>
<td>Complex procedural instructions; building up relationships with learners</td>
</tr>
<tr>
<td>Dickson 1996</td>
<td>England secondary</td>
<td>Questionnaire</td>
<td>Discipline; setting homework; explaining meanings; teaching grammar</td>
</tr>
<tr>
<td>Macaro 1997</td>
<td>England secondary</td>
<td>Questionnaire; interviews; classroom observation</td>
<td>Complex procedural instructions; discipline; building personal relationships</td>
</tr>
<tr>
<td>Neil 1997</td>
<td>Northern Ireland secondary</td>
<td>Teacher interviews; self reports; classroom observation</td>
<td>Examination techniques; instructions for tests; explaining grammar;</td>
</tr>
<tr>
<td>Macaro 1998</td>
<td>England secondary</td>
<td>Classroom observation; interviews</td>
<td>Discipline; complex procedural instructions; glossing of lexical items</td>
</tr>
</tbody>
</table>
holding the ‘optimal position’ believed that L1 use had some recognizable value, and that in some cases using the L1 might be more effective in enhancing learning. Scheers (1999) conducted a study with 19 teachers and their students on the use of Spanish in EFL classes at the University of Puerto Rico. All the teachers in his study agreed that Spanish should be used in the classroom and reported using Spanish to some extent. 22 % of them thought it was appropriate to use Spanish to explain difficult concepts, 15 % of them thought using Spanish to joke with students was appropriate, 12.6 % of them thought using Spanish was appropriate when defining new vocabulary items.

Tang (2002) reported that 72 % of the Chinese EFL teachers he observed thought Chinese should be used in the classroom. For them, Chinese was most necessary when practising the use of some phrases and expressions and when explaining difficult concepts and ideas. They believed that using Chinese was necessary because it facilitated comprehension and it was more effective and less time-consuming.

Macaro (2001) explored two student teachers’ beliefs about their own code-switching processes in L2 lessons. According to him, the student teacher believing that the L2 lesson should ideally be conducted through L2-only experienced ‘conflict’ in using the L1 for procedural instructions when teaching the lowly motivated students. However, the other student teacher, who believed in the value of the L1 in enhancing the understanding of semantic and syntactic L2 equivalents, and preferred to use the L1 for the purposes of keeping the L2 interaction moving forward, giving procedural instructions and controlling classroom behaviour, experienced no ‘conflict’ regarding L1 use.

The 13 Korean EFL teachers investigated by Liu et al. (2004) indicated that while English was important for the purpose of greeting, giving directions, asking questions, teaching listening and speaking and reviewing lessons, they preferred to use the L1 for teaching grammar, explaining difficult content issues, teaching reading and facilitating students’ comprehension. They also listed several reasons for their L1 use, for example, it helped low-level students to understand better, it was less time-consuming, and it helped when they had difficulty to speak or to explain in English.

In a self-report, Edstrom (2006) also identified three main situations in which she might use the L1. Firstly, she preferred to use the L1 to express her concern about students’ feelings and to build rapport with them. Secondly, she used the L1 to help students to understand target cultures and the relationship between language and the realities it described. Thirdly, the L1 might be used when she felt tired and found it difficult to ‘discipline’ herself.

Song and Andrews (2009) explored four Chinese EFL teachers’ beliefs about the L1 in L2 learning. Two of the teachers in their study were against using the L1, whereas the other two advocated L1 use. The teachers opposing L1 use believed that the L1 played a negative role in thinking in the L2, and that high-level students could keep the L2 separate from the L1. However, the teachers supporting L1 use believed that the L1 played a positive role in connecting the L2 with concept meaning, and that the L1 was an indispensable part of L2 learners’ thinking.
2.4.5 Students’ Perceptions of Their Teachers’ L1 Use

Many studies have explored students’ perceptions of their teachers’ L1 use. Duff and Polio (1990) conducted a student survey to examine how much L1 the students would like to have their teachers use in class, relative to the current L1 usage by their teachers. The students were given three options: more English than now, the same amount as now, and less English than now. The results revealed that in every class more than 71% of the students were satisfied with the current amount of the L1 their teachers used, no matter what amount of the L1 their teachers actually used. Moreover, in response to the question of whether they could understand their teachers’ L2 use, over 70% of the students said that they could understand most of it.

Scheers (1999) used questionnaires to examine Spanish students’ attitudes toward using their L1 in the EFL classrooms. About 88.7% of the students in his study thought that Spanish should be used in their English lessons. More than 50% of the students thought that Spanish should be used between 10 and 39% of the time. 86% of the students felt that it was appropriate to use Spanish to explain difficult concepts in their classes. Most of them preferred using their L1 because it was helpful when they felt lost. About 87% of the students believed that using their L1 in EFL classes could help them to learn English to varying degrees.

Tang (2002) conducted a similar survey of 100 Chinese EFL students. 70% of the students thought that Chinese should be used in English classrooms, but none of them thought Chinese should be used more than 30% of class time. 97% of them liked their teachers to use Chinese. According to them, Chinese was especially necessary when explaining complicated grammar points and introducing new vocabulary items. Regarding why they thought using Chinese was necessary, 69% of the students reported that it enhanced their comprehension of the difficult concepts, and 42% of them indicated that it helped them to understand new vocabulary items. Very few of them said that it made them feel less stressed or less lost.

Liu et al. (2004) reported that, in their study, the numbers of the students choosing the L1 and L2 as the medium of instruction were almost equal. The students selected the L1 because it was easier for them to understand than the L2.

Ahmad (2009) investigated 257 low-proficiency English students’ perceptions of their teachers’ code-switching in classroom instructions in Malaysia. The students confirmed that their teachers code-switched for a variety of functions, such as checking for understanding, explaining difficult concepts, explaining the meaning of new words, making the learners feel relaxed, elaborating on matters concerning classroom management, and explaining differences between L1 and L2 grammar. More than 68% of the students indicated that their teachers’ code-switching had a positive influence on their affective state, for instance, making them enjoy their lesson, feel satisfied with their learning and comfortable to learn. More than 67% of the students also reported a positive relationship between the teachers’ code-switching and their learning success. For example, they mentioned that the teachers’ use of code-switching could help them to carry out tasks successfully and to understand new words, difficult concepts and English grammar.
In her self-evaluation study, Edstrom (2006) also used questionnaires to investigate her students’ perceptions of her own L1 use. The majority of her students realized that she used some L1 and that the quantity of her L1 use remained the same over the course of the semester. Moreover, they realized that she used the L1 to clarify questions, difficult points and grammar, to give or explain directions and to compensate for lack of comprehension.

Moreover, some studies have examined the relationship between students’ attitudes to L1 use and their L2 proficiency levels. Prodromou (2002) investigated the attitudes of 300 Greek students with three different proficiency levels. He found that while low level students tended to respond positively to the use of the L1, students at advanced levels had a negative attitude toward the use of the L1. Nazary (2008) conducted a study in the Iranian context to gather tertiary students’ perceptions of the use of the L1. His findings showed that the majority of the Iranian EFL students at different proficiency levels all had a negative attitude toward L1 use in their English lessons, largely due to their hope for more exposure to the L2.

### 2.4.6 Optimal Use of the L1

According to Macaro (2009: 38), ‘optimal use is where code-switching in broadly communicative classrooms can enhance second language acquisition and/or proficiency better than second language exclusivity’. However, he pointed out (2009: 39) that few studies have investigated whether ‘switching to the first language as opposed to maintaining second-language discourse, in specific circumstances, actually leads to better learning whether in the short term or the long term’. Therefore, he examined this issue in two studies within the area of L2 vocabulary acquisition. In the first study, the teacher taught new vocabulary items to three groups of Chinese students of English in different ways: providing L1 equivalents, L2 definitions or both L1 equivalents and L2 definitions. The results of the study showed that there were no significant differences in learning under these conditions. In Macaro’s (2009: 43) opinion, this demonstrated that using the L1 at least did no harm to vocabulary acquisition. In the second study, Macaro (2009: 47) explored students’ ‘strategic reactions’ to teachers’ switches to the L1 and reported that teacher code-switching ‘triggers a number of strategic reactions which appear to confirm students’ hypothesis generation, lead to contextualization and provide information used in additional processing’.

Although the existing studies on teachers’ language use have investigated the above-mentioned aspects across different contexts, few of them have compared the L1-related behaviours and perceptions of teachers who teach students at different proficiency levels. Furthermore, the studies conducted in Chinese university EFL classrooms have been mainly concerned with teachers’ language use in the traditional reading-and-writing course, and few of them have examined teachers’ language use in the recently developed listening-and-speaking course. This study will
attempt to fill these gaps by exploring the actual language use and perceptions of four Chinese EFL teachers, teaching students at four different proficiency levels in the two types of courses. In addition, it will aim to understand their beliefs about the issue of L1 and L2 use and the possible factors influencing their language choices.
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