# The Differential Effects of Explicit and Implicit Instruction: Focusing on the L2 Acquisition of Epistemic Stance by Japanese EFL Learners

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## ABSTRACT

This study investigated the effects of explicit and implicit instruction on the interlanguage pragmatic development of Japanese EFL learners. The interventions, which were taught in intact classes, focused on the semantic-pragmatic domain of epistemic stance. The main research questions guiding this study focused on the relative effects of explicit and implicit instruction on the short- and long-term acquisition of epistemic stance. This study also investigated the interaction between type of instruction and the following four variables: (1) mode of communication (writing/speaking); (2) proficiency; (3) difficulty of target forms; (4) individual differences.

Eighty-one Japanese EFL learners at a national university took part in all parts of this study. They were divided into explicit and implicit instruction groups for the interventions (4 x 45 minutes), which covered the whole domain of epistemic stance (cognitive verbs, evidential verbs, modal verbs, modal adverbs and epistemic expressions). Free production data (spoken and written) was collected from the participants shortly before the intervention (pre-test), soon after the intervention (post-test) and approximately five months after the intervention (delayed post-test). For both the spoken and written data participants completed two tasks: a picture description and an opinion statement.

The learners' data was analyzed using a combination of corpus linguistic techniques and manual analysis, which included the calculation of epistemic token and type scores to measure the frequency and variety of epistemic stance use, respectively.

As regards immediate instructional effects, explicit instruction was found to be more effective than implicit instruction. The findings for long-term effects were similar, although a

pattern of *partial loss of immediate gains* was observed. The main findings for the four variables were as follows: (1) both types of instruction had stronger effects on writing than speaking, and particularly in the long-term; (2) proficiency did not play a major role in determining the degree of instructional effectiveness, although typical patterns in the development of the means of expressing epistemic stance were observed; (3) some forms were acquired more easily than others, with the degree of contingency of form-function mappings apparently playing a key role; (4) a minority of learners did not follow the same developmental patterns as the majority.

The findings suggest that explicit instruction is the most effective way of helping learners with difficult aspects of L2 pragmatics. However, the partial loss of gains in the long-term suggested that explicit instruction needs reinforcement through practice and/or further input. The degree of difference between learners' use of epistemic stance in writing and speaking demonstrated the role played by different processing conditions on learners' language production. The finding that learner readiness plays a role in the acquisition of epistemic stance has clear implications for teaching. Instruction on epistemic stance also needs to take into account the extent to which contingency affects the learnability of epistemic forms. Finally, the degree of 'hidden' individual variation in the data does not diminish the main findings of this study but does need to be taken into consideration by both teachers and researchers.

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# CHAPTER ONE

# INTRODUCTION

## 1.0 Overview

This thesis reports on research into instructional effects on the *L2 pragmatic development* of Japanese EFL learners. The main aim of the research was to compare the effects of *explicit and implicit interventions* on learners' short- and long-term pragmatic development. The interventions were differentiated by the degree to which they drew learners' *conscious attention* to target forms (based on Schmidt's Noticing Hypothesis, 1990, 1993, 1995, 2001). Instruction was carried out in the context of *intact classes* at a national university in Japan. The instructional focus was on the functional-pragmatic domain of *epistemic stance*, which enables the expression of varying degrees of commitment to a proposition, and is mainly expressed in English with cognitive verbs (e.g., 'I think'), evidential verbs (e.g., 'seem'), modal verbs (e.g., 'might'), and modal adverbs (e.g., 'probably'). The interventions lasted four weeks and their effects were measured by collecting *written* and *spoken* data (essays and speech) from 81 learners on three occasions: pre-test, post-test, delayed post-test (five months later). The learners' production data was analyzed using *corpus analysis* alongside more traditional methods of L2 data analysis.

In the following section (1.1) I explain how the key elements of this study (italicized in the above paragraph) fit together in the structure of this thesis. Following that (Section 1.2) I give an overview of the main issues focused on in this study together with the research questions. The final section (1.3) provides a route map through this thesis.

## 1.1 Key Elements of the Study

As a teacher with extensive experience of working with Japanese EFL learners at the intermediate and advanced proficiency levels, I have come to agree very strongly with the view that L2 development in lexis and grammar by no means guarantees parallel development in L2 pragmatics (e.g., Bardovi-Harlig & Dörnyei, 1998; Kasper & Rose, 2002; Schauer, 2009). I noticed how students with high scores on proficiency tests such as TOEIC or Eiken[1] would have trouble producing appropriate expressions for speech acts (e.g., apologies, requests, refusals). I also became increasingly aware that epistemic stance is another aspect of L2 pragmatics which learners clearly have difficulty with. However, unlike speech acts, the L2 acquisition of epistemic stance remains surprisingly under-researched.

I use the word 'surprising' because a lack of proficiency in this L2 domain can cause various communication problems. For example, some learners express their opinions with very little epistemic modification. This can leave their opinions sounding rather blunt or overstated. Here is an example from a female first year student[2]:

> *First, now that English is international language, almost all the people in the world **will** have to use it in the future. But some people (and me too) feel that it's difficult to speak English, especially pronunciation. The latter is really difficult to master. So, we should learn it as early in our lives as possible.*

Other learners rely on a limited range of epistemic expressions which can leave their discourse sounding simplistic, or repetitive, or unacademic:

> ***I think** English should be taught at elementary school in Japan because English is very important in this international age and future. But **I think** the English course which taught at junior high school and high school is not so good.*

[1] The TOEIC (Test of English for International Communication) and Eiken ('Eiken Test in Practical English Proficiency' administered by the Society for Testing English Proficiency) are the English proficiency examinations most commonly taken by university-level EFL learners in Japan.

[2] These examples are taken from my own extensive collection of writing assignments by Japanese EFL learners.

Wondering why my learners had such difficulties with epistemic stance, I looked at previous L2 research on this domain and found that difficulties were common to EFL learners in various contexts (e.g., Hyland & Milton, 1997, Hong Kong; Aijmer, 2002, Sweden; McEnery & Amselom Kifle, 2002, Eritrea; Kärkkäinen, 1992, Finland). It was apparent that epistemic stance, like most speech acts, is a difficult aspect of L2 acquisition regardless of the L1-L2 combination involved.

Along with my interest in pragmatic development, as a classroom teacher I was also interested in how learners can best be helped to acquire difficult aspects of the second language. I had taken note of research findings suggesting that explicit instruction is preferable to implicit instruction as regards instruction on both L2 morphosyntax (Norris & Ortega, 2000) and L2 pragmatics (Kasper & Rose, 2002; Jeon & Kaya, 2006). This research demonstrates the importance of bringing learners' attention to target features (the main aim of explicit instruction), and therefore provides support for Schmidt's Noticing Hypothesis (1990, 1993, 1995, 2001) .

However, closer analysis of the research literature shows that comparisons of explicit and implicit instruction on L2 pragmatics have been prone to the following limitations: the lack of a delayed post-test which can provide a measure of the long-term effectiveness of instruction; and small learner samples which weaken the generalizability of findings. As a result, this study was designed to overcome these limitations: I conducted a delayed post-test around five months after the immediate post-test; furthermore, 81 students took part in all aspects of this study (explicit group, n = 37; implicit group, n = 44). This large sample enabled robust analysis to be carried out using both descriptive and inferential statistics.

Another key feature of this research was its setting: in *intact classes*. My research is grounded in observations of everyday classroom processes and learners' use of language. I considered

it essential to conduct this study with intact classes, because I share the concerns of Van Lier (1988), Nunan (1991) and Foster (1998) as regards research on effects of instruction conducted in experimentally-controlled settings outside the ebb-and-flow of real classrooms. Of course, the myriad variables interacting in a dynamic classroom setting mean that classroom-based research requires a delicate balancing act between the competing issues of ecological and experimental validity. It is my hope that this study succeeds in this goal by controlling certain targeted variables (see Section 1.2) whilst conducting the study within the context of an ongoing language course. I believe the best test of its success will be the degree to which it is well-received by *both* language teachers and SLA researchers.

The last component of this study which I wish to emphasize is the use of *learner corpora* to enhance the analysis of learners' written and spoken production. Since developing an interest in corpus linguistics, it has been a source of some amazement to me that corpus tools have not been utilized more in SLA (for arguments supporting the use of corpus linguistics in SLA research see: Granger, 2002; Myles, 2005; Gries, 2008), especially considering the technological advances made in L1 acquisition research in this respect (e.g., MacWhinney, 2000a, 2000b). In this study, it is my intention to demonstrate what corpus linguistics can (and cannot) contribute to analysis of learners' production data in L2 research.

## 1.2 Key Variables and Research Questions

The main issue guiding this thesis concerns the comparison of the differential effects of explicit and implicit interventions in the short- and long-term, as measured by comparing immediate and delayed post-test data with pre-test data. The main research questions are:

RQ1a: *To what extent, and in what ways, are explicit and implicit interventions on epistemic stance effective in the short-term?*

RQ1b: *To what extent, and in what ways, are explicit and implicit interventions on epistemic stance effective in the long-term?*

Alongside these overarching questions, this study also focuses on a number of key variables which contribute to the complexity of the interaction between language instruction and language acquisition. I investigate four of these variables: mode of communication, proficiency level, target forms, and individual learners. These variables are introduced below, together with the relevant research question.

The first of these variables (*mode of communication*) concerns the interaction between type of instruction and learners' ability to use the target forms in spoken and written communication. Whilst a small number of studies (e.g., Harley, 1989; Day & Shapson, 1991; Lyster, 1994; Martínez-Flor & Fukuya, 2005) in instructed second language acquisition (henceforth, 'instructed SLA') have included both written and spoken free production as outcome measures, none of these studies have made a direct comparison of like-for-like written and spoken tasks (see Sections 5.1 and 6.3). Operationalizing the mode-of-communication variable in this way enables the relative effects of explicit and implicit instruction on more explicit (writing) and implicit (speaking) levels of L2 knowledge to be investigated. The research question focusing on this issue is:

RQ2a: *What are the differential effects of explicit and implicit instruction on learners' use of epistemic stance in writing and speaking?*

The second variable focused on is *proficiency*. Although there has been considerable interest in the research literature on the relationship between grammatical and pragmatic competence (e.g., Bardovi-Harlig & Dörnyei, 1998; Kasper & Rose, 2002; Schauer, 2009), this issue has rarely been investigated in research on instruction and L2 pragmatics (Codina-Espurz, 2008, is a rare exception). The interaction between type of instruction and proficiency is

investigated in this study by carrying out the interventions with learners across a range of proficiency levels. Therefore, the next research question is:

RQ2b: *What interactions are there between the effectiveness of explicit and implicit instruction, and L2 proficiency?*

Whilst it is clear that some *target forms* are learnt more easily than others, the relationship between type of instruction and learning of different target forms has rarely been investigated in interlanguage pragmatics (exceptions include: Lyster, 1994; House, 1996; Félix-Brasdefer, 2008b). By focusing on the functional-pragmatic domain of epistemic stance, this study was able to investigate the differential effects of explicit and implicit instruction on target forms at various points on a lexico-grammatical spectrum: modal adverbs (e.g., *maybe*); cognitive verbs (e.g., *I think*); evidential verbs (e.g., *it seems*); modal verbs (e.g., *might*). This leads to the following research question:

RQ2c: *In what ways, if any, do explicit and implicit instruction have differential effects depending on the form, or type of form, targeted in the intervention?*

Finally, although this study included a relatively large sample (n = 81) of learners, which enabled the effects of instruction to be investigated at the group level (explicit vs. implicit), at the same time, throughout the progress of this research I made sure to observe *individual differences*. Instructed SLA research has tended to place a strong focus on group effects with individual variation rarely making its effect felt beyond measures of standard deviation. Whilst I believe this approach is justified in as far as general patterns of development across large numbers of learners clearly do exist, it is nevertheless worrying, for example, that a small number of learners who do not benefit at all from a particular intervention may become lost in the data. It is essential that individual variation is reported on as far as possible, and this is the approach I adopt in this study. Therefore, the final research question is:

RQ2d: *To what extent do individual differences play a role as regards the differential effectiveness of explicit and implicit interventions?*

As research questions 2a-2d cover specific variables, whilst 1a and 1b cover the 'big picture', questions 2a-2d will be answered in the analysis (see Chapters 7, 8 and 9) *before* questions 1a and 1b, which can be answered best by taking into account the findings on all the different variables (see Chapter 9).

## 1.3 Thesis Outline

The next three chapters give a detailed orientation to theoretical and methodological elements of this study through reviews of previous research. Chapter 2 introduces the fields of pragmatics and interlanguage pragmatics before defining the concept of epistemic stance and presenting research findings on how it is typically acquired by L2 learners. Chapter 3 focuses on the distinction between explicit and implicit instruction, learning and knowledge. It includes a detailed overview of research which has compared these two types of instruction, and focuses in particular on studies on instructed L2 pragmatics. Chapter 4 introduces learner corpus research and how it can be applied in SLA research.

These background chapters are followed by a description (Chapter 5) of the pilot study for this research. This chapter introduces the piloting of methodological elements before the main study, and also presents findings from analysis of the pilot data which added to the body of findings on L2 learners' acquisition of epistemic stance. Chapter 6 presents the methodology of the main study. As well as describing participants and methods of data collection and analysis, it also gives a detailed description of the explicit and implicit interventions at the centre of this research.

Chapters 7, 8 and 9 contain analysis of the main study data and discussion on findings. The first of these chapters looks at the differential effects of explicit and implicit instruction on learners' writing and speaking. In Chapter 8, the focus is on the relationship between learners' proficiency levels and the relative effectiveness of the two interventions. Chapter 9 investigates the learnability of specific epistemic forms in the two instructional conditions through an analysis of individual learners' developmental profiles. It also includes an overview of the differential effects of explicit and implicit instruction in the short- and long-term based on the whole data analysis.

Chapter 10 summarizes the main findings for the research questions guiding this thesis, recognizes some limitations of this research, and points the way ahead to further research which can build on the findings of this study.

# CHAPTER TWO

# PRAGMATICS AND EPISTEMIC STANCE

## 2.0 Introduction

As explained in Chapter 1, this study on the effects of instruction on learners' acquisition of epistemic stance is positioned in the area of interlanguage pragmatics (ILP). In the first part of this chapter I give a brief overview of pragmatics (Section 2.1) and ILP (Section 2.2). Following that, I describe the semantic domain of epistemic stance, discuss ways in which it has previously been defined, and propose a working definition to guide this study (Section 2.3). In Section 2.4 I describe the range of lexical and grammatical forms that are typically used to express epistemic stance in English. In the last main section (2.5) of this chapter I present typical patterns in the L2 use and acquisition of epistemic stance through a review of research conducted in both foreign and second language environments.

## 2.1 Pragmatics

It is not easy to delimit the field of *pragmatics*. As discussed by Culpeper and Schauer (2009, pp. 202-4), it can be considered both: (1) more narrowly as a component of linguistics alongside, for example, syntax and semantics; and (2) much more broadly as relating to, "what people **do**, whether with language or something else, in social contexts" (p. 203, emphasis in original). In the current study, with its focus on L2 learners' *linguistic* realization of epistemic stance, pragmatics is conceived of in the narrower, more language-oriented sense. Crystal (1985) offers the following definition:

> Pragmatics is the study of LANGUAGE from the point of view of users, especially of the choices they make, the CONSTRAINTS they encounter in using language in social interaction and the effects their use of language has on other participants in the act

of communication. (p. 240, emphasis in original)

A key point in this definition concerns the interaction between linguistic choices made by language users and the effects of these choices on others in communication. This is highly relevant in the case of epistemic stance (see Section 2.3 below).

Crucial in the development of pragmatics was *speech act theory* (Austin, 1962; Searle, 1969, 1979), which argued that utterances in real-world communication involve *doing* as much as *saying*. Austin (1962) demonstrated this with his division of speech acts into three parts:

- the *locutionary act* (this consists of the actual words used in the utterance)
- the *illocutionary act* (the speaker or writer's actual intended meaning)
- the *perlocutionary act* (the effect of the utterance on the hearer or reader)

Austin's ideas were developed by Searle (1969, 1976), who classified speech acts as follows:

- *representatives/assertive*: commitment to the truth of an utterance
- *directives*: getting somebody to do something
- *commissives*: commitment to future action
- *expressives*: expression of one's psychological state
- *declarations*: achieving a correspondence between the content of an utterance and reality

Whilst it is clearly not possible to state with certainty that the above list includes all types of communicative actions, nor that it is universal, the fact that this classification has stood the test of time, and remains influential in pragmatics research, demonstrates its utility. It has been particularly influential in the field of interlanguage pragmatics (ILP), which has focused on the *use* and *acquisition* of the ability to express speech acts in a second language.

## 2.2 Interlanguage Pragmatics

*Interlanguage pragmatics* (ILP) is the interface between pragmatics and second language acquisition. The development of research in this area is a relatively recent phenomenon, as

compared to research on L2 phonological, morphosyntactic and lexical development. Kasper and Rose's (2002) definition of ILP introduces the key elements of *use* and *acquisition:*

> As the study of second language *use*, interlanguage pragmatics examines how non-native speakers comprehend and produce action in a target language. As the study of second language *learning*, interlanguage pragmatics investigates how L2 learners develop the ability to understand and perform action in a target language. (p. 5)

This definition highlights the fact that there are main two aspects of ILP research: (1) the first aspect involves comparisons of the *use* of L2 pragmatics by *non-native speakers* with that of native speakers (e.g., Blum-Kulka, House & Kasper, 1989); (2) the second aspect focuses on the *development* of L2 learners' pragmatic competence (e.g., Taguchi, 2008a, 2008b).

The most likely reason why interlanguage pragmatics is something of a 'late-developer' in the field of SLA research is that the term *pragmatic competence* is itself relatively new. In the context of the current study it is important to elaborate on how pragmatic competence fits into broader models of L2 competence. Bachman (1990) gave pragmatic competence its own place in his framework of "communicative language ability" (p. 84), which consists of three main components: language competence, strategic competence, and psychophysiological mechanisms. Language competence is further divided into organizational competence and pragmatic competence: the former includes grammatical and textual (discourse) competence, whilst the latter consists of illocutionary and sociolinguistic competence.

Two important points follow from Bachman's model. Firstly, the separation of organizational and pragmatic competence matches the idea that development in L2 grammar does not necessarily entail parallel L2 pragmatic development, and vice-versa. This issue is discussed in more detail in Section 3.5.2. Secondly, the separation of illocutionary competence and sociolinguistic competence finds its corollary in the distinction between *pragmalinguistics* and *sociopragmatics* (Leech, 1983; Thomas, 1983). Illocutionary/pragmalinguistic

competence is concerned with knowledge of the linguistic resources needed to express language functions, whilst sociolinguistic/sociopragmatic competence relates to understanding what is expected in specific contexts.

The current study focuses on both the *use* and *acquisition* of L2 pragmatic competence. As regards the distinction between pragmalinguistics and sociopragmatics, the current study is more strongly focused on the former. The main reason for this is that the use of epistemic stance is less influenced by contextual circumstances than some other aspects of L2 pragmatics, such as complaining, refusing, and requesting, which require greater levels of sensitivity in order to avoid loss of face on the part of one or both interlocutor(s). The following section includes a detailed description of the pragmalinguistic resources available in English to express epistemic stance.

## 2.3 Epistemic Stance

In this study, I choose to use the term 'epistemic stance' rather than 'epistemic modality'. I begin this section by explaining that choice. I will then discuss definitions of epistemic stance, and provide a working definition of my own. Following that, I explain the choice to include evidential expressions under the umbrella of epistemic stance. In the last part of this section, I describe the ways in which epistemic stance can be expressed in English.

*Epistemic modality* is the term that has been most commonly used to describe a language domain which concerns, "the degree of commitment by the speaker to what he says" (Palmer, 1986, p. 51). It is a term that is typically associated with linguistic systems, and the modal auxiliary system in particular. For example, some analyses of modality have taken the modal auxiliaries as their starting (and end) point (e.g., Coates, 1983), on account of the coherence of the linguistic system of modality. However, it is an essential aspect of the current study

that it proceeds from function to form, that is to say, the functional precedes the linguistic. Therefore, this investigation is motivated by an interest in the way learners express the epistemic function through language. The term 'epistemic stance' is much more suited to this viewpoint because it has a stronger functional connotation than epistemic modality. Having said that, the two terms essentially describe the same domain and therefore whenever I use the term 'epistemic stance' in this thesis it could be replaced with the term 'epistemic modality', and in the references in this section I use the term favoured by the respective researcher.

In endeavouring to define and demarcate epistemic stance I present two different starting points, which are by no means unconnected: (1) the necessity for speakers to express their (or another person's) 'belief' in, 'commitment' to, or 'evidence' for, a proposition; (2) "the conceptual systems from which they [epistemic expressions] derive" (Nuyts, 2001, p. 23).

The first approach takes Austin's (1962) speech act theory as its starting point. As stated above (Section 2.1) Searle (1979) developed Austin's theory and proposed five basic types of illocutionary act. One of these categories, 'representatives/assertives', relates to epistemic stance. He writes that "The point or purpose of the members of the assertive class is to commit the speaker (in varying degrees) to something's being the case, to the truth of the expressed proposition" (p. 12). In his view assertives are used to state the degree of 'belief' or 'commitment' in an utterance. This has also been termed, neatly, "illocutionary commitment" (Kärkkäinen, 1992, p. 200).

A second way of approaching epistemic stance is to consider it as "cognitive-pragmatic" (Nuyts, 2001). Epistemic stance enables the expression of what is "probably a basic category of human conceptualization in general" (p. 23). This 'basic category' involves, "Estimations of the degree to which states of affairs are true of the world" (p. 23). Essentially, Nuyts

(2001) is taking a function-to-form viewpoint: human beings need to communicate the cognitive-pragmatic function of epistemic stance, and hence all languages contain forms which enable its expression.

A good starting point for a working definition of epistemic stance can be found in Biber, Johansson, Leech, Conrad and Finegan (1999). Their definition is functionally-oriented and inclusive:

> Epistemic stance markers are used to present speaker comments on the status of information in a proposition. They can mark certainty (or doubt), actuality, precision, or limitation; or they can indicate the source of knowledge or the perspective from which the information is given. (p. 972)

However, the use of 'comments' is rather vague, whilst the inclusion of 'precision' and 'limitation' goes beyond most definitions of epistemic stance/modality. On the other hand, the inclusion of 'source of knowledge' brings evidentiality within the definition, which is the approach taken in this study (see below for further discussion). Kärkkäinen's (2003) definition of epistemic stance is more straightforward: "different ways of showing commitment towards what one is saying" (p. 19). I would like to plunder these definitions, as well as Palmer (1986) and Searle (1979), in suggesting my own definition within the context of this study. I have also intentionally included the words 'degree(s)' and 'level' as an essential component of epistemic stance is that it is gradable: it can be used to express a degree of commitment ranging from very strong (e.g., *He most definitely must be drunk*) to very weak (e.g., *There's just the slight possibility that he might have had one too many*). My definition is as follows:

> Epistemic stance is used to present the degree of speaker belief in, and/or the level of speaker commitment to, a proposition. It can also indicate the source of knowledge of the information in the proposition.

As stated above, in this study I include evidentiality as a component of epistemic stance. In doing so, I follow Palmer (1986), Traugott (1989), Giacalone Ramat (1992), Biber et al. (1999) and Kärkkäinen (2003), in considering evidentiality as a subcomponent of epistemic stance/modality. Others have separated the two categories (e.g., Nuyts, 2001) or considered evidentiality as the overarching category (e.g., Chafe, 1986). However, I agree with Kärkkäinen (2003) in considering their ordering as largely "a matter of terminological convenience" (p. 19). The essential point is that it is extremely difficult to make a clear separation between the two categories. For example, if we take the phrase *that seems like a tall order*, it could be expressing:

(A) *I think that will be difficult.*
(B) *Based on my knowledge and the evidence I have, that will be difficult.*

While (A) expresses a 'degree of belief', (B) 'indicates the source of knowledge', yet clearly both these ideas can be expressed with the same clause. Hence, it does not seem to make sense, when taking a functional approach, to exclude evidential forms from an analysis of epistemic stance. This view is supported by Palmer's (1986) typology of epistemic modality. He acknowledges that there is a difference between 'judgments' and 'evidentials', but he argues that they essentially fall under the same domain. He shows that some languages (e.g., Hixkaryana and Serrano) have a generalized marker of epistemic modality that covers both of these categories. He goes on to argue as follows:

> It would be a futile exercise to try to decide whether a particular system (or even a term in a system in some cases) is evidential rather than a judgment. There is often no very clear distinction because speakers' judgments are naturally often related to the evidence they have. (p. 70)

To summarize, for the reasons outlined above, I adopt the term 'epistemic stance' in this study, and I include forms which express the source of information, as well as those which

express the speakers' belief in, and/or, commitment to, a proposition. The following section shows the ways in which epistemic stance is expressed in English.

## 2.4 Epistemic Stance in English

Epistemic stance is realized in various ways in different languages. Some elements are lexicalized whereas others are more grammaticalized. In the case of English, some elements are purely lexical (e.g., *maybe, probably*) whereas other elements are part of a grammatical system (e.g., the modal auxiliaries). Other elements combine both lexical and grammatical elements, so-called 'collostructions' (Stefanowitsch & Gries, 2003). This can be seen in the case of productive phrases such as: *seem/appear to; it is clear/true/sure/possible that.*

The L1 of the learners in this study, Japanese, realizes epistemic stance in very different ways from English. Japanese does not have a polysemous grammatical system of modal verbs, but on the other hand, evidential forms are more grammaticalized than in English. Larm (2009, pp. 74-75) provides a taxonomy of modal expressions in Japanese, which shows that epistemic stance can be expressed through the use of "inflections" (e.g., "literary conjectural *-oo* (*-yoo*)" [*probably, must be*]), "particles" (e.g., "conjectural *daro*" [*probably, I think*]), "predicate extensions" (e.g., "speculative *kamoshirenai*" [*maybe*]), and "derivational suffixes" (e.g., "sensory evidential *-soo da*" [*I hear*]). These differences may well lead to some of the difficulties Japanese learners have in acquiring epistemic stance in English.

In English, the main ways in which epistemic stance is expressed are as follows:

- modal verbs: *may, might, will, must,* etc.
- cognitive verbs: *I think, I suppose, I guess,* etc.
- modal adverbs: *maybe, perhaps, probably,* etc.
- evidential verbs: *look, seem, appear,* etc.
- epistemic expressions: *in my opinion, it is true that,* etc.

In the following sections I briefly describe each of the above areas. This section is based mainly on the empirical grammar of Biber et al. (1999): *Longman Grammar of Spoken and Written English* (LGSWE)[3]. The reasons for choosing this source are: (1) it is based on a 40-million word corpus of American and British English designed to represent a range of spoken and written registers; (2) it has a strong functional orientation (for example, it includes an entire chapter on "The grammatical marking of stance" (pp. 965-986)) which reflects the orientation of this study. I also referred to a detailed analysis of epistemic stance in a corpus of spoken American English[4] (Kärkkäinen, 2003). The purpose of this section is twofold: (1) to give an overview of the main ways in which epistemic stance can be expressed in English; (2) to present information which partly informed the pedagogical intervention at the centre of this study (see Section 6.5).

### 2.4.1 Modal Verbs

According to Biber et al. (1999, p. 979), modal verbs are the most common category of stance marker. They divide the use of modal verbs into "extrinsic" and "intrinsic" uses; these terms broadly equate to epistemic and deontic modality, respectively. As regards information on 'extrinsic' (epistemic) use, the following points can be observed (cf. Biber et al., 1999, pp. 491-497):

- English has four 'possibility' modals (*can*[5], *could, may, might*), one 'necessity' modal (*must*), and two 'prediction' modals (*will, would*).
- The degree to which these verbs are used for 'extrinsic' modality varies: for example, *might* is almost always used to express possibility, whereas *must* is used for

[3] Biber et al. (1999) provide frequency information on usage but they do not give precise figures. Therefore, I decided that rather than guessing numbers from their data I would present general trends on the use of epistemic stance based on their analysis.
[4] The corpus used in Kärkkäinen (2003) was the *Santa Barbara Corpus of Spoken American English* (SBCSAE, Du Bois, 2000).
[5] In this study, I did not consider *can* as an epistemic modal because it is extremely rare that it can be used in a pure epistemic sense (e.g., *He may/might/could/can* be busy.*). See Coates, 1983, p. 103.

'extrinsic' and 'intrinsic' functions almost equally. In conversation the order of frequency of the three possibility modals (used 'extrinsically') focused on in this study is: 1. *could*, 2. *might*, 3. *may*. In contrast, the order for academic writing is: 1. *may*, 2. *could*, 3. *might*. In fact, *may* is used far more frequently in academic writing than in conversation.

- The 'necessity' modal, *must*, is used almost equally in conversation and academic writing.
- As regards the 'prediction' modals, *will* is more common than *would* in both conversation and academic writing, although both are relatively frequent. In conversation they are both used almost equally for 'extrinsic' and 'intrinsic' functions, whereas in academic writing the 'extrinsic' function dominates. It is also pointed out that *will* can often be ambiguous as concerns whether it expresses prediction (extrinsic) or volition (intrinsic).

### 2.4.2 Cognitive Verbs

Cognitive verbs are not discussed in detail as an independent category in Biber et al. (1999). This is probably because they tend more towards the lexical end of a lexico-grammatical spectrum. However, information on cognitive verbs which are used for an epistemic function can be found in various sections of this grammar. They are mentioned in the chapter on stance, in the section on *comment clauses* (Biber et al., p. 982). The main findings here are:

- *I think* is by far the most common comment clause used to express epistemic stance. However, whilst common in conversation it is very rare in academic writing.
- *I guess* is common in conversation in American English while very rare in British English. In contrast, *I suppose* is common in British English and used less frequently in American English. Both are very rare in academic writing.
- Compared to the above expressions, *I believe* has a lower frequency of occurrence. It is more common in conversation than academic writing.

In Kärkkäinen's (2003, p. 37) analysis of a corpus of spoken American English, several cognitive verb forms (e.g., *I think, I don't know, I don't know* + complement) were amongst the most frequent markers of epistemic stance, with *I think* as the most frequent form.

Cognitive verbs are also mentioned in a section on *that*-clauses (Biber et al., pp. 660-683). Findings of note are:

- "Six of the seven most frequent verbs taking *that*-clauses are cognition verbs: *think, know, see, find, believe, feel*" (p. 662).
- Some verbs are much more frequently used with *that* in conversation than in academic writing (*think, know, guess*); some are used almost equally in the two registers (*find, believe*); others are used more in academic writing (*suggest, show*) (pp. 668-669).

It is also pointed out that *think* and *know* are among the five most common verbs in the LSWE Corpus[6]. These two verbs are far more frequent in conversation than in academic writing (Biber et al., 1999, pp. 373-375).

### 2.4.3 Modal Adverbs

The epistemic stance adverbs offer the most lexicalized way of expressing this function in English. Biber et al. (1999) includes the group of epistemic adverbs focused on in this study under the category "Adverbials of doubt and certainty" (p. 854 and pp. 868-870). According to their findings:

- Overall, this category is used more frequently in conversation than academic writing.
- The most common adverbs in conversation are: (1) *probably*; (2) *maybe*; (=3) *perhaps* and *of course*; (=5) *certainly* and *definitely*. Kärkkäinen's (2003) much

[6] The data presented in the *Longman Grammar of Spoken and Written English* (Biber et al., 1999) is based on the *Longman Spoken and Written English Corpus* (LSWE).

smaller corpus of spoken English had *maybe* as the most common adverb, followed by *probably.*

- In academic writing the order of most frequent adverbs is: (1) *perhaps*; (=2) *probably* and *of course*; (4) *certainly*; (=5) *maybe* and *definitely.*

The much lower frequency of *maybe* in academic writing as compared to conversation is particularly noticeable.

### 2.4.4 Evidential Verbs

It is not easy to find empirical data on the use of evidential verbs. This is presumably due to the fact that they are not as grammaticalized as modal verbs. However, Biber et al. (1999, pp. 711-712) does include some information on their use with a *to*-infinitive clause. This shows that *seem to* + INF[7] is slightly more common in academic writing than in conversation, whilst *appear to* + INF is much more common in academic writing, but not as frequent overall as *seem to* + INF. There is also a brief mention of *seem to* in the section on comment clauses (p. 982). This shows that *it seems* is more common in academic writing, and less common in conversation, than the cognitive verb expressions *I think, I guess, I suppose* and *I believe.*

Of course, this information is only partial because *seem* and *appear* can also be used with a *that*-clause, whilst *look* is also a common marker of epistemic stance in constructions such as *look like, look as if, look* + adjective.

### 2.4.5 Other Epistemic Expressions

As regards other ways in which epistemic stance is expressed in English, two points will be covered here: (1) the use of epistemic adjectives with *that*-clauses; and (2) epistemic

[7] INF = infinitive

collocations. In the first case, Biber et al. (1999, p. 672) states that, 'Four adjectival predicates are relatively common controlling extraposed *that*-clauses: *clear, (un)likely, (im)possible, true*'. The second issue, epistemic collocations, is not dealt with in Biber et al. (1999) but one in-depth study (Hoye, 1997) has dealt with this in detail. He focuses on the way in which modal adverbs collocate with modal verbs: for example, *could possibly, could well, may well, might well, might just, might possibly, must inevitably, must certainly, can't possibly, will probably, will certainly, would probably, would certainly.* A key point here is that some combinations are unacceptable because the epistemic strengths of the component parts do not "harmonize" (Hoye, 1997): e.g., *may certainly*, must perhaps*, will possibly*.*

This section has given an overview of the most common ways in which epistemic stance is expressed in English, and demonstrates the wide variety of options available for expressing epistemic stance. The next section turns the focus of attention on the acquisition of epistemic stance in a second language, and reports on research which has investigated this issue.

## 2.5 L2 Acquisition of Epistemic Stance

The bulk of evidence gathered so far suggests that epistemic stance is a very difficult component of L2 competence to acquire. Research into its acquisition in a second language has mainly been carried out in one of two ways: (1) longitudinal research on individual learners, or a small group of learners, in a second language environment (e.g., Dittmar & Ahrenhoz, 1995; Giacalone Ramat, 1995); (2) corpus research in which a larger group of learners is compared with comparable language use by native speakers (e.g., Hyland & Milton, 1997; Aijmer, 2002).

The first type of research has typically been carried out with migrants, and has involved L2s other than English. In the late 1980s and early 1990s, two longitudinal research projects on

L2 acquisition in the European context were carried out which included the acquisition of modality as a focus for study: (1) The 'Pavia-Project', which focused on the acquisition of Italian by learners of various language backgrounds (e.g., Bernini, 1995; Giacalone Ramat, 1995); and (2) Project P-Moll which investigated the acquisition of German by Polish and Italian learners (e.g., Dittmar & Ahrenholz, 1995). These projects both involved the collection of spoken data on a regular basis over an extended period of time. The participants were at a low level of proficiency and they were living in the country where the L2 was spoken. The findings of both projects were quite consistent regardless of the L1/L2 learning combination. Two other studies which focused on the acquisition of epistemic modality in a second language learning environment are Salsbury and Bardovi-Harlig (2000, 2001). They conducted research on development in the use of modal markers by learners of English in the United States from a variety of L1 backgrounds. Findings from these projects which relate to the acquisition of epistemic modality are presented in more detail in Sections 2.5.1 to 2.5.5.

The second type of research has typically involved the acquisition of English by learners in EFL settings (e.g., Kärkkäinen, 1992; Hyland & Milton, 1997; McEnery & Amselom Kifle, 2002; Aijmer, 2002). In all of these studies, the language production of learners was compared with comparable native speaker data.

In this section I will briefly describe the above studies and present general findings (more specific findings relating to categories of epistemic stance are presented in Sections 2.5.1 to 2.5.5 below). I will begin by focusing on the studies which looked at learners' writing.

Hyland and Milton (1997) investigated the use of stance in a large corpus of examination scripts (900 exam scripts; about 500,000 words) of Cantonese-speaking school leavers, and compared their use with that of British learners of a similar age and level of education (770 exam scripts; approximately 500,000 words). They found that the learners used a smaller

range of devices to express stance than the native speakers and that they tended to use stronger epistemic stance forms. Unlike most of the other studies, they also looked at the relationship between learners' proficiency level and use of epistemic stance, and uncovered patterns of development which will be reported on below.

In a study with a very similar design, although with smaller corpora, McEnery and Amselom Kifle (2002) compared the use of stance by Eritrean learners of English (92 learners; about 20,000 words) with that of native speakers. The learners were second year university students, and their short argumentative compositions were compared with argumentative essays by British school students around the age of 16. Unlike the learners in Hyland and Milton (1997), who tended to use 'stronger' stance forms than the native speaker controls, the Eritrean learners tended to be more tentative than native speakers, using 'weaker' forms.

In a further study along similar lines, Aijmer (2002) focused on the argumentative writing of advanced learners, using corpora of Swedish, German and French learners of English in ICLE (International Corpus of Learner English; see Granger (1998)) and LOCNESS (Louvain Corpus of Native English Essays; see also Granger (1998)) as a reference corpus of native speaker argumentative essays. One of her overall findings was that learners tended to have "a more speech-like style in their writing than the native writers" (Aijmer, 2002, p. 72).

The only corpus-based study (to my knowledge) which has investigated the use of epistemic stance by EFL learners in *spoken* language is Kärkkäinen (1992). She collected spoken data (problem-solving tasks with an English native speaker) from Finnish learners of English at three different proficiency levels, and from native speakers. She found noticeable differences between the learners and native speakers, and also demonstrated that higher-level learners use a more developed range of epistemic stance forms than lower-level learners.

In the following sections on different categories of epistemic stance forms, the findings from both types of research into L2 epistemic stance development will be reported. Although they stem from different research traditions, for the most part, their findings support and complement each other.

### 2.5.1 Cognitive Verbs[8]

When epistemic modality is first expressed linguistically it is often expressed through language which can be appended to an utterance rather than being more syntactically embedded in the utterance (Kärkkäinen, 1992). This typically involves the use of cognitive verbs, often with a first person marker (e.g., *I think, I believe* etc.). It has been shown (Stephany, 1995) that cognitive verbs expressing 'thinking', 'believing' and 'knowing' play a key role in enabling L2 learners to express an epistemic perspective at an early stage of language development. Stephany attributes their early use to "their syntactic autonomy which allows a pragmatic rather than a syntactic mode of expression (Givón, 1984)" (p. 112).

The use of cognitive verbs can be found in the interlanguage of learners of various languages at earlier stages of acquisition. In her study on learners of L2 Italian from a variety of L1 backgrounds, Giacalone Ramat (1995) found that they all used *penso* ('I think') in earlier stages of development. She also found the first explicit expression of epistemic modality by immigrant learners of Italian to be the phrase *non so* ('I don't know').

Similar data was found for L2 German in Dittmar and Ahrenholz (1995). They noted that "in the epistemic field, a clear dominance of *verba sentiendi* like DENKEN ['to think'], FINDEN

[8] The sub-sections here are ordered differently from those in Section 2.4. The ordering of section 2.4 was based on estimates of the relative frequencies of different types of epistemic stance forms, with modal verbs, the first category presented, being most frequent (see Biber et al., 1999, p. 979). In contrast, the sequence in section 2.5 follows typical orders of L2 acquisition (beginning with cognitive verbs).

['to find'], GLAUBEN ['to believe'], HOFFEN ['to hope'], KENNEN ['to know'] and WISSEN ['to know'] is to be seen" (p. 206).

It is important to note that learners' use of such verbs at earlier stages of acquisition is typically formulaic. That is to say that they do not use the verb in a full range of forms conveying person, gender, tense, aspect etc. Rather, they are making use of parenthetical, unanalyzed chunks to convey an epistemic perspective.

To summarize, SLA research on immigrant learners has shown that one of the first linguistic means used to express an epistemic perspective are cognitive verbs conveying the concepts 'think' and 'know'. They are probably used at this stage because they can be easily appended to a sentence, and therefore require less syntactic processing than forms such as modal verbs.

These findings have been supported by corpus-based research in EFL settings with learners at more advanced proficiency levels, which has found *(I) think*[9] to be an extremely common marker of epistemic stance with learners from various L1 backgrounds. Hyland and Milton's (1997) study of Cantonese learners of English found that *think* was the third most common marker of epistemic modality in argumentative essay writing. In comparable NS data it did not occur in the top ten most frequent epistemic words. Their cross-sectional data also showed that the use of such lexical verbs decreased as language proficiency improved.

Aijmer's (2002) study was carried out with advanced learners of English yet she still found that the Swedish and French learners strongly overused *I think* as compared to NSs. The number of occurrences of *I think* in each of the corpora (which were all about the same size) were: French NNS – 72; Swedish NNS – 43; NS – 3. These findings show us: (1) that the verb *think* remains a frequent device for expressing epistemic stance, even among advanced

[9] In some of the studies reported here data for the chunk '*I think*' is given whilst in other studies data for '*think*' is given. In this overview, I use the form that is used in the original article.

learners who have acquired a variety of other forms; (2) that learners tend to use 'spoken forms' in their speaking. One exception to the above findings is the case of Eritrean learners in McEnery and Amselom Kifle (2002). In their study, *think* was used quite rarely as compared to other epistemic forms.

As regards speaking, in her data from Finnish EFL learners, Kärkkäinen (1992) found *I think* to be the most common epistemic device in both the least and most competent learner groups. Another study which focused on spoken language was Salsbury and Bardovi-Harlig's (2000) research with ESL learners in the United States. In that study *think* made up nearly 20% of all modal markers, and, excluding *can*[10], it was the most common epistemic form for four of the eight learners in their study. It is, however, important to note that the use of *I think* in speaking is more in line with NS usage (see Biber et al., 1999, p. 982).

The findings of the above studies regarding the use of *I think* can be summarized as follows:

- it is the prime epistemic marker in EFL learner language;
- it tends to be considerably overused as compared to English NS use;
- it appears to be a prime epistemic marker in both writing and speaking;
- as proficiency develops learners decrease their use of *I think* in writing, but it still remains overused as compared to NSs.

The question of why *I think* is so common in learner writing, even at more advanced levels, remains unclear. Aijmer (2002) posits three possible causes: L1 influence; a novice-writer effect; the influence of spoken language on writing. Whilst all these factors may play a role to varying degrees for each learner, depending on their L1 and proficiency level, above all it would seem that *I think* plays the role of 'pathbreaking' (N. Ellis & Larsen-Freeman, 2009) epistemic form.

[10] They included *can* in their set of modal markers but it does not fit the definition of epistemic stance in this study (see footnote 5 above).

### 2.5.2 Modal Adverbs

Along with the cognitive verbs discussed above, L2 learners in earlier stages of language development also typically use epistemic adverbs to modify their commitment to a proposition. Learners typically begin by using modal adverbs expressing a low-to-middle degree of likelihood. For example, Giacalone Ramat (1992; 1995) found that the learners of Italian in her research used two adverbs which equate to 'perhaps' (*forse* and *magari*). Adverbs expressing higher degrees of certainty appeared in their interlanguage at a later stage. This finding is supported by Stephany (1995) who also found that the 'strong' modal adverbs, *probabilmente* ('probably'), *sicuramente* ('certainly') and *oviamente* ('obviously'), were first used at later developmental stages.

In the case of L2 German, Dittmar and Ahrenholz (1995) found that Franza, the subject in their study, used the modal adverb, *vielleicht* ('perhaps') very frequently in the early stages of her acquisition of epistemic modality. They termed this adverb, "epistemic 'joker'" (p. 206), on account of the way she used it in a wide variety of situations to express epistemic stance. This study also supports the finding that modal adverbs expressing higher degrees of likelihood are not used until later. They found that *unbedingt* and *bestimmt*, which both mark a strong degree of likelihood, did not appear until the 36$^{th}$ month of their study.

A dominance of *maybe* was also found by Salsbury and Bardovi-Harlig (2000). It was used slightly more frequently than *think* and it was the most common epistemic form of the other four learners in their study (see the discussion in 2.5.1 above).

Analysis of learner corpora of EFL learners presents a slightly more complicated situation, because not all studies show learners clearly opting for one or two particular modal adverbs to mark epistemic stance. Based on this research, it is difficult to be clear about the early use

of modal adverbs because most of this cross-sectional data does not include learners at the level where modal adverbs are first appearing in their interlanguage. However, some issues regarding modal adverb use can be shown from these studies.

The lowest proficiency group in Kärkkäinen's (1992) study of Finnish EFL learners' spoken language used a range of epistemic adverbs expressing both low commitment (*maybe, perhaps, possibly*) and high commitment (*of course, surely, definitely*). This does not, however, provide evidence that *maybe* is not always the primary epistemic adverb in the interlanguage development of learners of English, because it appears that the 'lower-level' learners in this study were already at an intermediate level of proficiency.

The results from studies focusing on written data are similarly inconclusive as regards the use of epistemic adverbs. McEnery and Amselom Kifle's (2002) study on Eritrean EFL learners found *perhaps* to be used most frequently, followed by *maybe*. Hyland and Milton's (1997) study of EFL learners in Hong Kong found that learners underused epistemic adverbs conveying a low degree of commitment, as they preferred stronger adverbials (e.g., *probably*). Finally, Aijmer's (2002) study showed that whilst the learners did overuse *maybe* in their essay writing, it was not used as frequently as *perhaps, probably,* and *of course*. These studies tell us about later development in the use of modal adverbs.

To summarize, evidence from research on early-stage L2 acquisition suggests that learners typically use a modal adverb expressing a low-to-middle degree of commitment as one of their main ways of expressing epistemic stance. However, as proficiency develops, use of this form gradually decreases as learners start using a range of epistemic adverbs expressing varying degrees of commitment.

### 2.5.3 Modal Verbs

One of the key recurring findings in the research on modality carried out with immigrant learners of German and Italian was that the use of modal verbs to express epistemic modality usually developed later. It was found that learners typically used modal verbs to express deonticity before using it for epistemicity (Giacalone Ramat, 1992; Bernini, 1995; Stephany, 1995; Dittmar & Ahrenholz, 1995). Most of these studies on the early stages of second language acquisition actually contained relatively few examples of the epistemic use of modal verbs because of its later development.

Although the causes of this late development cannot be precisely stated, it appears likely that because learners already use modal verbs for the deontic function, they do not use them epistemically. The epistemic function probably has low contingency (N.Ellis, 2006a, 2006b, 2008, and see Section 3.6) for learners. It may also be the case that because learners have 'pathbreaking' forms for epistemic stance (e.g., *I think* and *maybe*), they do not perceive a functional need for other forms during earlier stages of language development. As regards the issue of whether input frequency is important, different opinions have been expressed: Bernini (1995) argues that it does not play a major role: "The difficulty in developing the epistemic use of modal verbs seems to be independent of the amount of exposure to the second language,..." (p. 308); on the other hand, Giacalone Ramat (1995) suggests that scarcity of input may be a factor in the low use of *dovere* ('must') in its epistemic sense by learners of Italian.

The corpus-based studies supply more detailed data on the use of modal verbs because they are targeted at more advanced learners. Whilst there is a general pattern suggesting that the epistemic use of modal verbs develops later than the use of cognitive verbs and modal

adverbs, especially in the case of speaking, there is a lack of consensus regarding the order of acquisition of specific modal verbs.

In studies on writing, Hyland and Milton (1997) and McEnery and Amselom Kifle (2002) both found *may* and *will* to be the two most commonly used modal verbs for epistemic stance. However, Aijmer's (2002) study showed great variation depending on the learners' L1: *could* was overused by the learners with German L1; *may* was overused by the learners with French L1; and *might* was overused by German, French and Swedish learners. This variation might be influenced by the learners' first language, although there is little evidence in these studies to support that claim.

In the case of speaking, Kärkkäinen (1992) found that NNSs underused modal verbs as compared to NSs: 0.28% of the corpus and 0.45%, respectively. Her study further supported the argument that epistemic modal verb use develops later by showing that the higher-level learners used modal verbs much more than lower-level learners.

The studies by Salsbury and Bardovi-Harlig (2000, 2001) also found that learners' use of modal verbs to express an epistemic viewpoint typically developed later than the use of *think* and *maybe*. The only epistemic modal that was frequently used in their research was *will*. By comparison, the use of *could, must,* and *might* developed later.

Whilst there is variation in the order in which specific modal verbs are acquired, there is a clear consensus from the research on immigrant learners of Italian and German, as well as that on EFL and ESL learners, that the epistemic use of modal verbs is a sign that learners have moved to a more advanced stage in the acquisition of epistemic stance.

### 2.5.4 Evidential Verbs

Although evidentiality has a strong functional connection to epistemicity (and this study follows Palmer (1986) in including evidential forms under the umbrella term of epistemic stance, see also Section 2.3 above), there is relatively little information on the L2 use of evidential forms in the research literature. One exception is Stephany (1995), who mentions that as L2 learners of Italian develop, along with using modal verbs in their epistemic function, they also use expressions such as *mi sembra che* ('it seems to me that').

Some of the corpus-based studies on EFL learners did include evidential forms in their lists of epistemic words. Hyland and Milton's (1997) data showed that *seem* was used much more by the NSs than the Cantonese learners, and, indeed, that *appear* was used "33 times more often in [*sic*] NS sample" (p. 189). However, in McEnery and Amselom Kifle's (2002) study there were no evidential verbs in the lists of the ten most frequent epistemic forms used in the NS and NNS corpora. Kärkkäinen's (1992) data appears to show low use of evidential verbs by Finnish EFL learners in speaking, even in the higher proficiency group. However, a precise comparison with NSs is not possible because in the NS data, evidential forms such as, *seems, sounds, it seems to be*, are included in a 'parenthetical and lexical verb' category along with *I think* and other cognitive verbs.

There is a clear need for more research on learners' use and acquisition of evidential verbs. In fact, in the current study I intentionally used description tasks as well as opinion tasks because I felt that the description genre (which was not used in the corpus-based studies reported on here) would be more likely to elicit evidential forms (this issue is discussed in more detail in the description of the pilot study data analysis, see Section 5.2).

### 2.5.5 Other Epistemic Expressions

Research which has covered other epistemic expressions is also rare, probably because these kinds of expressions typically develop at a high-intermediate to advanced stage of proficiency. However, findings from Hyland and Milton (1997) and Aijmer (2002), which *did* include advanced learners in their analysis, are presented here.

Hyland and Milton (1997) discuss the use of "epistemic clusters"[11] (pp. 199-200). The authors discovered that epistemic clusters were used far less frequently by NNSs than NSs. They also noted that NNSs sometimes used incorrect combinations (e.g., "might probably", p. 200). Aijmer (2002) looked at epistemic collocations and found that the advanced Swedish learners of English used far more such collocations than the NSs. She argued that this might be due to "influence from spoken language" or "transfer from Swedish" (p. 69).

### 2.5.6 Section Summary

This section has reviewed research to date on the L2 acquisition of epistemic stance. The main finding here is that learners start expressing epistemic stance linguistically with lexical forms. This is typically achieved with a cognitive verb (e.g., *I think, denken, penso*) and a modal adverb expressing a low-intermediate degree of epistemic stance (e.g., *maybe, vielleicht, forse*). As acquisition proceeds, learners broaden their range of lexical forms and start to incorporate more grammaticalized forms (e.g., modal verbs) into their epistemic repertoire. At more advanced levels they may begin to use epistemic collocations, although difficulties with the expression of epistemic stance typically persist even at this stage.

[11] The term *epistemic cluster* refers to "contexts where two or more forms express the same degree of modality" (Hyland and Milton, 1997, p. 199). Examples given include, "it *might* be *possible*" or "it *would seem*" (ibid).

The findings presented here generally support Giacalone Ramat's (1995, p. 279) assertion that, "In sum, the expression of epistemic modality offers a full range of strategies each of which leading towards more grammaticalized structures: implicit > lexical > grammatical." It is interesting to note that this pattern of development involving gradual grammaticalization and complexification has been found for other functional domains. The best example is the expression of time (Bardovi-Harlig, 2000).

## 2.6 Chapter Summary

The description of epistemic stance in Section 2.3 showed how it enables the expression of degrees of commitment and/or belief on the part of a speaker/writer, as well as (through the use of evidential forms) enabling this belief/commitment to be attributed to external evidence. This demonstrated how epistemic stance belongs to the field of pragmatics (described in Section 2.1), and therefore research on L2 use and acquisition of epistemic stance is a component of interlanguage pragmatics (described in Section 2.2). Section 2.4 demonstrated the wide variety of options available in English for expressing epistemic stance. It also highlighted various factors relating to epistemic forms which may present difficulties for L2 learners: varying epistemic strengths; relative frequencies in written and spoken input; and, especially in the case of the modal verbs, the issue of polysemy, and the relative frequencies of epistemic and non-epistemic functions. The review of research on the acquisition of epistemic stance in Section 2.5 revealed: (1) that learners typically move through similar patterns of development; and (2) that epistemic stance does indeed present L2 learners with various difficulties, some of which persist even in the interlanguage of advanced-level learners. The following chapter looks at research on the relative effectiveness of explicit and implicit instruction in helping learners with resistant L2 forms of this kind.

# CHAPTER THREE

# EXPLICIT/IMPLICIT INSTRUCTION AND L2 ACQUISITION

## 3.0 Introduction

Having described the target domain (epistemic stance) of this study in the previous chapter, this chapter focuses on issues related to classroom interventions aimed at assisting learners with L2 target features which resist acquisition. This chapter begins with a discussion on the key issue of the relationship between explicit and implicit knowledge in L2 development (Section 3.1). Following that, I explain what is meant by explicit and implicit instruction, and related terms (Section 3.2). In the five sections following that, I review research on instructed SLA as it relates to the research questions guiding this thesis: the differential effectiveness of explicit and implicit instruction in the short- and long-term (Section 3.3); the issue of whether instruction has differential effects on learners' written and spoken production (Section 3.4); the interaction between type of instruction and proficiency levels (Section 3.5); the degree of effectiveness of different types of instruction depending on the target form (Section 3.6); and the degree to which instructional effects are consistent (or not) at the individual level (Section 3.7). The main findings from this chapter are summarized in Section 3.8.

## 3.1 Explicit/Implicit Learning and Explicit/Implicit Knowledge

A key debate running through SLA research concerns the extent to which second languages are learned implicitly or explicitly (N. Ellis, 1994; DeKeyser, 2003; Dörnyei, 2009; R. Ellis, Loewen, Elder, Philp & Reinders, 2009). This issue has huge relevance for instructed L2 settings, and it raises the questions of whether it is enough to make sure that learners are exposed to plentiful and rich L2 input (implicit), or whether teachers need to explain L2 rules

to learners (explicit). In the first sub-section (3.1.1) I focus in particular on Krashen's Input Hypothesis (1982, 1985) which would answer 'Yes' to the first of the two questions. In the sub-section following that (3.1.2), I look at arguments for explicit instruction, with particular reference to Schmidt's Noticing Hypothesis (1990, 1993, 1995, 2001).

### 3.1.1 The Argument for Implicit Learning

The debate about the relative effects of explicit and implicit instruction was ignited following Krashen's (1982, 1985) argument that explicit instruction had no effect on acquisitional processes. Krashen expressed the view that the process of L2 acquisition is essentially the same as for L1 acquisition, i.e., provided that the learner is exposed to the right kind of language input, L2 acquisition will proceed of its own accord. He also distinguished between 'acquisition' and 'learning'. He argued that the former occurs automatically when learners are interacting in the L2, and that it takes place below the level of consciousness. On the other hand, 'learning' involves effort and intention and results in explicit knowledge of the language. As VanPatten and Williams (2007) state in their summary of Krashen's theory, "the crucial and most controversial part of the distinction [between 'acquisition' and 'learning'] is that these two knowledge stores – the acquired system and the learned system – can never interact" (p. 26). According to this view, explicit classroom instruction is meaningless if the aim of instruction is to develop learners' implicit knowledge.

Krashen (1984) mentioned immersion programmes in Canada as an example of how L2 learners can acquire a second language whilst engaged wholly in meaning-focused classes. However, criticism of Krashen's view came from those strongly involved with research on those immersion programmes (e.g., Swain, 1985). Learners on both French and English immersion programmes were found to have persistent morphological and syntactic errors

even after several years on the programmes (e.g., Harley & Swain, 1984; Lyster, 1987; Spada & Lightbown, 1989). It was shown that comprehensible input alone did not lead to native speaker-like levels of language acquisition.

### 3.1.2 The Argument for Explicit Learning

As research demonstrated that input alone was not sufficient for successful L2 acquisition, other theories of L2 development filled some of the gaps in Krashen's theory. For example, Swain (1995: The Output Hypothesis) argued for the importance of learner output in L2 acquisition, and Long (1996: The Interaction Hypothesis) highlighted the facilitative role of negotiation for meaning during interaction. However, the issue which is most relevant to the current research is the degree to which learners pay *attention* to input. This issue lies at the core of Schmidt's Noticing Hypothesis (1990, 1993, 1995, 2001).

Schmidt found strong evidence for the importance of attention to input in his case study on the L2 English development of a Japanese man (Wes) living in Hawai'i (Schmidt, 1983). Schmidt demonstrated that even though a learner may have extensive exposure to input, engage frequently in meaningful interaction, and have a positive attitude towards the L2, it cannot be assumed that language acquisition will proceed. In his view, grammatical development involves, "processing data received through interaction: analyzing them, formulating hypotheses..., and testing those hypotheses against native speaker speech and native speaker reactions" (pp. 172-3).

Schmidt (2001) argues that, particularly in the case of aspects of the L2 which do not seem to be easily acquired, attention is extremely important: "...since many features of L2 input are likely to be infrequent, non-salient, and communicatively redundant, intentionally focused attention may be a practical (though not theoretical) necessity for language learning" (p. 23).

The noticing hypothesis is grounded in research in psychology and cognitive science. For example, N. Ellis (2007a) argues that explicit L2 instruction is necessary because:

> ... in contrast to the newborn infant, the L2 learner's neocortex has already been tuned to the L1, incremental learning has slowly committed it to a particular configuration, and it has reached a point of entrenchment where the L2 is perceived through mechanisms optimized for the L1. (p. 24)

Hence, in order to establish new connections and networks for L2 processing, it is necessary for learners to attend to L2 forms at a conscious level. As Dörnyei (2009) writes, "the noticing hypothesis states, in effect, that effective implicit learning cannot happen without explicitly creating the initial mental representation of a new stimulus" (pp. 164-165). Therefore, in many cases explicit learning must precede implicit learning and "the key to explicit learning is to find the best ways of directing our biological spotlight of consciousness at the target material and keeping it focused on it" (p. 136).

### 3.1.3 Explicit and Implicit Knowledge

The previous section described explicit and implicit *learning*. Before proceeding further, it is necessary to consider what is meant by explicit and implicit *knowledge* of a language, as well as the degree of interface between these two types of knowledge. This issue lies at the core of the debate about explicit/implicit instruction and learning. In fact, Dörnyei (2009, p. 167) calls it "the key issue in SLA".

Explicit knowledge has been defined as, "knowledge that the individual can express in a verbal statement" (Dörnyei, 2009, p. 143). It is also knowledge that the learner can consciously recall when necessary. In contrast, implicit knowledge is more difficult to pin down precisely. It is the kind of knowledge which enables people to drive a car successfully

whilst their mind is on something else; likewise in communicating, it is the knowledge which enables fluent conversation without conscious reflection on the language being produced.

In the context of research on the differential effects of explicit and implicit instruction, the most important issue is whether explicit knowledge can lead to development of implicit knowledge. As discussed above, according to Krashen's non-interface position, this is not possible. On the other hand, proponents of a strong interface position argue that explicit knowledge can become implicit knowledge through the process of automatization (DeKeyser, 1998, 2001; Segalowitz, 2003).

Between the non-interface and strong interface position is the idea of a *weak interface* (N. Ellis, 2005). While acknowledging the importance of explicit knowledge, this view also accords importance to the positive effects of *implicit processes of learning*. As Dörnyei (2009, p. 171) writes, "the key to L2 learning efficiency is the successful *co-operation* of the explicit and implicit learning systems." For example, after initial noticing of target forms, implicit processes may lead to integration of new knowledge into the learner's implicit L2 knowledge. This situation has been argued for in L2 vocabulary learning. Schmitt (2008, p. 348) writes that "incidental learning seems to be better at enhancing knowledge of words which have already been met". In other words, explicit attention to a new word or expression followed by unattended encounters in input is more effective than relying on exposure to input alone.

Another view sees explicit and implicit knowledge as being on a continuum with knowledge typically moving in the implicit direction in the case of L2 learning (although knowledge can also move in the other direction, as in the case of native speakers of a language becoming more consciously aware of the rules of their L1: see, for example, Bialystok's (1993, 1994) concept of *analysis of knowledge*).

This section has introduced the concepts of explicit/implicit learning and knowledge. The relationship between explicit and implicit knowledge can be investigated by comparing the relative effects of instructional approaches which promote explicit and implicit learning. The next section of this chapter looks in detail at explicit and implicit instruction and reviews previous research focusing on their differential effects.

## 3.2 Explicit and Implicit L2 Instruction

The theoretical discussion outlined above has been paralleled by trends in classroom instruction which have varied in the degree to which explicit and implicit instructional approaches have been adopted. This section will first define the terms 'explicit instruction' and 'implicit instruction', and then introduce common ways in which these types of instruction have been carried out in instructed SLA research in classroom conditions. That is followed by an overview of research that has compared the effects of explicit and implicit instruction on L2 morphosyntax and pragmatics.

### 3.2.1 Explicit Instruction

According to R. Ellis (2008), in explicit instruction "learners are encouraged to develop metalinguistic awareness of the rule" (p. 962). *Rules* and *consciousness*, and the related concepts, *attention* and *noticing*, are terms which often appear in descriptions of explicit instruction. A useful list of features of explicit instruction is given by Housen and Pierrard (2005, p. 10, partly adapted from the original): it directs attention to the target form; it is predetermined and planned; it interrupts the communication of meaning; it presents target forms in isolation; it uses metalinguistic terminology; it involves controlled practice of meaning.

Norris and Ortega's (2000) classification system for explicit instruction followed DeKeyser (1995) in adopting two possible criteria:

> ...an L2 instructional treatment was considered to be *explicit* if rule explanation comprised part of the instruction . . . or if learners were directly asked to attend to particular forms and to try to arrive at metalinguistic generalizations on their own. (p. 437)

The essence of explicit instruction is to find an effective way of bringing learners' focal attention to target L2 features. The purpose of explicit instruction, however, obviously goes beyond the moment of noticing; the aim is to achieve *long-term* learning. As N. Ellis (2005, p. 317) writes, "By *noticing,* Schmidt (1994) meant the registration of the occurrence of a stimulus event in conscious awareness and its subsequent storage in long-term memory".

### 3.2.2 Implicit Instruction

While explicit instruction involves recruiting learners' conscious awareness in the learning process, implicit instruction attempts to achieve the same learning targets below the level of consciousness. According to R. Ellis (2008, p. 879), "Implicit instruction is directed at enabling learners to infer rules without awareness." Typical features of implicit instruction are as follows (Housen & Pierrard, 2005, p. 10, partly adapted from the original): it *attracts* attention to target form; it is delivered spontaneously in a communication-oriented activity; it should only involve minimal interruption of communication of meaning; it presents target forms in context; it makes no use of metalanguage; it encourages free use of the target form. In classifying instruction as implicit, Norris and Ortega (2000, p. 437) specified the following criteria: "when neither rule presentation nor directions to attend to particular forms were part of a treatment, that treatment was considered *implicit*".

Within instructed SLA research, as well as the explicit-implicit distinction, instructional approaches have also been classified in other ways. Here I will discuss two other related terminological pairings which can frequently be found in the literature: (1) focus-on-form vs. focus-on-formS; (2) deductive vs. inductive instruction.

### 3.2.3 Focus-on-Form vs. Focus-on-FormS

The distinction between focus-on-form and focus-on-formS (Long, 1991) relates chiefly to the extent to which instruction aims to map form onto meaning. A key feature of focus-on-form "is that meaning and use must be evident to the learner at the time that attention is drawn to the linguistic apparatus needed to get the meaning across" (Doughty & Williams, 1998a, p. 4). In other words, the instructor aims to assist learners in establishing form-meaning mappings whilst they are engaged in using the language. In contrast, 'focus-on-formS' accords more with traditional approaches in which specific target features are isolated for instruction which is more focused on accuracy than fluency.

Although the terms 'focus-on-form' and 'focus-on-formS' do not map precisely onto the terms 'implicit' and 'explicit', it nevertheless appears that focus-on-form is typically situated nearer the implicit end of an explicit-implicit continuum, with focus-on-formS typically nearer the explicit end of the scale.

### 3.2.4 Deductive vs. Inductive Instruction

Another dichotomy, or continuum, found in instructed SLA, is the distinction between deduction and induction. In the former, learners start with a rule and move to examples, whilst the latter involves learners trying to work out rules from examples. Deductive and inductive instruction do not, however, equate directly to explicit and implicit instruction. For

example, explicit instruction can be both deductive and inductive. In fact, referring once again to Norris and Ortega's (2000, p. 437) categorization of explicit instruction, it can be seen that one type ('rule explanation') involves deduction, whilst the other type ("learners [are] asked to attend to particular forms and to try to arrive at metalinguistic generalizations on their own") involves induction. On the other hand, there is a stronger mapping between implicit instruction and inductive learning. Implicit instruction rarely encompasses deductive learning[12] because deduction usually involves explicitly-stated rules and patterns.

The decision to focus on the explicit/implicit distinction in the current study, as opposed to the focus-on-form vs. focus-on-formS or deduction vs. induction, was because it is the most appropriate distinction for conducting research on *noticing* (Schmidt, 1990, 1993, 2001). The following section presents findings from previous research which has focused on this issue.

### 3.3 Comparisons of Explicit and Implicit L2 Instruction

This section presents an overview of findings from research on instructed SLA that has compared the effects of explicit and implicit interventions. The first sub-section (3.3.1) presents the main findings from Norris and Ortega's (2000) meta-analysis of instructed SLA research on morphosyntax. This has been the most widely researched area of language as regards instructed SLA. The next sub-section (3.3.2) focuses on L2 pragmatics[13]. It covers a meta-analysis by Jeon and Kaya (2006) and presents the findings from a range of studies on instruction and L2 pragmatics. These first two sub-sections focus on findings on the effectiveness of instructional interventions as measured by *immediate* post-tests. The findings

[12] However, DeKeyser (2003) considers that 'parameter setting in Universal Grammar could be seen as an example [of deductive-implicit learning]'.
[13] Other areas such as vocabulary are not covered in this review for reasons of space. For reviews of research on instruction and vocabulary learning, see Laufer (2005) and Schmitt (2008).

from instructed SLA studies which have also included *delayed* post-tests will be presented separately in Section 3.3.3.

### 3.3.1 Explicit/Implicit Instruction and L2 Morphosyntax

The most comprehensive meta-analysis of research comparing the effects of explicit and implicit instruction on L2 acquisition was carried out by Norris and Ortega (2000)[14]. Their study analysed 49 studies published between 1980 and 1998. Three of their six research questions focused on issues which are relevant to the current study: the relative effectiveness of different types of L2 instruction; the durability of the effects of L2 instruction; and the influence of outcome measures on observations of instructional effectiveness (cf. pp. 428-429). Their findings on long-term effects will be discussed separately in Section 3.3.3, while the issue of outcome measures is focused on in Section 3.4. Here I will focus on their main findings regarding the immediate effects of explicit and implicit instruction.

They made a comparison of explicit and implicit treatments, as well as those which they classified as focus-on-form and focus-on-formS. They found that the average effect size of explicit treatments ($d$ = 1.13) was clearly higher than that of implicit treatments ($d$ = 0.54). As there was no overlap in the confidence intervals for these effect sizes, they considered this to be "a trustworthy observed difference" (p. 482). However, they found only a small difference in effect sizes between focus-on-form ($d$ = 1.00) and focus-on-formS ($d$ = 0.93) treatments, suggesting similar degrees of effectiveness for both types of instruction. Overall, therefore, the key variable that came out of their meta-analysis was the explicit/implicit distinction.

[14] In carrying out their meta-analysis, Norris and Ortega (2000) decided to use Cohen's (1977) $d$-index because it was the most appropriate statistic for the type of designs used in instructed SLA research. They state: "Calculating Cohen's $d$ produces a standardized mean difference for any contrasts made between two groups within a primary research study. This effect size can be interpreted as the magnitude of an observed difference between two groups in standard deviation units" (p. 442).

### 3.3.2 Explicit/Implicit Instruction and L2 Pragmatics

This section reviews instructed SLA research in the area of L2 pragmatics. First, I report on Jeon and Kaya's (2006) meta-analysis of studies. Following that I present findings from individual studies and discuss the importance of *noticing* (Schmidt, 1990, 1993, 2001) in determining the effectiveness of interventions. This section focuses specifically on findings from immediate post-tests. The *durability* of instructional effects is covered in Section 3.3.3.

*A Meta-analysis of Research on Instructed SLA and L2 Pragmatics*

Although the number of studies on instructed SLA which have focused on aspects of L2 pragmatics is substantially lower than for L2 morphosyntax, it was still possible for Jeon and Kaya (2006) to carry out a meta-analysis of pragmatics-focused instructional studies using essentially the same methodology as Norris and Ortega (2000). In their study, Jeon and Kaya covered 13 studies which focused on a variety of pragmatic features (e.g., speech acts, mitigation, implicature, situationally appropriate language, formulaic expressions, formality).

Their first research question focused on studies which compared instruction to exposure alone. From the 13 studies in their meta-analysis they identified seven comparisons between experimental and control groups and found a mean effect size of $d = 0.59$ for the contrasts between these groups. However, the low number of comparisons and large variation in effect sizes means that their findings are not nearly as robust as those found by Norris and Ortega, although they do point in the same direction. Another point of comparison which makes their results less reliable is that whereas Norris and Ortega were able to compare studies where a focused instruction group could be compared with a comparable group that received similar input but without any focused instruction, in the case of Jeon and Kaya's meta-analysis it is

not clear whether the control groups had no exposure to the pragmatic features at all, or whether they received exposure but without any instructional focus on the learning targets.

Jeon and Kaya also compared the effects of explicit and implicit interventions. Once again, however, because of the small number of treatments (five explicit and three implicit) which fitted their criteria, their findings must be treated with caution. They did find larger average effects for explicit instruction *(d* = 0.70) than implicit instruction (*d* = 0.44), but once confidence intervals were taken into account they could not make any substantial claims for the superior benefits of explicit instruction. Due to the lack of robustness of Jeon and Kaya's findings, it is important here to look in more detail at some of the individual studies which have investigated the differential effects of explicit and implicit instruction on L2 pragmatics.

*Explicit Instruction > Implicit Instruction*

Two studies comparing explicit and implicit instruction which agree with the overall findings of Norris and Ortega (2000) and Jeon and Kaya (2006) in finding explicit instruction to be more effective are House (1996) and Takahashi (2001). The former study was conducted with advanced German EFL learners. It compared explicit instruction on conversational routines with an implicit condition in which learners received input and practice. House found that, overall, the explicit group learners "developed a more richly varied, more interpersonally active repertoire of gambit and strategy types and tokens" (p. 245). However, she also discovered that the explicit instruction was not superior for some of the targeted L2 pragmatic features (this finding is discussed in greater detail in Section 3.6).

One of the most intricately designed studies looking at explicit/implicit instruction and L2 pragmatics is Takahashi (2001). Her study was motivated by the low functional salience for Japanese learners of English biclausal request forms (e.g., *Would it be possible to...*). Her

study compared the effects of four different instructional conditions on Japanese EFL learners with 7-10 years of English learning experience. The conditions were as follows: (1) explicit instruction; (2) form comparison ("learners were instructed to compare their own request strategies with those provided by native-English-speaking requesters in the corresponding situations" (p. 174)); (3) form search ("learners ... were asked to find any 'native(like) usage' in the input containing the target request strategies" (p. 174)); and (4) meaning-focused instruction. The only group which made significant gains was the group which received explicit instruction.

In her study the two implicit instruction groups that were directed towards form (the form-comparison and form-search groups) focused their attention more strongly on discourse features of the request acts in the NS data than on the pragmalinguistic forms (bi-clausal requests) which conveyed heightened levels of politeness. The learners apparently felt that the monoclausal request forms which they typically used for high-imposition requests (e.g., *Could you...?*) were adequate for this purpose and hence they did not look further as regards linguistic elements of requesting. Her findings reinforce just how opaque form-function mappings can be for L2 learners, and provide support for the view that explicit instruction is a necessity in order to bring these mappings to the attention of learners.

*Explicit Instruction = Implicit Instruction?*

While some studies have shown clear advantages for explicit over implicit instruction, other studies have produced inconclusive findings on this issue (e.g., Tateyama, 2001; Martínez-Flor & Fukuya, 2005; Martínez-Flor, 2006; Alcón, 2005; Koike & Pearson, 2005). In these studies, in all cases the explicit and implicit interventions were both more effective than the controls. However, the differences between the two instructional types were not so clear. For example, Tateyama (2001) focused on the comprehension and production of pragmatic

routines by learners of Japanese as a foreign language at elementary to intermediate levels. She did not find any significant differences between the explicit and implicit group in the post-test on either a multiple-choice test or role-plays.

Martínez-Flor and Fukuya (2005) carried out a study with Spanish EFL learners at an intermediate level on their ability to produce suggestions. They observed significant gains following both the explicit and implicit interventions. There were no significant differences between the two experimental groups in the post-test for the production of suggestions in emails, whilst the explicit group outperformed the implicit group in producing suggestions in phone calls. In a related study looking at confidence on the appropriateness of suggestions, Martínez-Flor (2006) observed statistically significant gains for both the explicit and implicit groups, with no significant differences found *between* the groups.

In a study on Spanish EFL learners who had studied English for 7-10 years, Alcón (2005) found explicit and implicit instruction to be equally effective in increasing learners' *awareness* of request forms, whilst explicit instruction was more effective as regards learners' *production* of requests.

Koike and Pearson's (2005) study on L2 pragmatic development with learners of Spanish as a foreign language, included four experimental groups (the four possible combinations of explicit or implicit pre-instruction with explicit or implicit feedback) as well as a control group. They focused on learners' awareness and production of suggestions and suggestion responses. The combination of explicit instruction with explicit feedback was found to have a positive effect on learners' *awareness* of suggestions and suggestion responses, whereas implicit instruction with implicit feedback in the form of recasts was more effective on their *production* of suggestions and suggestion responses. Their findings are in direct contrast to those of Alcón (2005).

*The Importance of 'Noticing'*

While it is not possible to find a conclusive pattern in the above studies, it is helpful to consider them in relation to the concept of 'noticing'. The explicit interventions typically involved metapragmatic rule explanation, which is a direct way of getting learners to notice target forms. By contrast, the implicit interventions all included more indirect ways of getting learners to *pay attention to* forms in the input (techniques related to 'noticing' are in italics): Tateyama, 2001 ("students were prompted to *pay attention to* any formulaic expressions they might hear" (p. 204)); Martínez-Flor and Fukuya, 2005, and Martínez-Flor, 2006 (*input enhancement* + recasts); Alcón, 2005 (*input enhancement* and *awareness-raising* tasks); Koike and Pearson, 2005 (implicit feedback and an exercise in which they "worked with multiple choice questions that *directed their attention to* the issue of directness and pragmatic force" (p. 486)). It is possible that the relative success of these implicit interventions can be partly attributed to the fact that 'noticing' *was* a component of their design.

The idea that 'noticing' is a key variable in effective instructional interventions is supported by Takahashi (2005b). She reported on her use of a retrospective awareness questionnaire to investigate levels of attention in her above-mentioned study (Takahashi, 2001). She discovered that the learners in one type of implicit condition (form comparison) noticed the target features more than another implicit condition (form search). This resulted in the learners in the former condition performing better on the post-test than the latter group, which suggests *the more noticing the better.* This hypothesis is further supported by the finding that the explicit instruction group performed better than both implicit groups. It does indeed appear likely that explicit interventions are typically more effective than implicit interventions because they lead to greater levels of noticing by learners.

*Deductive vs. Inductive Instruction*

The importance of noticing may well also explain the findings of Rose and Ng (2001). They investigated the differential effects of deductive and inductive approaches to instruction on compliments and compliment responses by advanced EFL learners with L1 Cantonese. They found that both the group taught deductively (the learners were given metapragmatic information before analyzing examples of compliments and compliment responses in a film corpus), and the group taught inductively (the learners were guided through discovery of pragmatic patterns in a film corpus but were not given any explicit metapragmatic rules) performed better than a control group (no treatment) on a post-test discourse completion test on the production of compliments. However, the deductive group performed better than the inductive group in responding to compliments.

The authors concluded that pragmalinguistic elements (compliments) can be taught both deductively and inductively, whereas sociopragmatic elements (compliment responses) require a deductive approach (i.e., explicit metapragmatic explanation). It may be the case that the explicit-inductive approach did not achieve the same level of noticing among learners as the explicit-deductive approach. In other words, some form-function-context mappings (in this case, the compliment responses) may be harder than others (in this case, the compliments) to bring into the learners' spotlight of attention, and thus require a greater level of noticing by learners. This issue is discussed further in Section 3.6.

*An Eclectic/Balanced Approach*

From a pedagogical point of view, if the teacher's aim is to achieve a high level of noticing by learners whilst also retaining a focus on meaning in classrooms, the ideal solution appears to involve using a combination of instructional techniques which bring the learners' attention

to the target forms within authentic contexts of language use. This view conforms with one of Dörnyei's (2009) six principles for instructed SLA:

> While maintaining an overall meaning-oriented approach, instructed SLA should also pay attention to the formal/structural aspects of the L2 that determine accuracy and appropriateness at the linguistic, discourse, and pragmatic levels. The hallmark of good teaching is finding the optimal balance between meaning-based and form-focused activities in the dynamic classroom context. (p. 302)

Some of the successful instructional approaches used in research on instructed SLA and L2 pragmatic development have indeed adopted hybrid approaches. For example, Martínez-Flor (2008) combined inductive and deductive teaching approaches for instruction on request modification by Spanish EFL learners at the elementary level. The clear increase in learners' use of modification devices at the post-test stage demonstrated the effectiveness of this approach, although this study does suffer from the lack of a comparison or control group.

In instructed SLA research on L2 pragmatics, most interventions which demonstrate a strong instructional effect include explicit metapragmatic instruction as a component. For example, with her explicit group, Takahashi (2001) combined the use of metapragmatic information and translation tasks, while Yoshimi (2001) combined metapragmatic information, native models of extended discourse, communicative practice and explicit feedback. Félix-Brasdefer's (2008a, 2008b) explicit intervention included a cross-cultural comparison, metapragmatic instruction, input enhancement, and practice.

*Section Summary*

Research to date comparing explicit and implicit instruction on L2 pragmatics tends to show the former to be more effective, although in some cases little difference has been found between the two types of instruction. It appears that the relative effectiveness of explicit and

implicit interventions may be determined by the degree to which they bring the learners' *attention* to target form-function-context mappings. The fact that explicit interventions *tend* to be more effective than implicit ones may be on account of the fact that explicit instructional methods are more reliable in leading to learners' noticing of target forms, and can be expected to lead to a greater degree of noticing.

### 3.3.3 The Durability of Explicit/Implicit Instruction

The findings discussed in the previous sub-section must be considered in light of the fact that they represent *immediate* effects of explicit and implicit treatments. Takahashi (2010) has pointed out "that the durability of the effects of some explicit interventions is questionable" (p. 132). In fact, she could also have added implicit interventions to this statement. Due to the absence of delayed post-tests in many studies (especially in the case of L2 pragmatics), there is a lack of hard evidence that the immediate gains of interventions are maintained in the long-term. This sub-section looks at research findings from studies which *have* included delayed post-tests in their design.

In order to consider classroom interventions to be truly effective, it is important to have evidence that instruction led to long-term development in the learners' use of the target forms. This issue of the durability of instructional effects was one of the main questions investigated in Norris and Ortega's (2000) meta-analysis[15]. They were able to include 22 comparisons between immediate and delayed post-tests, and their findings were generally positive: "Across all treatment types, observed effectiveness of instructional treatments was generally maintained, although the observed effect was reduced on average by one-fifth of a standard deviation unit from the immediate post-test to the delayed post-test" (p. 476-7). They

[15] In Norris and Ortega's (2000) meta-analysis, on average, the immediate post-test was conducted 1.57 days after the end of the treatment whilst *initial* delayed post-tests (some studies included more than one delayed post-test) were conducted 4.34 weeks after the treatment.

consider this finding to be fairly robust but, due to the relatively small number of studies using delayed post-tests, they add the hedge that "this finding should not be interpreted as indicative" (p. 500). Their findings offer good evidence that in the case of morphosyntax, explicit instruction is more effective than implicit instruction both in the short- and the long-term, although typically a small proportion of immediate gains are lost by the time of the delayed post-test.

As regards the long-term effects of explicit and implicit instruction on L2 pragmatics, Jeon and Kaya (2006) could not investigate this issue because only one of the studies which met the criteria for their meta-analysis included a delayed post-test. This demonstrates the severe lack of evidence available on this matter.

Moreover, the inconclusiveness of short-term effects is acknowledged by Takahashi (2001). In spite of the fact that her explicit instruction group demonstrated considerably greater short-term gains than the learners in the other three groups in her study, she states that her results suggest that the explicit group learners' "competence in realizing appropriate request forms is not stable enough at the end of a 4-week period of metapragmatic instruction and may not achieve a real change of knowledge" (p. 192).

In the remainder of this section I will present the findings from studies on L2 pragmatics (Lyster, 1994; Liddicoat & Crozet, 2001; Koike & Pearson, 2005; Takimoto, 2009; FélixBrasdefer, 2008a, 2008b[16]) which included both immediate and delayed post-tests. These studies have found mixed results regarding the long-term retention of L2 pragmatic features. Lyster (1994) found that 'functional-analytic teaching' (essentially an explicit approach) had a long-term overall effect on the sociolinguistic competence of learners in a

[16] Lyster (1994) is the only one of these studies included in Jeon and Kaya's meta-analysis. The other studies were not included because they either did not meet the criteria for inclusion or because they were published after their analysis was carried out.

French immersion programme (Grade 8 level) in Canada. For the most part, immediate gains were maintained in the delayed post-test, which took place one month after the initial one.

In Koike and Pearson (2005), an overall significant effect for group on awareness of suggestions and suggestion responses at the time of the post-test was no longer significant three weeks later when the delayed post-test was conducted. The group scores show that the explicit pre-instruction + explicit feedback group was the main cause of the immediate gains, and was also the only group to make clear long-term gains, in spite of partial loss of gains between the two post-tests. Their results for production of suggestions were quite different: two groups (explicit pre-instruction + explicit feedback and implicit pre-instruction + implicit feedback) made clear gains following instruction. However, in the delayed post-test, the gains of both groups had been completely lost. Overall, therefore, long-term effects were only observed in the case of the most explicit treatment on learners' pragmatic awareness.

In a study focusing on request development by Japanese EFL learners at the intermediate level, Takimoto (2009) compared three different treatment groups (input with explicit information; input without explicit information; problem-solving task) with a control group. He conducted a post-test just over a week after the treatment, and a delayed post-test around three weeks after the initial post-test. All three experimental groups made significant gains following instruction, which were, for the most part, maintained in the delayed post-test.

Félix-Brasdefer (2008a, 2008b) conducted research on L2 refusals with intermediate-level learners of Spanish as a foreign language. He compared an explicit treatment (cross-cultural comparison + metapragmatic instruction + input enhancement + practice) with a control group (cross-cultural comparison + practice only). The explicit group made much greater gains than the control group in learning refusal strategies, as well as mitigating forms for

refusals, by the time of the initial post-test (one week after the treatment). Most of these gains were maintained in the delayed post-test (one month after the intervention).

It is noticeable that the delayed post-tests in all the above studies took place around one month after the treatment. It is questionable whether this is a long enough period of time to be able to confirm true long-term instructional effects. In fact, Félix-Brasdefer (2008a) acknowledges this: "Ideally, to observe retention of the pragmatic features, a delayed posttest should be carried out six months or longer after instruction..." (p. 75).

One study, Liddicoat and Crozet (2001), which used a delayed post-test around one year after instruction, did find contradictory results. They observed immediate effects for instruction on how to answer the question '*T'as passé un bon week-end*' (*Did you have a good weekend?*) by Australian learners of French. However, the delayed post-test data showed that the learners' choices of linguistic forms when answering the question had generally returned to those used prior to the intervention.

These studies show that whilst there is a general tendency for immediate gains from explicit treatments to be maintained (at least partially) in the long-term, it does not always happen. This variation could be due to various factors, such as the choice of target form (see Section 3.6), the extent to which learners were exposed to the target forms in input between the post-tests, the outcome measures used to measure instructional effects (see Section 3.4), and individual differences (see Section 3.7). What is clear from this variation is that not enough studies on instruction on L2 pragmatics have included a delayed post-test, and therefore, as R. Ellis (2008, p. 895) writes, "the only clear finding to date is that FFI [form-focused instruction] can lead to improvement in pragmatic ability *at least in the short term*" [emphasis added].

It is very much evident from this review that there is a need for more research which places instructional interventions within a longer term view of learning. Research on instructed SLA should ideally be situated within longitudinal research (Ortega & Iberri-Shea, 2005). It is essential that this type of research includes at least one delayed post-test. The use of more than one delayed post-test would provide an even more detailed understanding of developmental trajectories (although with every new data collection there is likely to be increasing participant attrition). Another important issue is that researchers cannot control the input that learners are exposed to between post-tests. In order to counter this issue, questionnaires and interviews can be conducted to find out as much information as possible on intervening exposure. This issue is less of a problem in EFL learning environments, such as Japan, where most learners have little daily exposure to English.

### 3.3.4 Section Summary

In the case of L2 morphosyntax there is quite robust evidence that explicit instruction is more effective than implicit instruction both in the short- and long-term (Norris & Ortega, 2000). Findings for L2 pragmatics are less certain. As regards short-term effects, there is a *tendency* for explicit instruction to have a greater effect. Close investigation of studies on instruction and L2 pragmatics suggests that *noticing* is probably the key variable in determining the relative effectiveness of classroom interventions. As regards long-term effects, there is a serious lack of research evidence on this issue in the case of L2 pragmatics. However, the findings from the small number of studies that have included a delayed post-test suggest that, on the whole, gains from explicit interventions are maintained, albeit with partial loss of gains.

## 3.4 The Differential Effects of Instruction on Written and Spoken Language

The second research question guiding this study focuses on the extent to which explicit and implicit instruction have differential effects on learners' written and spoken language. In order to answer this question it is necessary for the research design to include both writing and speaking tasks as outcome measures. This section begins by looking at the broader issue of types of outcome measure that can be used in SLA research (Section 3.4.1). Following that, I present findings from meta-analyses that have looked at this issue (Section 3.4.2). I will then present the findings from studies that have measured the effects of instructional interventions with free response writing and/or speaking tasks (Section 3.4.3).

### 3.4.1 Outcome Measures in Instructed SLA

When conducting instructed SLA research it is necessary to decide how to measure instructional effects. Types of measure can range from highly controlled discrete measures (e.g., metalinguistic judgments) to free response measures (e.g., oral narration of a story based on a set of pictures). This choice is important because different outcome measures provide information on different types of knowledge: for example, metalinguistic judgments tap into a more explicit level of knowledge whereas speaking tasks with little or no planning time are more likely to provide evidence of implicit knowledge.

In research on L2 pragmatics, the issue of outcome measures has been an ongoing topic of discussion[17] (e.g., Rose & Ng, 2001). For example, there is the thorny issue of the use of written discourse completion tests (DCTs) as a way of measuring learners' ability to communicate speech acts (for discussion of this issue, see Kasper & Rose, 2002, pp. 90-96,

[17] It should be pointed out that this debate also covers measures of L2 pragmatic competence in research that is not related to instruction: For example, in studies on the effects of study abroad, (e.g., Barron, 2003; Schauer, 2006, 2009).

and Schauer, 2009, pp. 66-67). The key point for researchers is to be clear about what a certain measure can, and cannot, tell us about learners' language skills. A written DCT can tell us what a learner consciously knows about L2 pragmatic features, but it cannot tell us whether learners have implicit knowledge of the target forms which would enable them to produce the forms in spontaneous communication.

In research on instructed SLA on L2 pragmatics to date, a variety of outcome measures have been used. As regards accessing learners' explicit knowledge, apart from the use of written discourse-completion tasks (e.g., Rose & Ng, 2001, Takahashi, 2001), other measures used include: meta-pragmatic assessments (e.g., Rose & Ng, 2001); multiple-choice tasks (e.g., Tateyama, 2001; Koike & Pearson, 2005); written role-plays (Alcón, 2005); and written production tasks (Lyster, 1994; Wishnoff, 2000). Learners' implicit knowledge has typically been measured through the use of role-plays: e.g., House, 1996; Tateyama, 2001; Liddicoat and Crozet, 2001; Safont-Jordà, 2003; Félix-Brasdefer, 2008a, 2008b; Martínez-Flor, 2008. Other spoken tasks have also been used: e.g., Yoshimi (2001) used oral narrative tasks.

### 3.4.2 Meta-analyses Comparing Outcome Measures

In their meta-analysis, Norris and Ortega (2000) found that "approximately 90% of study outcome measures required learners to utilize the L2 in accomplishing very discrete and focused tasks ..., while only 10% required extended communicative use of the L2" (p. 486). However, a more recent meta-analysis on instructed SLA by Spada and Tomita (2010) included a much higher proportion of studies that utilized free outcome measures, demonstrating that their use is becoming more common in this type of research.

As regards mean effect sizes, Norris and Ortega's (2000) data showed greater instructional effects (it should be noted here that this data includes both explicit and implicit interventions)

for more explicit measurements such as selected responses and constrained constructed responses ($d = 1.20$). The average effect size for studies using free constructed responses was the lowest of all the types of outcome measure covered in their analysis ($d = 0.55$). This suggests that the choice of outcome measure in research on instructed SLA can lead to very different results. Norris and Ortega point out that the high ratio of more controlled outcome measures used in instructed SLA research results in a testing bias towards more explicit measurements, which favour explicit treatments. They point out that this should be taken into account when considering the results of their meta-analysis. Doughty (2003) took a stronger line of argument on this issue, claiming that "the case for explicit instruction has been overstated" (p. 271), because of this bias towards measurements of explicit knowledge.

With this in mind it is interesting to see the data from Spada and Tomita's (2010) comparison of effect sizes for free and controlled outcome measures. In the case of explicit instruction they found little difference between these two types of outcome measure in the case of explicit instruction on complex forms (see Section 3.6.2 below for more detail on the complex/simple form distinction in their meta-analysis), with a slight advantage for controlled over free measures when simple forms were taught. As regards implicit instruction, all effect sizes were lower than those for explicit instruction, regardless of outcome measure. The authors point out that their findings must be viewed with care because of overlapping confidence intervals. However, they suggest that these findings may support a strong interface position according to which explicit instruction *can* lead to development in implicit knowledge. At the same time, they also point out that some free response tasks may measure "automatized explicit knowledge rather than implicit knowledge" (p. 287).

As Spada and Tomita point out, therefore, it is extremely difficult to say for sure that a task is measuring implicit knowledge. However, it does seem clear that, treatment conditions being

equal, written tasks provide learners with more opportunities to access explicit knowledge than spoken tasks. It is therefore surprising that Spada and Tomita put written and spoken free response measures in the same category. It would be informative to see their results with the effect sizes for writing and speaking separated.

In their meta-analysis of studies on L2 pragmatics, Jeon and Kaya (2006) identified five studies in which both controlled and free outcome measures were used. This compared with three studies that used only controlled measures. Comparing pre- and post-test scores, they found a higher average effect size for the former group of studies ($d = 1.83$) than for the latter type ($d = 1.01$). On the surface this would appear to point towards greater instructional effects when free response measures are used. However, once again, the small number of studies (and high confidence intervals) means that this difference cannot be considered in any way definitive. It is therefore not possible to make any strong claims regarding the interaction between type of instruction and outcome measure in the case of L2 pragmatics.

To summarize, the idea that explicit instruction has a greater effect on learners' explicit knowledge than their implicit knowledge (Norris & Ortega, 2000; Doughty, 2003) has been *partially* contradicted by recent meta-analyses (Jeon & Kaya, 2006; Spada & Tomita, 2010). However, it is also clear that more studies are needed which investigate the interaction between type of instruction and outcome measure with a clearer operationalization of the explicit/implicit dimension. The assumption that a free response measure automatically involves the use of implicit knowledge is questionable, particularly in the case of writing.

### 3.4.3 The Use of Free Response Measures in Instructed SLA

In this sub-section, I describe selected studies which have used free production measures, and have either compared free production with a controlled measure, or have compared written

and spoken free production measures. Some studies on *morphosyntactic features* which have included free production data have produced interesting, and contrasting, results. For example, in a study focusing on the French imparfait and passé compose with learners in an immersion programme (Grade 6 level) in Canada, Harley (1989) found that students in an experimental (explicit) group performed significantly better than comparison group students on a post-test oral interview but not on a composition test. At the time of a delayed post-test three months later, no significant differences were found between the groups although the explicit group's writing and speaking had continued to develop.

In a similar study (Day & Shapson, 1991) on French conditionals (with students at Grade 7 level of an immersion programme), the experimental group (explicit instruction) outperformed the control group on a written composition task on both immediate and delayed post-tests. In the case of speaking (oral interviews), the experimental group performed better than the control group on both post-tests but the differences were not significant.

Housen, Pierrard and Van Daele (2005) investigated the effects of explicit instruction on acquisition of the passive and negation in L2 French by Dutch secondary school learners. Learners in both experimental groups (one group focused on the passive while the other group was taught negation) made long-term gains in both writing and speaking.

A small number of studies on *L2 pragmatics* have provided data on the relative effects of instruction on learners' explicit and implicit knowledge. For example, Lyster (1994) looked at learners' use of the *tu/vous* distinction in writing and speaking. Explicit instruction led to long-term improvement on the use of this distinction in both modes of communication. His findings support those of Housen et al. (2005).

Tateyama (2001) used a multiple-choice test and role-plays as outcome measures. The explicit group performed better than the implicit group on the multiple-choice test after instruction, whilst the implicit group did better on the role-plays (neither difference was found to be significantly different). This suggests that explicit instruction is more effective in developing explicit knowledge, whilst implicit instruction has a stronger effect on implicit knowledge. However, Tateyama puts these findings down to other issues such as motivation and opportunities to use the L2 outside the classroom (a greater number of students in the implicit group than in the explicit group used Japanese regularly outside the classroom).

A study which highlights an important issue regarding outcome measures is Yoshimi (2001). She investigated the effects of explicit instruction on the use of interactional discourse markers by experienced learners of Japanese as a foreign language. The learners were asked to produce oral narratives for the pre- and post-tests, and also during the intervention. She found that the explicit intervention was effective in increasing learners' use of interactional markers in their spoken language. However, considering that the learners were given planning time and feedback from the instructors prior to the production of their narratives, their spoken language in this task may reflect explicit rather than implicit knowledge.

Martínez-Flor and Fukuya (2005) identified slight differences in the effects of explicit and implicit interventions on learners' suggestions in written (e-mail tasks) and spoken (phone tasks) language. In their writing, both groups made significant gains as compared to a control group, and there were no significant differences *between* the two groups. In the case of speaking, both groups again made significant gains over the control group. However, in this case there was a significant difference *between* the groups at the time of the post-test: the appropriateness and accuracy of the explicit groups' suggestions were significantly better than those of the implicit group.

The results reported here are complex and inconclusive. While it appears that explicit instruction *can* lead to long-term gains in learners' spoken language (Lyster, 1994; Housen et al., 2005), overall an explicit intervention is more likely to be able to effect change on learners' writing than their speaking. It is also apparent that other intervening factors, such as the linguistic target (see Section 3.6) and exposure to L2 input outside the classroom (e.g., Yoshimi, 2001), play important roles.

### 3.4.4 Section Summary

Research to date in instructed SLA has tended to use data collection methods which can demonstrate learners' explicit knowledge of the target forms. This research has typically found strong effects for explicit instruction. However, there is a clear need for more use of free response measures as they provide insights into the extent to which learners can manipulate and produce the pragmalinguistic forms under stricter processing constraints. There is also a clear need for more research which makes the mode of communication (speaking/writing) one of the research variables in order to investigate the interaction between explicit-implicit instruction and explicit-implicit knowledge. This variable can be controlled for, as exemplified in the current study, by developing *like-for-like* spoken and written tasks (this is discussed further in Section 5.1).

## 3.5 Explicit/Implicit Instruction and Learner Proficiency

This section focuses on the interaction between type of instruction, proficiency levels and development in the use of epistemic stance. I begin (Section 3.5.1) with an overview of research on developmental patterns in morphosyntax and pragmatics. Following that, I discuss the relationship between grammatical and pragmatic competence (Section 3.5.2). This

leads on, in Section 3.5.3, to a review of instructed SLA research which has compared the effects of instruction on learners at different proficiency levels with the aim of finding out more about developmental patterns as well as 'developmental readiness' (Pienemann, 1989).

### 3.5.1 Patterns of Development in SLA

One important issue in SLA concerns acquisitional orders: as learners become more proficient in a language they typically proceed through a similar set of acquisitional stages. For example, in the case of morphosyntax, research has shown typical sequences of acquisition of key features of English morphology by second language learners (e.g., Dulay & Burt, 1973; Larsen-Freeman, 1976; for surveys, see Larsen-Freeman & Long, 1991 and R. Ellis, 2008).

Whereas this research focused on morphological development, other research on acquisitional orders has taken an approach oriented towards development in the expression of language functions. Examples of this approach include: Bardovi-Harlig (2000), on acquisition of tense and aspect in L2 English; Perdue (1993), Dietrich, Klein and Noyau (1995), and Klein and Perdue (1997), who focused on the expression of temporality; and Dittmar and Ahrenholz (1995) and Giacalone Ramat (1995), who investigated learners' development in the expression of modality (see Section 2.5 above).

In the case of L2 pragmatics, a number of studies have shown that learners appear to proceed through certain stages in their acquisition of speech acts: requests (Trosborg, 1995; Rose, 2000; Achiba, 2002); refusals (T. Takahashi & Beebe, 1987; Bardovi-Harlig & Hartford, 1993); suggestions (Bardovi-Harlig & Hartford, 1993); apologies (Maeshiba, Yoshinaga, Kasper & Ross, 1996).

Overall, these studies tend to show broad, rather than precise, developmental stages. Nevertheless, the existence of these stages has an important implication for classroom instruction: instruction needs to takes these stages into account and not cover aspects of the L2 which are too far beyond the learners' current stage of development (for detailed discussion of the issue of developmental readiness, see Pienemann, 1985, 1998, 2007). I return to the issue of proficiency and instruction in Section 3.5.3.

### 3.5.2 Grammatical and Pragmatic Competence

The relationship between grammatical and pragmatic competence has been, and remains, an issue of considerable interest among researchers, mainly due to the observation that advanced learners of English often still retain weaknesses in the pragmatic domain (Bardovi-Harlig, 1999; R. Ellis, 2008). Several studies focusing on learners' awareness of grammatical acceptability and pragmatic appropriacy have shown these two aspects of language competence to be largely independent (e.g., Bardovi-Harlig & Dörnyei, 1998; Schauer, 2006, 2009). However, other research has found a strong correlation between pragmatic and grammatical proficiency (Xu, Case & Wang, 2009).

Matsumura (2003) investigated the relationship between overall language proficiency and pragmatic development in his study on the effects of study abroad on pragmatic development. He found that the amount of L2 exposure was a much greater contributor to pragmatic development than proficiency level. However, he also found that learners with higher proficiency levels before studying abroad benefited more from L2 exposure. This suggests an indirect relationship between proficiency and pragmatic competence. Another study which included an investigation of a possible relationship between L2 proficiency and pragmalinguistic awareness was conducted by Takahashi (2005a). She also found no direct

relationship between these two variables, whilst she did find a relationship between motivation and pragmalinguistic awareness.

As regards the relationship between grammar and pragmatics in learners' production, two apparently contradictory patterns have been identified, as described by Kasper and Rose (2002): (1) "learners use L2 pragmatic functions before they acquire the L2 grammatical forms that are acceptable realizations of those functions"; (2) "learners acquire grammatical forms before acquiring their pragmalinguistic functions" (p. 163).

The first pattern above relates to the fact that adult L2 learners have fully developed pragmatic competence in their L1, which can be utilized when learning the L2. For example, in the case of the current study, it is expected that university-age Japanese learners of English possess a wide repertoire of lexical and grammatical forms in their L1 to express the pragmatic function of epistemic stance. The key issue concerns the degree to which this knowledge helps or hinders acquisition of L2 epistemic stance forms.

A functional approach to SLA, which is based on this idea that pragmatics precedes grammar, is The Concept-Oriented Approach (von Stutterheim & Klein, 1987; Bardovi-Harlig, 2007). This view is supported by the findings reported in Section 2.5 regarding the developmental sequence in the expression of epistemic modality in a second language (pragmatic stage → lexical stage → grammatical stage). A similar pattern of development has also been shown for the acquisition of tense and aspect (Bardovi-Harlig, 2000).

The reverse pattern described above suggests that grammar precedes pragmatics. Evidence for this pattern is shown when learners demonstrate knowledge of a grammatical form but do not use it for a pragmatic purpose. This can be seen in Takahashi's (1996, 2001) research on transferability and instructional interventions in the case of request strategies. She found that

although the learners in her study understood the grammar of bi-clausal structures such as *I was wondering if you could...*, they rarely employed them for pragmatic purposes.

These two different viewpoints on the relationship between pragmatics and grammar can, to a certain degree, be reconciled by considering the proficiency level under focus (cf. Kasper & Rose, 2002, pp. 185-188). At *very early stages* of L2 development learners utilize L1-based pragmatic knowledge in order to compensate for their lack of L2 linguistic resources. On the other hand, at *later stages* of development, when they have developed a richer lexico-grammatical repertoire, they use forms for their primary functions but may take longer to gain control of secondary pragmatic functions.

The above discussion shows that the validity and relevance of interventional research will be increased by providing detailed information about learners' proficiency levels. One of the weak points of prior research on the effects of instruction on L2 development has been a lack of consistent reporting on learners' proficiency levels (Norris & Ortega, 2000, p. 454). The following section looks more closely at the extent to which the proficiency variable *has* been operationalized in instructed SLA research.

### 3.5.3 Proficiency and Instructed SLA

In order to deepen understanding of learner readiness (Pienemann, 1985, 1998, 2007) it is necessary to investigate the differential effects of interventions on L2 learners at different proficiency levels. Although research of this kind has rarely been carried out, some studies have looked at the issue of developmental readiness by comparing learners' developmental stage (on the target features) before and after instruction (e.g., Pienemann, 1984, 1989; Spada & Lightbown, 1993, 1999; Mackey & Philp, 1998).

Pienemann (1984, 1989), who focused on the development of word order by learners of L2 German, found that learners gain most when instruction targets the level of difficulty one stage beyond their current level. In an investigation of the effect of recasts on learners' ability to produce question forms, Mackey and Philp (1998) also found that learners needed to be at a certain developmental stage in order to be able to consistently use more advanced structures. In contrast to these findings, Spada and Lightbown (1993, 1999), who also focused on L2 interrogative forms, found little difference in gains between learners at different levels of 'readiness', and they also noted that being developmentally ready does not guarantee that instruction will be effective.

There has been a surprising lack of further research on developmental readiness since these studies, as Spada (2010) points out: "since the late 1990s there have been, to my knowledge, no published studies that have directly investigated the psycholinguistic timing issue" (p. 5).

The scarcity of research investigating interactions between instruction and proficiency is particularly surprising in the case of L2 pragmatics considering the strong interest in the relationship between grammar and pragmatics (see above). One rare example of a study which did investigate this interaction is Codina-Espurz (2008). Her study looked at the effects of explicit instruction on the use of mitigation in requests by Catalan-Spanish bilinguals learning English as a foreign language. She differentiated two intact classes by their level of proficiency: (1) a beginner to elementary level group; (2) a low intermediate to advanced group. She found that the higher proficiency group utilized the mitigators more than the lower proficiency group after the intervention, both in the short- and long-term. However, her findings are severely weakened by the lack of a pre-test, which means that *relative* gains as a result of instruction are unclear.

In order to develop a better understanding of the relationship between learner readiness and L2 pragmatics, and also in order to be able to identify possible hierarchies of difficulty among L2 pragmatic forms, studies are required in which the proficiency variable is effectively operationalized. If it is indeed the case that learners are only ready to acquire certain forms at specific stages in their language development, it is likely that on some occasions aspects of classroom interventions may be ineffective not because of the instructional method but because the timing of the instruction is wrong. It is clearly useful for language teachers to know whether a certain level of linguistic proficiency is required in order to learn specific pragmatic forms (Takahashi, 2010).

### 3.5.4 Section Summary

As has been discussed in this section, there is little doubt that L2 acquisitional patterns do exist. However, it is also apparent that there is a certain amount of variation depending on factors such as the learning context, or the individual learner. The relationship between development in L2 grammar and L2 pragmatics also appears to be quite complex, with adult L2 learners benefiting from their L1 understanding of pragmatics at earlier stages of learning, whilst struggling at more advanced stages to utilize their grammatical knowledge for pragmatic purposes. Few instructed SLA studies have operationalized proficiency as a variable in order to investigate the interaction between type of instruction and L2 proficiency. Therefore, the current study fills a clear research gap in looking at the effects of instruction on epistemic stance with learners at a range of proficiency levels.

## 3.6 Explicit/Implicit Instruction and Target Forms

Another question in research on instructed SLA concerns whether certain language features respond more readily to explicit or implicit instruction (Spada 1997, 2010). This section reviews research which has focused on the relative difficulty of different L2 forms (3.6.1), and then looks at research which has investigated this issue in instructed contexts (3.6.2).

### 3.6.1 The Relative Difficulty of L2 Forms

Some L2 forms prove to be more difficult to acquire than others (N. Ellis, 2008). As a result, L2 instruction needs to give more attention to these forms. The extent to which an L2 form needs extra instructional focus relates to its "problematicity" (R. Ellis, 2008, p. 838), which typically involves a wide range of interacting factors, and it can be extremely difficult to pinpoint the precise causes of difficulty for any specific form.

The complexity of this issue is described by N. Ellis (2006a, 2006b, 2008). He presents various causes of difficulty in L2 learning, which he divides into two main types: (1) factors relating to features of the L2 being learnt, including "frequency, contingency, competition between multiple cues, and salience[18]" (N. Ellis, 2008, p. 372); and (2) factors that are shaped by "L1 entrenchment" (i.e., L1 learning tunes a learner's linguistic system in a way which effects later L2 learning), including interference, overshadowing and blocking, and perceptual learning (cf. N. Ellis, 2008, pp. 382-396).

In a meta-analysis on studies of L2 morpheme acquisition in English, Goldschneider and DeKeyser (2001) found that 71% of the variance in acquisition order could be explained by

[18] There is some confusion in the literature as regards the use of the term *salience*. Here, N. Ellis uses it to refer to the phonological salience of a form in speech. However, I prefer to follow Goldschneider and DeKeyser's use of *salience* (2001) as a superordinate term to describe factors related to the level of difficulty involved in perceiving L2 forms in L2 input, including *frequency* and *contingency*.

five factors: perceptual salience, frequency, morphophonological regularity, semantic complexity, and syntactic category. They state that all these factors contribute to the *salience* of a form, and therefore, *salience* is the key variable in determining the rate of acquisition of an L2 form. These findings also suggest that L2 features are the main cause of difficulties, although the authors acknowledge that "The amount of variance accounted for, while high, still leaves room for other contributing factors, such as L1 transfer, which was not included in this study" (p. 35).

In a separate discussion of the factors that make grammatical features difficult, DeKeyser (2005) divides some of the difficulties involved into "problems of meaning, problems of form, and problems of form-meaning mapping" (p. 4). The lack of clarity of form-meaning mappings can be caused by "redundancy, optionality, or opacity" (p. 8).

The above categories can be exemplified for pragmatic features of English. An example of a *problem of meaning* are discourse markers such as *right* and *well.* These forms have other more concrete meanings (e.g., *turn to the right; he looks well*) which increase the opacity of their pragmatic function. The *problem of form* is exemplified by the evidential verbs *look, appear,* and *seem.* For example: *appear to be ~ing* and *seem to be ~ing* are acceptable, but *look to be ~ing* is not (and there are various other confusing and idiosyncratic rules for these verbs). As for form-function mappings and problems of redundancy, optionality, and opacity, it is mainly the last factor which is an issue in learning L2 pragmatics. For example, in Takahashi (2001, p. 173), the author found that the Japanese EFL learners could not equate the biclausal request form *Would it be possible to* with its functional equivalent in Japanese, V-*shite itadake-nai-deshoo-ka.* Although they understood the grammar of the form, its

pragmatic use for high-imposition requests remained opaque to them. They felt that '*Would/Could you* VP' was the best equivalent for the Japanese form[19].

In summary, research has shown that a variety of factors determine the learnability of specific L2 forms and form-function mappings. However, the most powerful predictor of learnability appears to be *salience* (broadly defined to include factors such as frequency, perceptual salience, contingency, etc.). At the same time, factors caused by 'L1 entrenchment' (N. Ellis, 2008) also play a role in determining the level of difficulty of learning targets.

### 3.6.2 Instructional Studies Focusing on the Relative Difficulty of L2 Forms

Spada and Tomita (2010) conducted a meta-analysis which focused specifically on the interaction between explicit and implicit instruction, and the acquisition of simple and complex grammatical forms. Their analysis covered 41 studies, and they classified the target features in the studies as simple or complex based on criteria set out by Hulstijn and de Graaff (1994). These criteria determined the complexity of target features by counting the number of linguistic transformations required to form the rule for a specific feature. The findings of their meta-analysis were somewhat inconclusive. They found that explicit instruction is more effective than implicit instruction for both simple and complex forms but they did not find any interaction between type of instruction and form complexity.

This finding supports those of Housen et al. (2005), who compared instruction to Dutch secondary school learners of French on the passive (the 'more difficult' feature) and sentence negation (the 'easier' feature). They found that explicit instruction was more effective than implicit instruction for both features, but did not find any significant differences *between* the

[19] The English syllabus used in secondary education in Japan has a strong grammatical orientation. Whilst learners are typically taught the grammar of modal verbs and complex clauses, it is less likely that they would be taught a phrase such as *would it be possible to* as a lexical chunk. This approach may well exacerbate learners' difficulty with this type of pragmalinguistic form.

two features. Their data did, however, suggest that the learners gained more in the case of the passive form (the more complex feature). Interestingly, they did not use the same criteria for complexity as Spada and Tomita (2010), as they opted to use Givón's (1991, 1995) criteria for 'functional markedness': (1) structural complexity; (2) frequency and distribution; (3) psycho-cognitive complexity (cf. Housen et al., 2005, pp. 242-243).

These inconclusive findings should not however be considered as evidence that there is no relationship between type of instruction and target forms. They simply tell us that there was no clear relationship based on the criteria for complexity used in the studies. As Spada and Tomita (2010) acknowledge, if different criteria for complexity had been used in their study, the findings may have been quite different.

In the case of L2 pragmatics, the issue of form complexity is itself made more complex by the fact that form-function mappings of pragmalinguistic forms have to be further mapped onto context, and also controlled for illocutionary force (see Kasper & Rose, 2002, pp. 259-263). This can lead to the low *functional salience* of some pragmalinguistic forms. Examples of such forms include the biclausal request forms discussed in Takahashi (2001) and German modal particles (Vyatkina & Belz, 2006). In such cases, instructional interventions which help learners to *notice* these forms appear to be essential for pragmatic development to take place. A small number of studies on instructed SLA have demonstrated different degrees of learnability of pragmatic features (e.g., Lyster, 1994; House, 1996; Yoshimi, 2001; Alcón, 2005). I will summarize the main findings from these investigations.

Lyster's (1994) study had four different L2 French learning targets: (1) questions/politeness expressions; (2) the use of the conditional; (3) the *tu/vous* distinction; (4) polite closings. On the writing task, he found different effects depending on the target feature: there were large immediate gains on the use of *tu/vous*, which further increased by the time of the delayed

post-test; there were also gains on the use of polite closings, although these gains were partially lost in the long-term; there was no pattern of gain for the other two target features.

He explains the differences with reference to type of instruction and grammatical complexity. In the case of the *tu/vous* distinction, which is considered to be grammatically simple, explicit instruction was provided throughout the treatment. On the other hand, the polite closings are grammatically complex, which might explain the loss of gains between the post-tests. He attributes the lack of gains on the conditional to the fact that it was taught in a more implicit way, and he also states that the conditional mood is "structurally and semantically more complex than the *tu/vous* distinction" (p. 282). Finally, in the case of questions/politeness expressions, the learners already had full command of this form in the pre-test, leaving no room for gains.

Yoshimi (2001) focused on three Japanese discourse markers (*n desu, n desu kedo* and *n desu ne*) which "play important roles in organizing the presentation of an extended telling, and in expressing the speaker's interpersonal orientation in such a telling" (p. 224). She found: (1) that learners acquired some forms more easily than others; and (2) that when a form has more than one function there was a strong tendency for learners to use the form for just one function. The latter situation was most evident for the marker *n desu*: the learners overgeneralized its continuative function whilst having an undeveloped awareness of its function as a boundary marker. This is a case of 'contingency' (N. Ellis, 2006a, 2006b, 2008) having an effect on L2 acquisition: when learners use a form for a specific function, they have difficulty associating the same form with a different function.

Another possible cause of difficulty in L2 pragmatics concerns the degree of cognitive processing required to produce certain forms. House (1996) found that explicit instruction led to learners becoming better at initiating interaction in pragmatically appropriate ways and

also "in using a more differentiated spectrum of discourse lubricants and strategies" (p. 246). On the other hand, the instructional treatment in her study had no effect on learners' ability at uptaking and responding. She puts these findings down to the extra processing demands placed on learners when it comes to uptaking and responding during interaction.

The issue of processing demands was also given by Alcón (2005) as an explanation for why the learners in her study developed their awareness of direct and conventionally indirect requests, whilst non-conventionally indirect requests (e.g., "*Perhaps you'll try your hand at it again.*" (p. 422)) remained elusive to the learners. She argues that the latter type of request requires learners to connect the linguistic content to contextual information, which places them under greater cognitive pressure.

Whilst research on the interaction between instruction and the complexity of target forms has not produced any conclusive findings, certain factors have been shown to be likely causes of difficulty in learning specific forms and form-function mappings: the structural complexity of the target form (Lyster, 1994); the contingency of the form-function mapping (Yoshimi, 2001); and the processing demands of the target features (House, 1996; Alcón, 2005).

### 3.7 Individual Differences

The last variable focused on in this research concerns the degree of variation between individual learners as regards instructional effects. In her overview of instructed SLA research Spada (2010, p. 8) included this question "Do particular learners benefit more from FFI?". She noted that the interaction between individual variables and effects of instruction has rarely been studied in spite of the extensive research carried out on individual differences in SLA. A first step in investigating this interaction is to identify the extent of individual variation. In order to do this, research needs to report on instructional effects for each learner

alongside information on effects at the group level. In the following, I will discuss findings from two instructed SLA studies on L2 pragmatics which did provide this information.

As well as presenting mean scores for the explicit and implicit groups in her study, Tateyama (2001) also provides the data for each of the 27 learners (explicit group, $n$ = 13; implicit group, $n$ = 14). She discusses the likely influence of motivation on her results. In particular, she notes that seven students in the implicit group had regular interaction with speakers of Japanese outside of class whilst this was not the case for explicit group learners. She suggests that this may have been an important factor in the finding that there were no significant differences in instructional effects between the two groups.

In their study on the effects of an explicit intervention on the use of modal particles by 16 university learners of German as a foreign language in a fourth-semester class (see Section 4.3 for more details on this study), Vyatkina and Belz (2006) provided details of both mean gains and individual variation. Their results are striking because mean gains hide a remarkable degree of individual variation. Before instruction the average learner used 0.25 modal particles whilst after instruction that rose sharply to an average of 5.56. Therefore, there was clearly a powerful instructional effect but details on individual learners' reveal that three students did not use any modal particles following the intervention.

If, as was the case in Vyatkina and Belz's research, around 20% of learners do not make gains following instruction, it has major relevance from a pedagogical viewpoint. It is therefore extremely important in studies on effects of instruction to provide information on individual gains alongside measures of average development. The issue of group scores hiding individual variation is discussed in detail by Larsen-Freeman and Cameron (2008) and is a key issue in the growing awareness of the degree to which multiple variables interact in determining individual patterns of language development. This complexity obviously also

applies to instructed SLA. Therefore, whilst the current study is essentially quantitative in approach, and involves a large sample of learners ($N$ = 81), I considered it essential to provide data on developmental patterns at the individual level (see Section 9.7).

## 3.8 Chapter Summary

In the first part of this chapter (Section 3.1) I introduced the concepts of explicit/implicit learning and knowledge which are central to this investigation. It was established that the relationship between explicit and implicit L2 knowledge, and how they develop, can be investigated by comparing the relative effects of explicit and implicit instruction. The second section (3.2) described typical features of these two instructional approaches and explained how the explicit/implicit dimension interacts with focus on formS/Focus on Form and deductive learning/inductive learning.

Section 3.3 reviewed research that has compared explicit and implicit instruction, and which *typically* finds explicit instruction to have a greater effect. It appears that the key reason why explicit instruction has stronger effects is that it is more likely to lead to learners *noticing* targeted forms. This section also looked at the important issue of whether immediate gains from interventions are durable. Norris and Ortega's (2000) meta-analysis suggests that they are durable in the case of L2 morphosyntax, although on average around 20% of gains are lost. In the case of L2 pragmatics there have not been enough studies with delayed post-tests to state with confidence that immediate instructional effects will be maintained.

The following four sections reviewed research relating to the research questions 2a-2d (see Section 1.2) focusing on specific variables which play a role in determining the effectiveness of classroom interventions. The variable focused on in Section 3.4 was mode of communication. This section showed that spoken and written free response measures have

been used much less in instructed SLA research than more controlled measurements. It is apparent from a review of the research that in order to investigate the interaction between explicit and implicit instruction, and explicit and implicit knowledge, the use of *like-for-like* writing and speaking tasks, which differ essentially in the processing constraints imposed upon learners, can provide an effective way of comparing more explicit and implicit levels of language knowledge.

Section 3.5 discussed the interaction between grammatical and pragmatic competence and the issue of whether learners need to have a certain level of proficiency before they can acquire targeted pragmatic forms. It was shown that whilst the interaction between L2 grammar and L2 pragmatics has been investigated quite extensively in ILP research outside instructed settings, there remains a strong need for research which investigates the relative effectiveness of instruction on learners at different proficiency levels.

Another key variable determining the effectiveness of classroom interventions concerns the learnability of different target forms and form-function mappings. Section 3.6 established that in many cases the precise reasons why a certain form is easier or more difficult to acquire remains unclear, with numerous factors interacting. Nevertheless, research suggests that the overarching factor of *salience* (see Goldschneider & DeKeyser, 2001) in L2 input plays a major role and subsumes factors such as frequency and semantic complexity (contingency). The current study looks at the interaction between type of instruction and learning of L2 form-function mappings by investigating the effects of instruction on a conceptual domain of language (epistemic stance) that can be expressed with a wide range of forms on the lexical-grammatical spectrum.

The last variable discussed is that of individual differences in instructed SLA (Section 3.7). It was shown that research comparing types of instruction usually adopts a group-oriented

perspective with only a limited number of studies reporting on individual variation. Furthermore, those studies which *do* discuss individual variation typically have a small number of participants. The current research aims to look more closely at the degree of individual variation in a study with a relatively large number of participants ($N = 81$).

The following chapter focuses on the use of corpus linguistic tools in L2 research. In this study, the development and analysis of learner corpora enabled a more thorough investigation of the variables outlined above.

# CHAPTER FOUR

# THE USE OF LEARNER CORPORA IN SLA RESEARCH

## 4.0 Introduction

Before presenting the methodology and data analysis of the pilot study (Chapter 5) and main study (Chapter 6), I will describe and discuss the use of learner corpora in SLA research. Both the pilot and main studies used learner corpus analysis as one of the main tools for data analysis. In this chapter I will clarify what can, and cannot, be achieved with learner corpora in the analysis of learner language. I begin with a description of learner corpus research (Section 4.1), before looking at the use of learner corpora in studies of L2 development (Section 4.2). Following that, I discuss how learner corpora can be utilized in studies on instructed SLA in which learners' writing and/or speech is used as an outcome measure (4.3). At the end of the chapter I mention some limitations of using learner corpus analysis for L2 research (4.4).

## 4.1 Learner Corpus Research

Learner corpus research (henceforth 'LCR') is a relatively new field of research. Granger (2002) defines it as follows:

> Using the main principles, tools and methods from corpus linguistics, it aims to provide improved descriptions of learner language which can be used for a wide range of purposes in foreign/second language acquisition research and also to improve foreign language teaching. (p. 4)

In the second edition of his encyclopedic review of the field of second language acquisition, R. Ellis (2008) pinpoints learner corpora as one the main methodological advances in the field since the first edition, published 14 years earlier. However, although learner corpora

have become increasingly utilized in foreign language teaching (e.g., Ghadessy, Henry & Roseberry, 2001; Seidlhofer, 2002; Sinclair, 2004; Aston, Bernadini & Stewart, 2004; Aijmer, 2009), they remain surprisingly underused in SLA research, in spite of their immense potential in this area (Granger, 1998, 2002, 2009; Cobb, 2003; Myles, 2005, 2009; Gries, 2008). This potential has been richly demonstrated through their application in research on *first* language acquisition, in particular through the CHILDES project (MacWhinney, 2000a, 2000b). The following section describes ways in which learner corpora can be effectively utilized in the analysis of learners' interlanguage.

## 4.2 Using Learner Corpora in SLA Research

Learner corpora enable SLA researchers to use the automated tools of corpus analysis to uncover features of learner language which are difficult to identify through manual analysis alone. Leech (1998) lists some research questions which learner corpora can help answer (p. xiv, summarised below):

- Which L2 linguistic features do learners use significantly more ('overuse[20]') or less ('underuse') than NSs?
- What are the effects of L1 transfer?
- Which aspects of the L2 are easy or difficult to acquire?
- Which aspects of the L2 do learners need particular help with?

A detailed description of three corpus-linguistic methods which can be used to investigate learner corpora is given by Gries (2008, pp. 414-421):

(1) *"Frequency lists and collocates/lexical co-occurrences"*. These provide information on learners' lexical choices, and how they combine words. Furthermore, keyword analysis can be carried out to compare word frequencies in different learner corpora (e.g., learners

[20] It is important to point out that the terms 'overuse' and 'underuse', which will be used regularly in this thesis, are not evaluative.

at different proficiency levels; the same learners at different times; learners and native speakers) in order to identify significant differences in the frequencies of words in the two corpora. Numerous studies have adopted this approach. Examples include: Ringbom (1998), a comparison of vocabulary frequencies of advanced learners of English from a variety of L1 backgrounds with comparable vocabulary frequencies of native speakers; Altenberg and Tapper (1998), a comparison of the use of adverbial connectors between advanced Swedish and French NNSs, and NSs.

(2) "*Colligations and collostructions: lexico-grammatical co-occurrence*". These methods focus on "the co-occurrence of lexical and grammatical elements" (p. 417). Examples relevant to the current study (see Section 7.2.3) are: the combination of modal auxiliary + *be*, e.g., *may be, could be, will be* etc.; and the productive phrase, *it is* + epistemic adjective + *that*, e.g., *it is true/clear/possible that*. Corpus analysis makes the investigation of these kinds of features in learner language much easier. Studies on L2 learner corpora using this method are rarer, but examples include: Tono (2004), on verb subcategorization patterns by Japanese learners of English; and Gries and Wulff (2005), on verb-categorization preferences of German learners of English.

(3) *"Concordances"*. These offer a way of investigating how lexical items, collocations, collostructions etc. are used in context. This aspect of corpus research typically involves manual analysis, i.e., the researcher works through concordance lines to identify patterns or to eliminate cases which do not fit the target analysis (for example, in my pilot and main studies, I had to eliminate non-epistemic uses of modal verbs by looking at the verbs in context in concordance lines (see Section 6.6.2)). It is quite standard for corpus studies to utilize concordances during data analysis.

While the body of research on second language corpora has been growing, the use of learner corpora in *developmental* studies still remains rare. This is in spite of the fact that LCR is able to bring the power of computer tools for analysing and organising large amounts of data to a research field which has often had to rely to a large extent on intuition, experimental data, and small numbers of participants. Myles (2005) argues that learner corpora enable SLA researchers to generalize their findings better, and she states that "Time has now come ... to test some of the current hypotheses [in SLA] on larger and better constructed datasets, as has happened in L1 acquisition" (p. 376).

One feature of SLA research, which must be taken into account when carrying out learner corpus analysis, is the need to maintain control over variables under investigation. This means that the learner corpora need to be assembled "on the basis of very strict design criteria" (Granger, 2009, p. 17). For each piece of written or spoken production it is necessary to record details of the learner (e.g., gender, L1, proficiency level, etc.), the task (e.g., written discursive essay, oral narration, etc.), and the context (e.g., in controlled conditions in a classroom, homework task, authentic conversation, etc.). Without this kind of data, accurate comparisons between different datasets cannot be made.

In the ideal situation, learner corpus research on L2 interlanguage development involves collecting data from the same group of learners at intervals during their language development. Each set of data is organised into a separate corpus. These corpora can then be compared diachronically, using Contrastive Interlanguage Analysis (Granger, 1998), to trace patterns of language development.

One study which shows how learner corpus data can be used to track linguistic development across a large number of learners is Housen (2002). He looked at the acquisition of the English verb system by Dutch- and French-speaking pupils at European Schools. He used a

cross-sectional (quasi-longitudinal) research design in collecting interview data from 40 learners at the ages of 9, 11, 13, 15 and 17. His study empirically validates previous SLA research conducted with smaller transcripts of learner data. He points out, however, that true longitudinal corpus data (collecting data from the same students at intervals) would provide more precise insights into SLA as it would enable individual development to be traced alongside broad patterns of development by groups of learners.

As this section has shown, there is rich and untapped potential in the application of learner corpus analysis to research on L2 development. Perhaps one of the main reasons why it remains an under-utilized tool is that many learner-corpus researchers lack specialist knowledge in SLA, whilst many SLA researchers likewise lack knowledge of corpus linguistics. It does appear, however, that the two fields are gradually becoming better acquainted with each other, as demonstrated by the inclusion of a chapter on learner corpora (Barlow, 2005) in Ellis and Barkhuizen's (2005) book on analyzing learner data in SLA.

### 4.3 Using Learner Corpora in Instructed SLA Research

As discussed in Section 3.4, relatively few studies on the effects of instruction on L2 development have used free language production as an outcome measure (Norris & Ortega, 2000). Furthermore, those studies which have collected learners' free written and spoken production before and after classroom interventions (e.g., Harley, 1989; Day & Shapson, 1991; Lyster, 1994) have not utilized corpus techniques in their data analysis. Learner corpus research can clearly make a strong contribution in such research alongside other types of analysis. As Gries (2008) writes, "it is all too obvious that probably every kind of SLA research can benefit from converging evidence from several methods such as corpus data of various sorts *and* experimentation..." (p. 421).

Studies looking at the effects of instruction on L2 development, which have collected free response data *and* have used corpus techniques to analyze that data, are rare. However, research adopting this methodology can be found in a series of studies carried out at The Pennsylvania State University on the use of "telecollaboration"[21] as an instructional tool (e.g., Belz & Kinginger, 2003; Belz, 2004; Vyatkina & Belz, 2006).

Whilst some of the studies using telecollaboration looked at the way second language learners' L2 competence developed through interaction with native speakers (e.g., Belz & Kinginger, 2003, focussed on German address forms; Belz, 2004, investigated learners use of the German *da*-compound), one study was notable because it looked at the effects of an explicit intervention which took place during weeks 6-8 of a nine-week telecollaboration (Vyatkina & Belz, 2006). This study is described here in more detail on account of it being a rare example of a study using learner corpora as both a pedagogical tool and a method of data analysis in an investigation of the effects of explicit instruction on L2 pragmatic development.

The study focused on learners' acquisition of German modal particles and involved telecollaboration between American learners of German at a US university and German learners of English at a university in Germany. The learners engaged in project work which was carried out through internet-mediated communication. All the language which the learners produced was saved and turned into corpus data. This enabled learners' development to be monitored on a weekly basis during the collaboration. The researchers also investigated the effects of explicit instruction on pragmatic development by placing a pedagogical intervention in the middle of the project and tracing the effects of the intervention on the

[21] Belz (2003, p. 68) states that "*Telecollaboration* involves the use of Internet communication tools by internationally dispersed students of language in institutionalized settings in order to promote the development of (a) foreign language (FL) linguistic competence and (b) intercultural competence...".

learners' language production in the following weeks. In fact, the instructional materials were themselves based on the learners' own production prior to instruction, i.e., learner corpus data within the project informed the classroom intervention.

This is a very interesting example of using learner corpus data both to provide information on learners' use of specific target forms and to provide materials for instruction to help learners improve this aspect of their language competence. The main weakness of this study from an SLA research viewpoint, however, is that a delayed post-test was not carried out, which would have provided valuable information on the long-term effects of the intervention.

One aim of the current study is to demonstrate what corpus linguistics can offer to researchers in this area. At the same time, however, it is important to emphasize that learner corpus analysis should be seen as an analytical approach which complements rather than replaces more traditional ways of analyzing learner data. This is due to some of the limitations of corpus analysis, which are outlined in the next section.

### 4.4 Limitations of Learner Corpus Analysis

It is important to point out that while corpus analysis software provides a tool that can carry out automated analysis of textual data (e.g., word lists, concordances, collocation frequencies, keywords), it does have limitations which mean that effective analysis of learner language should typically involve a combination of automated corpus analysis and manual analysis. Important limitations relating to the current study (together with examples) are as follows:

- Corpus software cannot accurately identify different meanings in cases of polysemy: for example, it cannot disambiguate between epistemic and deontic uses of modal verbs.

- Particularly important in the context of learner language is that the software cannot deal with learner errors: e.g., if a learner misspells *probably* the corpus software will not recognize it as a misspelt form unless it has been pre-programmed to do so.
- Spoken language contains many repetitions but the software will not identify repetitions as such: if a learner says, *I think err I think err that...*, the wordlist will count two occurrences of *think* even though they both refer to the same proposition, i.e., the repetition is likely to be due to a lack of fluency, or because the speaker wishes to gain thinking time, and not because the learner wants to increase their level of hedging.

In all the above cases it is necessary for the researcher to use manual analysis to solve the problem. However, the use of wordlists and concordancing make the researcher's task much easier in identifying such problems, which shows how the two types of analysis work together. The key point is that the researcher needs to know what the corpus software *can* and *cannot* do in order to be able to carry out efficient and precise analysis.

## 4.5 Chapter Summary

In the first section (4.1) of this chapter I described how learner corpus research, despite a slow start compared to other applications of corpus research, is becoming increasingly utilized in research on language teaching and learning. The next section (4.2) described potential applications of learner corpus research in the field of SLA for developing insights into: (1) how learners use the L2; and (2) patterns of L2 acquisition. In Section 4.3, I focused more specifically on how learner corpus analysis can be utilized alongside manual data analysis in instructed SLA research which uses spoken and/or written free response data to measure learning effects. At the same time, I also pointed out the importance of researchers being aware of both what can, and cannot, be done automatically with corpus software. More

precise details of the ways in which learner corpus analysis was utilized in this research are outlined in the relevant sections of Chapters 5 (pilot study) and 6 (main study).

# CHAPTER FIVE

# THE PILOT STUDY

## 5.0 Introduction

In the conceptual stages for this thesis it became clear that I needed to collect some pilot data on learners' use of epistemic forms. This data collection could serve dual purposes: (1) it would enable data collection tasks to be trialled before the development of the tasks for the main study; (2) it would provide baseline data on Japanese EFL learners' use of epistemic forms, which could be used to inform the pedagogical treatment in the main study; in this way the pilot study also functioned as a linguistic needs analysis.

In the first section (5.1) of this chapter, I explain how the pilot study was carried out and address aspects of the pilot study which needed to be modified in order to make the main study more effective. In Section 5.2, I describe the analyses that I carried out on the pilot data, which both contributed to the body of research on L2 learners' use of epistemic stance (see Chapter 2) and provided important background information for the main study.

## 5.1 Methodology

The first stage of the pilot study involved deciding on the tasks that I would ask the Japanese EFL learners to carry out for the data collection. In order to be able to gain a wider perspective on learners' use of epistemic stance, I decided to investigate the use of epistemic stance in two genres: (1) expression of opinions; (2) picture description. Furthermore, in order to investigate the effect of the language mode on the learners' use of epistemic forms, I decided to collect written and spoken data with *like-for-like* tasks (see below). In total,

therefore, I collected learner data on four tasks (see Appendix 1): written opinion, spoken opinion, written description, and spoken description.

The use of *like-for-like* tasks is a key element of this research. In developing the writing and speaking tasks (described in more detail below) at all times I aimed to keep the different versions of the task type (e.g., the written and spoken opinion tasks) as similar as possible whilst taking into account the fundamental differences in the two modes of communication.

### 5.1.1 Participants

The data was collected from learners in three classes at a national university in Japan. These classes included mostly first, second and third grade students majoring in either English Education or another Education subject. This mix guaranteed a range of proficiency levels among the learners. All the participants were Japanese nationals with L1 Japanese. Table 5.1 gives details on which students carried out which tasks.

**Table 5.1** Pilot study data collection

| | Opinions | | Descriptions | |
|---|---|---|---|---|
| | **Writing** | **Speaking** | **Writing** | **Speaking** |
| 1st year class | X | X | *n* = 67 | *n* = 67 |
| 2nd year class | *n* = 41 | *n* = 39 | X | X |
| 3rd year class | X | *n* = 25 | X | *n* = 25 |

*Note.* The numbers of students stated here and the numbers of texts used in the corpus analyses (see Table 5.2) do not always match exactly because some texts could not be used for various reasons (e.g., non-use of an epistemic perspective, see Section 5.1.4).

### 5.1.2 Written Data

The written data was collected under controlled conditions to ensure that learners did not use dictionaries or engage in peer consultation. The first year class wrote descriptive essays and

the second year class wrote opinion essays[22]. As it was not possible for all the students in the class to do the task at the same time, three different tasks for each genre (see Appendix 1) were created so that there was no possibility of learners preparing in advance. The learners were asked to write at least 300 words in approximately 90 minutes. The essays were submitted on floppy disc and converted into text files for use with concordancing software.

### 5.1.3 Spoken Data

As with the written data, the first year class was asked to take part in the description task and the second year class in the opinion task. Furthermore, in order to be able to make a comparison of the use of epistemic stance by learners at different proficiency levels (see Section 5.2.6), I also collected data from a class of third-year students. In their case, I collected data for both the description and opinion tasks. As with the written data, I prepared three different opinion topics and three different pictures (see Appendix 1).

Each participant attended an interview with me that lasted about ten minutes. After a few minutes of general conversation as a warm-up, the participant completed his or her task (or tasks in the case of the third-year students). For each task participants were given one minute of planning time. As far as possible I let the learners speak without interruption. However, where necessary, I would prompt them or ask further questions to try and elicit more opinions. I allowed three to four minutes for each task. Each 'speech' was recorded and later transcribed[23] and saved as a text file.

[22] This task allocation was arbitrary and could easily have been the other way round. This also applied to the spoken data collection.

[23] In transcribing the speeches I focused entirely on the words produced. Repetitions were included but only when the full word was pronounced. Hesitation markers (e.g., *err, erm*) were also transcribed.

### 5.1.4 Data Collection Issues

A number of issues arose during the data collection process which led to revision of the design for the main study. These are described below.

*Participants*

In the pilot study, different classes were asked to carry out the description and opinion tasks, respectively. As the pilot study was essentially a 'fact-finding exercise', this approach worked effectively. However, in the main study, as the focus was on longitudinal development, it was important to collect data for both genres from the same set of learners.

*Task Rubric*

Three issues arose concerning task rubrics:

- Despite trying to ensure a strong level of task equivalence, analysis of the pilot study data revealed that, in some cases, the wording of the statements in the opinion tasks may have had an effect on learners' use of epistemic forms[24].
- For the pilot study, the task rubrics were written in English. However, I had them translated into the learners' L1 (Japanese) in the main study in order to decrease the possibility of a misunderstanding of task requirements, and to prevent the situation (see above) in which the English on the rubric influenced the learners' use of epistemic forms on the tasks.
- For both the written and spoken descriptive tasks, a number of learners did not adopt an epistemic perspective (see below). For the main study, the task rubrics were altered in order to decrease the likelihood of this happening.

*Non-epistemic writing*

In the case of the descriptive essays, 21 out of 67 students wrote a description which did not adopt an 'epistemic perspective'. These students typically wrote a narration in which they created a storyline to fit the picture. As this approach generally negated the need to use

[24] For example, the written opinion tasks all involved a question beginning with *'Do you think that... '*. This may have increased the likelihood that learners would use the phrase '*I think*' in their response.

epistemic stance forms, these essays were excluded from the data analysis. In the case of the spoken descriptions, just four learners adopted identifiable 'non-epistemic perspectives'. Once again, data produced using a 'non-epistemic perspective' was not included in the data analysis.

*Interlocutor Effect*

During the speaking tasks, I prompted the participants when they paused for a long time. However, it became apparent that on occasions learners might have been copying my choice of words when responding to the prompts. For example, if I asked them, '*What do you think the man is doing?*', it was highly likely that they would use *I think* in their response. In order to eliminate this interlocutor effect, I decided not to prompt learners in the main study.

*Learners with a Different Profile of Epistemic Stance Use*

One remaining issue needs to be discussed as regards the interface between the pilot and main studies. The pilot study identified a small number of students who had a richer range of pragmatic forms in their interlanguage, including more discourse markers and a wider range of epistemic forms. In all cases, these learners turned out to have spent part of their early childhood education in an English-speaking country. As these learners did not fit the profile of the 'typical' Japanese EFL learner targeted in this research, and as their data might have skewed the grouped data, I decided not to include them in this study. I also designed a questionnaire to use in the main study in order to identify such learning profiles.

This section has shown how the pilot study provided an ideal testing ground for the data collection procedures in this research project, and how some of these procedures could be improved for the main study (see also Section 6.3). The next section presents findings from analyses of the pilot study data.

## 5.2 Data Analysis

This section describes the findings of several investigations carried out on the pilot data which provided valuable background information for the main study. In Section 5.2.1, I give an overview of the corpora used in these investigations and a description of how the data was analysed. The analyses carried out were as follows: a comparison of learners' written opinions and descriptions (Section 5.2.2); a comparison of NNS and NS[25] use of epistemic stance in opinion writing (Section 5.2.3); a comparison of learners' written and spoken language (Section 5.2.4), which also looked into individual patterns of epistemic stance use in the two modes (Section 5.2.5); and a study into the relationship between learners' proficiency levels and their use of epistemic stance in spoken language (Section 5.2.6).

### 5.2.1 Overview of Pilot Analyses

The investigations carried out on the pilot data were essentially explorative, with the aim of uncovering patterns of epistemic stance use by Japanese EFL learners. Table 5.2 provides an overview of the data used for each of these analyses together with the main issues focused on.

The first stage of data analysis involved reading through the essays and highlighting epistemic stance forms. This initial manual analysis enabled me 'to get to know my data' and provided insights into the ways in which learners typically expressed epistemic stance. Following that I used the concordancing software *Wordsmith Tools Version 4.0* (Scott, 2004) to do the following: (1) create wordlists for the corpora focused on; (2) run keyword analyses in order to identify epistemic forms with a significant difference in frequency between the

[25] The native speaker corpus used here was the LOCNESS (Louvain Corpus of Native English Essays) corpus (see Granger, 1998). It consists of opinion essays written by British and American university students. As can be seen in Table 5.2, it was much larger than the NNS corpus with which it was compared. However, the statistics used in the analysis took this size difference into account.

two corpora being compared; (3) create concordances of epistemic forms to look at how the forms were used in context, and in order to disambiguate between epistemic and non-epistemic uses of a form.

**Table 5.2** Overview of pilot data analyses

| | | Corpus 1 | | | | Corpus 2 | | | |
|---|---|---|---|---|---|---|---|---|---|
| Chapter Section | Main Focus | genre-year | mode | tests | tokens | genre-year | mode | texts | tokens |
| 5.2.2 | opinion vs. description | opin-2nd | WR | 41 | 13,552 | desc-1st | WR | 46 | 15259 |
| 5.2.3 | NNS vs. NS | opin-2nd | WR | 41 | 13,552 | opin-NS | WR | 189 | 204,042 |
| 5.2.4 | speaking vs. writing | opin-2nd | WR | 39 | 12,583 | opin-2nd | SP | 39 | 6,615 |
| 5.2.5 | acquisitional orders | opin-2nd | WR | 39 | 12,583 | opin-2nd | SP | 39 | 6,615 |
| 5.2.6 | proficiency | opin-2nd,3rd | SP | 61 | 10,301 | desc-1st, 3rd | SP | 63 | 6,811 |

*Note.* The following abbreviations are used in this table: opin = opinion; desc = description; WR = writing; SP = speaking; NS = native speakers; NNS = non-native speakers. The 'year' information (1st, 2nd, 3rd) refers to the academic year of the students (see Table 5.1 above).

The following sections give summaries of each of the five analyses carried out on the pilot study data.

### 5.2.2 Learners' Use of Epistemic Stance in Written Opinions and Descriptions

The aims of this study (presented in detail in Fordyce, 2007a) were to look at the way in which intermediate-level Japanese learners of English use epistemic stance forms in writing, and to compare their use of epistemic stance in the opinion and description genres. The details of the two learner corpora are stated in Table 5.2. The frequencies of the most common stance forms for each genre are shown in Table 5.3. Non-epistemic uses of these forms are not included in the figures[26].

[26] Concordance lines were analyzed in order to identify the number of epistemic uses of each form. For example, with the two examples below from the description corpus, the first use of *must* is epistemic, whilst the second example involves deontic modality. Only the first case was included in the frequency score (see Table 5.3) for

**Table 5.3** Epistemic forms in learners' written descriptions and opinions

| | Descriptions | | Opinions | |
|---|---|---|---|---|
| epistemic form | raw frequency | % of corpus | raw frequency | % of corpus |
| cognitive verbs | | | | |
| *I think*[27] | 103 | 0.68 | 164 | 1.21 |
| *I guess* | 11 | 0.07 | 2 | 0.01 |
| *I believe* | 4 | 0.03 | 9 | 0.07 |
| evidential verbs | | | | |
| *seem* | 38 | 0.25 | 1 | 0.01 |
| *look* | 35 | 0.22 | 1 | 0.01 |
| modal verbs | | | | |
| *will* | 41 | 0.27 | 34 | 0.25 |
| *may* | 29 | 0.19 | 18 | 0.13 |
| *must* | 17 | 0.11 | 0 | 0 |
| *would* | 5 | 0.03 | 10 | 0.07 |
| *might* | 3 | 0.02 | 4 | 0.03 |
| modal adverbs | | | | |
| *maybe* | 33 | 0.22 | 5 | 0.04 |
| *probably* | 13 | 0.09 | 0 | 0 |
| *perhaps* | 5 | 0.03 | 1 | 0.01 |

The main findings were as follows:

- As expected, *I think* was by far the most common form used to express epistemic stance in both genres.
- The evidential verbs *seem* and *look* are used far more frequently in descriptions than opinions (this is discussed in more detail below).
- The most frequently used modal verbs in both learner corpora are *will* and *may*.
- The case of *must* is of particular interest because although it occurs 24 times in the description corpus and 23 times in the opinion corpus, 17 of the occurrences in the former (70.8%) are epistemic whereas none of the 23 occurrences in the latter are (this is also discussed in more detail below).
- In both genres, *maybe* is the most frequently used modal adverb.

*must*: (1) *He looks like a golf player. He* ***must*** *play golf three days a week; (2) Especially, young persons* ***must*** *not smoke. If they do...*

[27] Throughout this thesis, whenever the frequency of use of cognitive verb forms such as *I think*, *I believe* is presented, the number includes uses of the negative forms, e.g., *I don't think*.

Overall, a greater range and number of stance forms were used in descriptive writing than in opinion writing. This finding supported the decision to collect data from more than one genre; if I had only focused on opinion writing, a broad range of patterns of use of epistemic forms by learners would have passed unnoticed, particularly the frequent use of evidential verbs. As a result I decided to also include both genres in the main study.

The findings for *seem, look* and *must* were particularly interesting. Further analysis of their use in the two genres revealed a pattern whereby learners tend to have a strong *one function for one form* mapping, which appears to block the use of the same form for other functions. This is a case in which contingency hinders L2 acquisition (N. Ellis, 2008; see also Yoshimi, 2001, discussed in Section 3.6.2). I will explain this below by focusing on *seem* and *must.*

According to the *Collins Cobuild Advanced Learner's English Dictionary* (5th Edition, 2006, p. 1304) in its two most frequent senses, the verb *seem* is used: (1) 'to say that someone or something *gives the impression of* having a particular quality, or of happening in the way you describe'; (2) 'when you are describing your own feelings or thoughts, ..., i*n order to make your statement less forceful*' [my emphasis added].

The first of these senses was used frequently (38 times) in the descriptions to give an *impression* of something:

(1) *But, the other man who is seated in front of them* ***seems*** *to be little interested in it and* ***seems*** *to be bored.*

However, the second sense of *seem* (to hedge a viewpoint) occurred just once, and for the opinion task:

(2) *Actually, it* ***seems*** *that mobile phone is must for our life now.*

This data clearly reveals that learners typically use the form *seem* for one function. There was a similar situation for *must*. The learners used *must* to convey deontic modality in both genres, but only used it to express an epistemic stance in descriptions, as shown by this example:

(3) *At the top of the stairs, two men are walking down. They* ***must*** *be his friends.*

Although this pattern of use does appear to fit with what would be expected for the two genres (i.e., epistemic *must* suits a situation where it is necessary to make a judgment about something based on evidence), the data presented in the following section will show that *must* is also used by *native speakers* to express epistemic stance in opinion writing. The use of *must* by learners is different from the case of *seem*, because learners *do* use it for two functions (deontic and epistemic). However, when they use it epistemically they typically use it for a specific function, (i.e., to express an epistemic viewpoint based on evidence).

Findings such as these provided important information for the pedagogical treatment in the main study because this type of detailed information about learner production is not salient to teacher intuition.

### 5.2.3 Comparison of NNS and NS Use of Epistemic Forms in Written Descriptions

The learner corpus for written descriptions was also compared with a reference corpus of essays by British and American university students (the LOCNESS corpus, see Table 5.2). In the quantitative part of this comparison the keyword function of *Wordsmith Tools* (Scott, 1996) was used to identify words which occurred significantly more or less frequently in the learner corpus than in the LOCNESS corpus. The main finding from this analysis related to the words *I* and *think*, which were the first- and third-ranked keywords[28], respectively, as

[28] This means that in the keyword comparison looking at words which were more frequent in the learner corpus than the native speaker corpus, *I* was the word with the most statistically significant difference in frequency (it had the highest *keyness score*), whilst *think* had the third highest keyness score.

regards forms which occurred significantly more frequently in the learner corpus. In total, *I* and *think* contributed 4.64% of the words in the learner corpus, but only 0.29% of the words in the LOCNESS corpus.

Space does not permit full presentation of the findings of this study (for more details, see Fordyce, 2007a). Here I will focus on learners' use of *must* and *seem* because these findings build on those presented in the previous section. Whereas there were no epistemic uses of *must* in the learner opinion corpus, there were 19 epistemic occurrences in the LOCNESS corpus (0.01%[29]) (this compares with 159 non-epistemic uses). Here is one example, which shows *must* being used 'harmonically' with the epistemic adverb *surely* (see Hoye, 1997) to convey a strong epistemic stance on an issue.

(4) *This **must surely** be seen as a clear loss of...*

As regards *seem*, whilst it was used only once in the learner *opinion* corpus (0.01%), there are 168 occurrences in the LOCNESS corpus (0.08%); it is used by the NSs both to convey an impression and to express a mitigated opinion. These findings for *must* and *seem* support the finding that learners have difficulty in extending their use of forms to secondary functions.

### 5.2.4 Learners' Use of Epistemic Stance Forms in Written and Spoken Opinions

Whereas the investigation reported on above focused on the genre variable, this analysis (reported in detail in Fordyce, 2009) investigated the variable of language mode, i.e., it compared the learners' use of epistemic forms in writing and speaking. As this investigation looked at written and spoken data by the *same* learners, I also looked at *individual* patterns of epistemic form use in order to start to develop hypotheses about L2 developmental sequences

[29] This percentage and others in this section represent the 'percentage of the corpus' taken up by this form. They enable more precise comparisons of the NNS and NS corpora, which have very different sizes.

for the expression of epistemic stance (see Section 5.2.5 below). This analysis was based on learner corpora consisting of responses to the written and spoken opinion tasks. Only the data from students who completed both tasks was included. Details of the two learner corpora are given in Table 5.2.

The results of this analysis are shown by epistemic stance form category, starting with the use of cognitive verbs (see Table 5.4). This data shows that learners relied mainly on the expression *I think* in both writing and speaking. However, a wider range of cognitive verbs were used for the written tasks. It was also observed (supporting Aijmer's (2002) findings) that learners use forms in their writing (e.g., *I guess, I suppose*) which are typical of spoken language in native speaker discourse (see Biber et al., 1999, p. 982).

**Table 5.4** Use of cognitive verbs

| | discursive writing | | discursive speaking | |
|---|---|---|---|---|
| | raw frequency | % of corpus | raw frequency | % of corpus |
| *I think* | 189 | 1.50% | 84 | 1.27% |
| *I know* | 30 | 0.24% | 18 | 0.27% |
| *I believe* | 9 | 0.07% | 3 | 0.05% |
| *I suppose* | 3 | 0.02% | 0 | 0% |
| *I guess* | 2 | 0.02% | 0 | 0% |
| *I feel* | 2 | 0.02% | 0 | 0% |
| *I imagine* | 2 | 0.02% | 0 | 0% |

The data for modal verbs are presented in Table 5.5. This clearly reveals that learners' epistemic use of modal verbs was: (1) very low compared to their use of *I think*; and (2) much more frequent in writing than speaking. Table 5.6 shows the frequencies for modal adverbs. As expected, *maybe* was by far the most commonly used adverb in learners' spoken language, and, after *I think*, it was the second most common epistemic form used in speaking.

**Table 5.5** Epistemic use of modal verbs

| | discursive writing | | discursive speaking | |
|---|---|---|---|---|
| | raw frequency | % of corpus | raw frequency | % of corpus |
| *will* | 35 | 0.27% | 8 | 0.12% |
| *may* | 17 | 0.13% | 0 | 0% |
| *would(n't)* | 9 | 0.07% | 1 | 0.02% |
| *could(n't)* | 7 | 0.06% | 0 | 0% |
| *might* | 4 | 0.03% | 0 | 0% |
| *must* | 0 | 0% | 0 | 0% |

**Table 5.6** Use of epistemic adverbs

| | discursive writing | | discursive speaking | |
|---|---|---|---|---|
| | raw frequency | % of corpus | raw frequency | % of corpus |
| *maybe* | 5 | 0.04% | 23 | 0.34% |
| *of course* | 9 | 0.07% | 3 | 0.05% |
| *possibly* | 2 | 0.02% | 1 | 0.02% |
| *definitely* | 2 | 0.02% | 0 | 0% |
| *perhaps* | 1 | 0.01% | 0 | 0% |
| *probably* | 0 | 0% | 1 | 0.02% |

Overall, this data shows that learners use a greater variety of epistemic forms in writing than in speaking. Although it could be argued that this demonstrates learners' awareness of register differences (i.e., they use more forms when writing because it is a more formal register), the evidence does not support this view because informal forms such as *I suppose* and *I guess* only occur in learners' writing. It seems far more plausible that the greater processing demands of speaking cause learners to rely on epistemic forms which are most strongly integrated into their implicit knowledge, i.e., *I think* and *maybe*. When writing, the learners have more processing time to access explicit knowledge of other epistemic forms.

### 5.2.5 Individual Use of Epistemic Stance Forms and Patterns of Acquisition

The second part of this investigation looked at individual learners' use of epistemic stance forms in writing and speaking in order to identify possible acquisitional patterns. I found enough evidence (see Fordyce (2009) for more detailed information) to suggest possible developmental sequences for epistemic stance forms, which could be further investigated in the main study. These sequences differ slightly depending on the mode of production:

*Written Language*:

Stage 1: learners use cognitive verbs, especially *I think*

Stage 2: learners add a limited range of other epistemic forms: evidential verbs (*seem, look*); modal verbs (*may, will*); and modal adverbs

Stage 3: learners extend their range of epistemic forms, including the modal verbs *might, could*, and *must*

*Spoken Language:*

Stage 0: learners do not express epistemic stance linguistically

Stage 1: learners rely mainly on *I think* and *maybe*

Stage 2: learners add a limited range of other epistemic forms: e.g., *will, I believe,* other modal adverbs

It is clear that the use of epistemic forms develops later in learners' speech than in their writing. Learners who are able to use a range of epistemic forms, including modal verbs, in their writing, are likely to use only cognitive verbs and modal adverbs (especially *I think* and *maybe*) in their spoken language. For example, a learner who has reached stage two in their written language will probably still be at stage one in the case of spoken language. Of course, these developmental sequences cannot be considered as definitive, but they provided a working model with which to view the data collected in the main study. These findings also agree with prior SLA research (e.g., Giacalone Ramat, 1995; Bardovi-Harlig, 2000; see

Section 2.5) which shows that learners tend to express functional domains lexically before integrating more grammaticalized forms into their repertoire for expressing the function.

### 5.2.6 Learners' Use of Epistemic Stance in Spoken Opinions and Descriptions

The last analysis (Fordyce, 2007b) of the pilot study data reported on here focused exclusively on spoken language and compared the use of epistemic stance forms by learners at 'higher' and 'lower' proficiency levels as determined by students' year of study. The details of the opinion and description corpora are given in Table 5.2. However, these corpora were further subdivided according to learners' proficiency levels as follows:

High group: Opinions, $n$ = 24, 4,324 tokens; Descriptions, $n$ = 23, 3,147 tokens
Low group: Opinions, $n$ = 37, 5,977 tokens; Descriptions, $n$ = 40, 3,664 tokens

This data clearly confirmed that *I think* and *maybe* are the two key markers of epistemic stance in spoken language. In the Low group data, these two forms accounted for 77% of the epistemic forms used (*I think,* 60%; *maybe,* 21%), with this figure slightly lower, at 67%, for the High group (*I think,* 59%, *maybe,* 11%). As regards other epistemic forms, the use of modal verbs was very rare by both proficiency groupings. The use of the evidential verbs slightly 'increased' in use with proficiency (Low, 6%; High, 9%). Also, the High group data included a greater *range* of forms than the Low group data.

Although this data is cross-sectional, and cannot show development at the individual level, it is nevertheless clear that as proficiency rises, learners are able to use more epistemic forms. However, the reliance on *maybe* and *I think* is quite persistent. In general, the use of *maybe* appears to reduce before that of *I think.* This suggests that *maybe* is the most 'basic' form for the expression of epistemic stance. These findings are in agreement with Dittmar and

Ahrenholz (1995), who found that L2 learners of German tended to use *'vielleicht'* ('maybe') in early stages of L2 development as an all-purpose epistemic marker.

## 5.3 Chapter Summary

The first section (5.1) of this chapter described the methodology of the pilot study, which provided the opportunity to trial tasks, task procedures, data collection methods, and types of data analysis. This piloting helped improve the methodology for the main study (see Chapter 6). For example, improvements could be made to the data collection procedure: e.g., putting task rubrics in Japanese; shortening the time allocation for the speaking tasks; using a more reliable proficiency measurement.

The analyses of the pilot study data in Section 5.2 mostly confirmed findings from previous research. For example, learners' strong reliance on *I think* to express epistemic stance in both writing and speaking agreed with previous studies on learners of English with different L1 backgrounds (e.g., Kärkkäinen, 1992, L1 Finnish; Hyland & Milton, 1997, L1 Cantonese; Aijmer, 2002, L1 Swedish). Likewise, the finding that learners use *maybe* as a primary marker of epistemic stance in spoken language at less advanced stages of development supported the findings from research on L2 acquisition of other Indo-European languages (e.g., Dittmar & Ahrenholz, 1995, L2 German; Giacalone Ramat, 1995, L2 Italian).

The comparison of learners' use of epistemic forms in descriptions and opinions (Section 5.2.2) provided strong support for the use of two genres in this research. In particular, the use of the description genre provided insights into learners' use of evidential verbs (in particular, *seem* and *look*) which would not have been possible from the opinion data alone.

It was also demonstrated that individual learners' expression of epistemic stance typically progresses from a stage in which there is a reliance on more lexicalized forms to a gradual integration of more grammaticalized forms (modal verbs). This pattern has also previously been observed for modality (e.g., Giacalone Ramat, 1995), as well as for the expression of temporality (e.g., Bardovi-Harlig, 2000).

The data also revealed a tendency for learners to develop strong form-to-function mappings which may hinder the acquisition of secondary functions. These findings (exemplified by the cases of *seem* and *must* in Sections 5.2.2 and 5.2.3) provide strong support for N. Ellis' view (2006a, 2006b, 2008) that the *contingency* of form-function mappings plays a strong role in L2 acquisition.

The pilot study analysis also focused on variables (mode of communication and proficiency) which have rarely been investigated in research on the L2 acquisition of epistemic stance. For example, the investigation into how learners use epistemic stance in writing and speaking (Section 5.2.4) demonstrated that they: (1) used a greater range of epistemic stance forms in writing than speaking; (2) used modal verbs in writing far more frequently than in speaking; and (3) did not distinguish between the relative formality of the written and spoken modes in their choice of epistemic forms. It would appear that these differences are mainly due to the different processing conditions of writing and speaking. In particular, the low frequency of use of epistemic modals in speaking, as compared to writing, strongly suggests that learners are not able to access and process these forms as easily as modal adverbs and cognitive verbs, which have greater syntactic flexibility. This results in a situation in which learners' speaking appears to 'lag behind' their writing as far as their use of epistemic forms is concerned.

As regards proficiency, cross-sectional data for spoken language (Section 5.2.6) did show higher proficiency learners using a greater range of epistemic forms than learners at a lower

proficiency level, although the differences were not so large. However, it was also clear that a more objective measure of proficiency levels than class grades was needed for the main study.

As has been shown, the pilot study provided rich data which supported and complemented prior research on the L2 acquisition of epistemic stance forms. As a result, it was possible to improve the quality of the pedagogical interventions in the main study by making them more relevant to Japanese EFL learners' needs as regards epistemic stance forms. The next chapter describes the main study, including detailed information on the pedagogical interventions.

# CHAPTER SIX

# THE MAIN STUDY: METHODOLOGY

## 6.0 Introduction

As shown in the previous chapter, the pilot study played a crucial role in the development of the methodology for the main study, which is described in detail in this chapter. In Section 6.1, I describe the learners who took part in this study, and how they were organized into groups for the pedagogical interventions. The research design, which took place over a six-month period, is outlined in Section 6.2. Following that (Section 6.3) I describe the data collection instruments used to collect data before and after the classroom interventions, as well as five months afterwards. Details of the explicit and implicit pedagogical interventions at the centre of this study are provided in two sections: Section 6.4 explains how the two interventions were differentiated in terms of pedagogy; Section 6.5 describes the materials used in the classes, the content of the classes for each group, and issues which arose as regards carrying out interventions with intact classes. In the final section (6.6), I describe how the learners' written and spoken data was processed and analyzed.

## 6.1 Participants

This section provides details on the research participants, their proficiency levels (Section 6.1.1), how the classes for the intervention were organized based on their proficiency levels (Section 6.1.2) and other organizational issues related to the participants (Section 6.1.3). All the participants in this research were Japanese nationals with L1 Japanese who were studying at a national university in Japan. There were 143 students in the classes involved in this research, out of whom a total of 122 took part in all aspects of the pre-test, pedagogical intervention and post-test. Of these, 81 students also completed the delayed post-test tasks

around five months after the immediate post-test (participant attrition is discussed in more detail below). In this study, I report on the language produced by these 81 students who completed all parts of the research investigation[30]. This group consisted of 55 females and 26 males, aged between 18 and 22. The gender imbalance broadly reflects the typical make-up of language classes in the Faculty of Education where the students were studying. All 81 students were majoring in an education subject: 43 were majoring in English education and 38 in other subjects.

The participants were selected on the basis that they had enrolled in at least one of three large English communication classes which I was responsible for teaching. I considered these classes as suitable for the data collection and pedagogical interventions because of the range of proficiency levels of the students, and the relatively large class sizes. These classes were a first year, second year and third year class, respectively (details on these classes are provided in Table 6.1 below). This study must be considered as quasi-experimental rather than experimental on account of the fact that it took place within intact classes, i.e., true random sampling for the groups was not possible (cf. Housen et al, 2005).

### 6.1.1 Proficiency Levels

In order to carry out the interventions, it was necessary to divide each class into two sub-groups for the explicit and implicit treatments, respectively. It was also necessary to ensure a balance in proficiency levels and numbers across the three sub-groups for each condition

[30] Of these 81 participants, 17 had also taken part in the pilot study data collection for descriptions. As there was a time period of just over two years between the pilot and main data collections, I felt that it was extremely unlikely that these students would benefit from having had previous experience with the type of description tasks used in both studies. All 17 were in the High proficiency group in the main study (see Section 6.1.2 below) and they were split almost equally between the two experimental groups (explicit, $n = 9$; implicit, $n = 8$).

(explicit and implicit). Students' proficiency scores on the TOEIC test[31] were collected at the time of the pre-test interview (see Section 6.3.2) and used to create the sub-groups. The participants were arranged in order of proficiency score and assigned in turn to the explicit or implicit condition. This resulted in 71 students being allocated to the explicit group and 72 students to the implicit group. The details of these sub-groups are given in Table 6.1.

**Table 6.1** Class groupings

| Intact class | Explicit group: number of students | Implicit group: number of students |
|---|---|---|
| First year | 29 | 26 |
| Second year | 24 | 19 |
| Third year | 22 | 27 |
| Total | 71 | 72 |

At the time I carried out this allocation process the two groups were well-balanced as regards numbers and proficiency levels. However, as mentioned above, there was inevitable attrition in participant numbers during the six-month experimental period. It was expected that with a large sample the attrition levels would fall fairly equally on both groups. As it happened, the final numbers were: explicit group, n = 37; implicit group, n = 44. More important than the balance in numbers between the final groups was the balance in terms of proficiency level. Table 6.2 provides information on the 'final' groupings, including information on gender and proficiency levels. A post-hoc independent samples t-test confirmed that there had been no significant difference in proficiency level between the eventual explicit and implicit groups at the time of the pre-test, $t$ (79) = -1.3, $p$ = .20 (two-tailed). This meant that participant attrition had not had a problematic effect on the balance of the groups.

[31] At the university where the participants in this research study, students are required to take this examination (Test of English for International Communication) on several occasions during their first three years of study.

**Table 6.2** Final groupings

| Group | *N* | Gender | | TOEIC scores | | |
|---|---|---|---|---|---|---|
| | | male | female | range | *M* | *SD* |
| Explicit | 37 | 14 | 23 | 450-860 | 652.7 | 112.4 |
| Implicit | 44 | 12 | 32 | 465-815 | 621.3 | 104.6 |

### 6.1.2 Proficiency Groupings

In order to be able to investigate the relationship between language proficiency and the relative effectiveness of the two interventions (RQ2b), the learners were divided into 'High', 'Mid', and 'Low' proficiency groups based on their TOEIC proficiency scores (see above). These groupings should not be confused with the first, second and third year classes, although there was obviously a tendency for proficiency levels to be higher among the third year students and lower among the first year students. The details of these groupings are given in Table 6.3. A one-way between-groups analysis of variance confirmed a statistically significant difference between the three proficiency groups: $F$ (2, 78) = 223.3, $p < .001$.

**Table 6.3** Data on the proficiency groupings

| Group | *N* | TOEIC scores | | |
|---|---|---|---|---|
| | | range | *M* | *SD* |
| High | 27 | 665-860 | 765.2 | 58 |
| *Explicit* | *14* | *665-860* | *771.8* | *67.3* |
| *Implicit* | *13* | *685-815* | *758* | *47.7* |
| Mid | 29 | 565-660 | 615.3 | 31.4 |
| *Explicit* | *13* | *580-660* | *622.3* | *29.5* |
| *Implicit* | *16* | *565-660* | *609.7* | *32.7* |
| Low | 25 | 450-560 | 519.2 | 32.5 |
| *Explicit* | *10* | *450-560* | *525.5* | *37.8* |
| *Implicit* | *15* | *465-560* | *515* | *29.2* |

### 6.1.3 Remaining Issues

The learners in this study formed a fairly homogenous group in terms of their English learning histories. As it was an aim of this research to investigate the L2 pragmatic development of 'typical' Japanese university-level EFL learners, at the time of the pre-test all the participants were asked about the extent of any experience of living or studying abroad in an English-speaking country which they may have had. Some of the participants had studied in an English-speaking country for a period of one to four months as part of their university education. As this can be considered quite a typical experience for Japanese EFL learners aiming to achieve higher levels of competence in English, these learners were included in the study. However, as mentioned with regard to the pilot study (see Section 5.1.4), a small number of participants were found to have spent longer periods of time in English-speaking countries during their childhood. The data from these students was not included in this research for the reasons outlined in that section.

## 6.2 Research Design

The main study was carried out between May and December of 2007 over a period of 31 weeks (see Table 6.4). The pre-test data collection was followed by a four-week period during which the interventions took place. The post-tests were carried out one-two weeks (post-test) and five-six months (delayed post-test) after the interventions, respectively.

**Table 6.4** Research schedule

| | Explicit group | Implicit group |
|---|---|---|
| **week 1** | data collection 1 (pre-test) | |
| **weeks 2-5** | explicit intervention | implicit intervention |
| **weeks 6-7** | data collection 2 (post-test) | |
| **weeks 29-31** | data collection 3 (delayed post-test) | |

The next section describes the data collection instruments. Following that, Section 6.4 gives an overview of the pedagogical interventions and Section 6.5 describes in detail the materials used in those interventions.

## 6.3 Data Collection

As discussed in Section 3.4.1, a variety of outcome measures have been adopted in instructed SLA research. In this study I chose to use free constructed responses for both writing and speaking because they enabled me to focus on the question "Did the participants acquire the ability to produce the target form?" (Norris & Ortega, 2000, p. 469). If learners are able to use new forms in productive tasks, and especially in speaking tasks with little planning time, it provides strong evidence that the intervention had an effect on learners' L2 development. In this study (as in the pilot study) I also used 'like-for-like' writing and speaking tasks, which provided a strong operationalization of the communication mode variable.

There are, however, some disadvantages of using free production tasks. Firstly, the data only tell us what learners choose to use in their production, i.e., they may acquire a form but choose not to use it, and the data cannot tell us anything about learners' comprehension of the target forms. The second disadvantage is that it is not an easy task to quantify free response data in a way that is suitable for the use of inferential statistical measures including effect sizes. By comparison, studies using more controlled outcome measures can score the learners' responses and use these scores to carry out inferential statistics including effect sizes for instructional treatments.

In spite of these two issues, I decided to go ahead with the use of free response data. As regards the first issue, I felt that with a large enough sample of learners and the use of corpus

analysis, instructional effects would still show up clearly in the dataset. This did indeed prove to be the case (see Chapters 7-9). Regarding the second issue, the use of keyword analysis (see Chapter 4.2) provided a strong statistical measure to compare word frequencies in different corpora (e.g., before and after instruction; between the explicit and implicit groups). Furthermore, I developed an epistemic type score (see Section 6.6.4) which proved suitable for the use of inferential statistics, including effect sizes.

When deciding on the types of writing and speaking tasks to be used, the key consideration was the elicitation of language containing epistemic stance forms. Therefore, in line with the pilot study, I decided to get the participants to produce written and spoken language in two genres (description and discussion) which typically require the use of epistemic stance forms. The pre- and post-test data was collected within a period of six days preceding and 11 days following the interventions, respectively. The delayed post-test data was collected around five months after the initial post-test, over a period of almost three weeks[32]. All three data collections followed the same pattern, which is described in the following sections.

### 6.3.1 Writing Tasks

One class session (90 minutes) was allocated for each written data collection, which took place in a computer suite. At the beginning of the class each student was given two writing tasks (a descriptive task and a discursive task, see Appendix 2). They were given 80 minutes (40 minutes for each task) to write the two compositions on a computer. They were requested not to use dictionaries or online assistance. The teachers (myself and a teaching assistant assigned to that course) ensured that they followed these guidelines and we were available to

[32] The longer period of time for the delayed post-test data collection was a result of the difficulties of arranging data collection sessions with the students, some of whom did not take my courses in the semester following the one in which the pedagogical interventions took place.

answer any queries related to the task instructions. We did not provide any assistance as regards the content of their writing.

### 6.3.2 Speaking Tasks

Each participant attended an interview in my office outside of normal class time. Each of these meetings lasted around ten minutes in total. As in the pilot study, the first few minutes involved general conversation on daily-life topics in order to put the learners at ease. I also asked questions about the students' language learning background (e.g., study abroad experiences) in order to confirm whether they fitted the learner sample targeted in this research (see Section 6.1.3). Each participant was then given the description task followed by the opinion task (see Appendix 2). For each task they were given one minute to prepare their ideas followed by up to two minutes to give their description or opinion. Each 'speech' was recorded and later transcribed using the same system I used for the pilot study (see Section 5.1.3).

The issue of allowing learners planning time had to be considered carefully, in the view of the fact that the spoken task should provide a measure of learners' knowledge of English at a more implicit level. I thought it would be unnatural to ask the learners to speak immediately after receiving the task. I allowed one minute because I felt that this would allow students time to digest the task and topic/picture but would not provide enough time to rehearse language, i.e., to access language at a more explicit level[33].

The decision to allow one-minute of planning time was also justified by the pilot study speaking task, which also included one minute of pre-task planning. The pilot study data (see

[33] For further discussion of issues related to planning time and tasks, see, for example, Foster and Skehan (1996), Mehnert (1998), R. Ellis (2008, pp. 495-498).

Section 5.2) revealed clear differences in the language produced by the learners in writing and speaking. Whilst it is impossible to be sure that the learners did not access explicit L2 knowledge at all while carrying out the tasks, the design of the speaking tasks did guarantee that the written and spoken tasks involved clearly distinguished levels of processing constraints.

Finally, I will discuss one issue which arose regarding the authenticity of the spoken language collected in this study. It is obvious that in most cases spoken descriptions and opinions are produced within interactions. However, if I had used an interaction task for this study, the participants' use of language would inevitably have been affected by the interlocutor, as I discovered in the pilot study (see Section 5.1.4). As a result, I decided to ask the participants to produce a 'speech' for each task. The pilot study had revealed clear differences in the language produced by the learners in writing and speaking, which reflect the differential demands of online and offline processing, respectively. Therefore, the use of a 'speech' was the best possible way of getting evidence of learners' spoken language which could be matched on a 'like-for-like' basis with language produced in a written task. This is an example of a case where a compromise had to be reached in order to balance the competing demands of ecological and experimental validity (see Section 1.1).

### 6.3.3 Delayed Post-test

In Section 3.3.3, I discussed the lack of delayed post-tests employed in previous studies on form-focused instruction, and particularly in studies focusing on L2 pragmatics. Therefore, the delayed post-test was a key feature of the research design for this study, and hence requires some comment here. In most instructed SLA research on pragmatics which has included a delayed post-test, this test has taken place around one month after the intervention. It is not clear whether this allows enough time for true long-term retention of instructional

content to be demonstrated (see Section 3.3.3). In this study I put a substantial length of time (around five months) between the immediate and delayed post-tests. I did this because I wanted the learners' short-term memory of the pedagogical instruction and first two data collections to be distant, so that the learners would be more likely to access implicit rather than explicit knowledge, and also in order that rehearsal effects would be minimized.

Presumably the main reason why delayed post-tests are carried out rather soon after the treatment period, or not at all, concerns the issue of practicality. It can be very difficult to get a large number of learners together to repeat a data collection process. In this study, I was relatively fortunate in knowing that the majority of the students who took part in the first stage of the research would also be likely to take at least one of my classes in the following semester. This meant that I was fairly confident that a large number of learners would also complete the delayed post-test. At the same time, I had also *allowed for* a certain amount of participant attrition. As reported above, I was able to collect delayed post-test data from 81 out of the 122 students who completed all parts of the first stage of the research.

### 6.3.4 Remaining Issues

In the following sections, other issues related to the data collection are described. The first issue concerns *task rotation.* In order to obtain comparable data from each participant on three occasions it was necessary to prepare three different pictures for the description task, and three different topics for the opinion task (the important issue of *task equivalence* is discussed below). I reduced the possibility that participants could prepare for the tasks in advance by rotating them across the three data collection periods (see Table 6.5). For example, student A did description 1 and opinion topic 1 for both writing and speaking at the pre-test stage, description 2 and opinion topic 2 at the post-test stage, and description 3 and

opinion topic 3 at the delayed post-test stage. In total there were six different possible combinations, which made it unlikely that students would be able to predict which description and opinion task they would be asked to carry out. Each student was allocated one of these six patterns and these patterns were divided equally amongst the participants.

**Table 6.5** Task rotation system

| | speaking tasks | | | | | | writing tasks | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | description | | | opinion | | | description | | | opinion | | |
| student | pre | post | del | pre | post | del | pre | post | del | pre | post | del |
| A | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| B | 1 | 3 | 2 | 1 | 3 | 2 | 1 | 3 | 2 | 1 | 3 | 2 |
| C | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 |
| D | 2 | 1 | 3 | 2 | 1 | 3 | 2 | 1 | 3 | 2 | 1 | 3 |
| E | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 |
| F | 3 | 2 | 1 | 3 | 2 | 1 | 3 | 2 | 1 | 3 | 2 | 1 |

It was also important to establish *task equivalence.* In other words, it was important to make sure that different versions of the tasks (for example, the three different picture description tasks for writing) elicited similar patterns of epistemic stance use among learners. In choosing the pictures for the descriptions, and topics for the opinions, I built on findings from the pilot study and made sure that the task demands and rubric were broadly similar. I also carried out post-hoc tests on the pre-test task responses: I used measurements of epistemic frequency and variety (see Section 6.6.4 on the epistemic token and type scores) for each learner on each task and ran a series of one-way ANOVAs[34] to see if there were any significant differences for these measures between different tasks. For all comparisons, no statistically significant differences were found between the three different tasks.

[34] In total, I ran eight comparisons, which comprised all possible combinations of these three pairs: speaking/writing; opinion/description; frequency measure (epistemic token score)/variety measure (epistemic type score).

The last issue concerns *background data* on participants. This was collected in two stages: (1) firstly, at the time of the pre-test speaking task (see Section 6.3.2 above), information was collected on learners' proficiency levels and their experiences of living/studying abroad; (2) after completing the delayed post-test, they were given a questionnaire (see Appendix 3), which: confirmed details collected at the time of the pre-test; asked about any changes in proficiency scores; and asked whether the learners had taken any courses between the two post-tests which had focused on the genres of discussion and description. This form also included a section in which the participants gave *informed consent* for their written and spoken data to be used for research purposes.

## 6.4 Pedagogical Interventions

The current study revolves around the pedagogical interventions which aimed to improve L2 learners' understanding and use of epistemic stance forms. In this section I describe decisions which were made regarding the content and methodology of the explicit (Section 6.4.1) and implicit (Section 6.4.2) interventions.

The main aim in distinguishing between explicit and implicit instruction was to probe the relative effectiveness of these two types of instruction as regards the long-term development of a problematic area of L2 pragmatic competence. The key point in designing the interventions was to establish a clear distinction (see DeKeyser, 2003) in the instructional methodology between: (1) an explicit approach which focused on form in a meaningful context and aimed to *lead learners to notice* forms in the input; and (2) an implicit approach where the focus was on meaning at all times, and in which *no specific attempts were made to get learners to notice* forms in the input. The following sections describe the instructional approaches adopted for the two groups.

### 6.4.1 Explicit Group

In developing the class plans for the explicit group, the underlying aim was to bring learners' attention to the forms as effectively as possible (Schmidt, 1990, 1993, 1995, 2001). In order to achieve this, I adopted an eclectic choice of pedagogical techniques, which previous studies (see Section 3.3.2) targeting features of L2 morphosyntax and pragmatics had shown to be effective.

The instructional sub-types used in the explicit intervention included the following: structured input, typographical input enhancement, consciousness-raising, and explicit metalinguistic/metapragmatic instruction. *Structured input* is "input that has been specially designed to expose learners to exemplars of a specific linguistic feature" (R. Ellis, 2008, p. 980). As Section 6.5.2 shows, authentic texts were used, but this choice of texts was based on the fact that they contained a rich selection of epistemic stance forms. As regards *typographical input enhancement*, for all four 'texts' (see Section 6.5 below) used in the pedagogical intervention, all epistemic stance forms were enhanced using bold type, underlining and a larger font (see Appendix 4). As defined by R. Ellis (2008, p. 958), *consciousness-raising* refers to "attempts to help learners understand a grammatical structure and learn it as explicit knowledge". In this study that definition is extended to include both grammatical and lexical ways of expressing epistemic stance. Finally, *explicit metalinguistic/metapragmatic instruction* was used to explain linguistic and pragmatic aspects of epistemic stance forms to the learners. All these methods contributed to the overarching aim of increasing learners' awareness of form-function mappings which have low salience.

The classes for the explicit group included the following activities (classroom materials for the explicit group intervention are in Appendix 4):

- listening for epistemic stance forms (cloze gap);
- oral questioning in class designed to focus students' attention on the semantics and pragmatics of epistemic stance forms in the texts;
- explicit metalinguistic/metapragmatic instruction on epistemic stance forms based on pedagogical descriptions, native speaker corpus data, and the pilot study learner data;
- reading comprehension tasks for homework designed to focus students' attention on the semantics and pragmatics of epistemic stance forms in the texts;
- feedback on written work focusing on students' use of epistemic stance forms;
- summary quiz on epistemic stance forms.

As can be seen from the above list, in this explicit treatment, the instructional activities were input- rather than output-based. Given more time, it would have been natural, from a pedagogical viewpoint, to have included output-based activities within the treatment period. In fact, the post-test written and spoken data can be seen as pedagogical extensions of the treatment period (although, for experimental reasons, no specific feedback was given on this output following the post-test). This input focus was partly based on the finding (VanPatten & Cadierno, 1993; Cadierno, 1995; VanPatten & Sanz, 1995) that input-based instruction has a positive effect on learners' comprehension and production, whereas output-based instruction benefits only the latter. Given the time constraints of the treatment, adopting an instructional approach that was hypothesized to be the most effective on learners' acquisition in the time available was considered to be the most expeditious approach.

### 6.4.2 Implicit Group

The implicit group's instruction was based on meaning and content. They were given the same 'epistemically rich' texts as the explicit group but no attempt was made to get the students to *notice* the forms, i.e., the learners' exposure to epistemic forms was "nonfocussed" (Norris & Ortega, 2000, p. 467). Of course, the learners may have noticed the epistemic

forms of their own volition, or in comprehending the texts they may have inevitably needed to attend to some of the forms, but the degree of noticing of epistemic forms undertaken by the learners was expected to be considerably less than in the case of the explicit group.

The general focus of the classes with the implicit group was on comprehension of the content of the texts and not on structural elements. The classes involved both input and output activities: the former consisted of the texts along with some background information and commentary; the latter included discussion tasks and a short descriptive writing task.

The following list summarizes the types of activities which were carried out with the implicit group (classroom materials used for these activities can be found in Appendix 4):

- listening for gist
- listening for details (cloze gap)
- discussion tasks based on the content of materials
- reading comprehension tasks
- feedback on written work: focusing on accuracy and organisation
- creative activity on the use of adjectives and adverbs in descriptions

It can be stated with some confidence that the two treatments were clearly differentiated in spite of the fact that both classes had the same textual materials as core input. The following section presents the details of these texts, together with the reasons why they were chosen.

### 6.5 Pedagogical Interventions: Materials

In this section, I explain the reasoning behind the choice of texts which were used in the classes, and I include extracts from these texts which demonstrate their suitability for the interventions. I also give details on the range and frequency of epistemic forms in the texts. Following that, I summarize the contents of each of the intervention classes, and, in the case

of the explicit group, I give details of the information on epistemic forms that was presented to the learners. At the end of the section I discuss some remaining issues.

### 6.5.1 Choice of Texts

The choice of texts for the interventions was crucial as they were the key source of input used both to motivate an explicit focus on epistemic stance forms (explicit group) and as an 'authentic input flood' (for both groups, but the implicit group in particular). Table 6.6 gives details of the texts used, along with their genre and mode of communication.

**Table 6.6** Pedagogical intervention texts

| Week | Genre | Mode | Text |
|---|---|---|---|
| 1 | Opinion | Speaking | Interview with a British teacher at Hiroshima International School focusing on issues of alcohol and drug abuse by schoolchildren in the UK, and bullying in schools in Japan. |
| 2 | Opinion | Writing | An editorial from *The Economist* (10 May 2007) adapted for length and vocabulary: *Tony Blair: How will history judge him?* |
| 3 | Description | Writing | An excerpt from the novel *A Pale View of Hills* (Ishiguro, 1982). |
| 4 | Description | Speaking | A conversation taken from within the excerpt from the novel *A Pale View of Hills* (Ishiguro, 1982). |

This section explains my decisions when choosing the four texts to be used in the classes with both groups. As well as considering the specific factors discussed below it was also at all times necessary to strive to retain both the experimental and ecological validity of this study. The three main guiding factors behind the choice of texts were as follows:

(1) authenticity
(2) exemplification of genres and registers
(3) epistemic 'richness'

These factors are discussed in the following sections. Throughout these sections the four texts are referred to as follows (for clarification, the genre and mode are given in brackets):

| | |
|---|---|
| *Interview on Issues* | (Opinion, Spoken) |
| *Tony Blair* | (Opinion, Written) |
| *A Pale View* [*W*] | (Description, Written) |
| *A Pale View* [*S*] | (Description, Spoken) |

### 6.5.2 Authenticity

As regards authenticity I followed previous research (e.g., Yoshimi, 2001) in choosing materials which are examples of real language in use. They consisted of an interview (*Interview on Issues*) conducted for this research, a magazine article (*Tony Blair*), and an extract from a novel by a contemporary author (*A Pale View* [*W*]), which incorporated *A Pale View* [*S*]). As far as possible, modifications to the texts were kept to the minimum required in order for the materials to suit the proficiency level of the students and the time restrictions of the classes. The language in *Interview on Issues* and *A Pale View* [*W*] was not modified in any way. *Tony Blair* was simplified from the original article in the magazine, *The Economist*, in order to reduce its length, and to simplify the vocabulary in the text to a level appropriate to the learners. I kept the epistemic strength and organisation of the argument in the text as close to the original as possible. *A Pale View* [*S*] involved taking a conversation from within *A Pale View* [*W*] and organising it as a dialogue. Therefore the presentation of the text was altered from a dialogue within prose to a play-like dialogue by itself. The words spoken were not altered in any way.

Widdowson (1990) argues that texts need to be 'authenticated' by the learners if they are to function as effective teaching materials. With this in mind it was important that the learners considered the texts to be relevant to their language learning. *Interview on Issues* was

relevant to the learners as young people living in both Japanese society and a global society, and as potential teachers. *Tony Blair* was perhaps the most distant of the texts to the learners in as far as it was about British politics. However, many of the issues in the text (effective governance, involvement in Iraq, improvements in education) had resonance with the situation in Japan at the time of the interventions. The novel, *A Pale View of Hills* (Ishiguro, 1982) is mostly set in a Japanese context (Nagasaki after World War Two), and the author was born in Japan but went to live in the UK during his childhood[35]. Overall, therefore, these texts were intended to be meaningful to the learners, and, in the event, there was a high level of engagement with the materials during the interventions.

### 6.5.3 Exemplification of Genres and Registers

The second requirement in choosing the materials was that they should represent the genres of opinion and description, as well as the written and spoken modes. *Interview on Issues* and *Tony Blair* provided informal spoken and formal written opinions, respectively. *A Pale View of Hills [W]* contains a beautifully written description of post-atomic bomb Nagasaki. *A Pale View of Hills [S]* contains a conversation taken from within *A Pale View of Hills [W]*. It was chosen for the following reasons: (1) the time constraints of the interventions meant that using a completely new text was impractical; (2) it linked effectively with *A Pale View of Hills [W]*; and (3) the final class in the sequence focused on more 'advanced' epistemic forms such as epistemic phrases and collocations, which are exemplified in this text.

[35] Kazuo Ishiguro was born in Nagasaki, Japan, in 1954 and came to live in the United Kingdom at the age of five. He is best known for the novel *Remains of the Day,* which won the Booker Prize in 1989. The novel, *A Pale View of Hills,* was his first novel. The setting for the excerpt used in the interventions is the ruins of post-war Nagasaki. This text was an ideal choice because the content was expected to resonate strongly with the students. At the same time, it was extremely unlikely that any students would have read the novel which was originally published in English and, although it has been translated into Japanese, is not so well-known in Japan.

### 6.5.4 'Epistemic Richness'

The third guiding principle when choosing the texts was that they should demonstrate a variety of epistemic stance forms, including both frequent and less frequent forms. As a totality, the four texts had to include the main forms on which I intended to carry out form-focused instruction to the explicit group, as well as provide a rich 'input flood' to both groups. They had to cover the main classes of epistemic stance forms (cognitive verbs, evidential verbs, modal verbs and modal adverbs), and also include some examples of epistemic expressions (e.g., *it is almost certain that*) and collocations (e.g., *will probably*). The following section presents further details on the epistemic stance forms in each of the texts, along with exemplifying extracts.

*Interview on Issues* (Opinion, Spoken)

This text included many epistemic stance forms used to express the strength of a viewpoint. I made the assumption that if I interviewed an educated native speaker of English on contemporary topics, the conversation would automatically elicit a range of epistemic forms. This proved to be the case. In fact, I interviewed two elementary school teachers working at an international school in Japan (both from the United Kingdom with L1 English) about contemporary issues effecting young people in the UK and Japan. I selected the interview which contained the most extensive and appropriate range of epistemic expressions for the aims of the pedagogical treatment. The extract below shows the frequent use of *I think* in speech, along with a stronger epistemic lexical verb, *I believe*, and modal adverbs.

**Extract 1:** ***Interview on Issues***

Interviewer: *...what do you* ***think*** *are err the causes of this particular err problem in Britain?*

Interviewee: ***I think*** *that one of the causes is that young people are bored – I think that erm young people come home from school and they don't have anything really to focus on - they don't have anything in particular to do in an evening or during the weekend – and so*

*I – **I believe** that if - if we gave young people some type of purpose and **maybe** clubs to join erm youth clubs or **I think** sports clubs then **perhaps** they would choose something else to do rather than drink or take drugs with their friends*

*Tony Blair* (Opinion, Written)

This text was chosen because it was an editorial in *The Economist*. The editorials in that magazine typically contain a range of epistemic forms in a more formal written register. The extract below includes modal verbs, modal adverbs, and two epistemic expressions.

**Extract 2: *Tony Blair***

***Perhaps** the greatest tribute to Mr Blair is that his successor (**probably** Gordon Brown) **will** not want to change the course he has set. Margaret Thatcher, in much more difficult times, gave the country what it needed. Mr Blair can claim to have given it much of what it wanted. **It is unlikely that** he **will** ever be thought of as the great prime minister he **could** have been. However, **it is almost certain that** Mr Blair **will** in the future be considered as a better prime minister than he is now.*

*A Pale View* (Description, Written and Spoken)

I chose to use an extract from a Kazuo Ishiguro novel because his writing is full of descriptions of characters' memories of the past, and these memories are typically presented with an air of uncertainty through the extensive use of epistemic forms. The 'epistemic tone' of his writing can be seen in extract 3 below, which is framed by the expression *as far as I remember*, with both the following sentences including the modal adverb *probably*, which enhances the air of uncertainty about the narrator's memories of the past.

**Extract 3: *A Pale View [W]***

***As far as I remember**, that was the first occasion I spoke to Mariko. **Quite probably** there was nothing so unusual about her behaviour that morning, for, after all, I was a stranger to the child and she had every right to regard me with suspicion. And if **in fact** I did experience a curious feeling of unease at the time, it was **probably** nothing more than a simple response to Mariko's manner.*

*A Pale View [S]* takes a conversation from within *A Pale View [W]* in order to focus on the use of epistemic stance forms in descriptive speech. Extract 4, taken from this conversation, includes the evidential verb, *look*, and also demonstrates the use of *I think* in spoken language.

**Extract 4: *A Pale View [S]***

| | |
|---|---|
| Sachiko: | *Is something wrong?* |
| Etsuko: | *I'm glad I found you. Your daughter, she was fighting just as I came out. Back there near the ditches.* |
| Sachiko: | *She was fighting?* |
| Etsuko: | *With two other children. One of them was a boy.* ***It looked*** *a nasty little fight.* |
| Sachiko: | *I see.* |
| Etsuko: | *I don't want to alarm you," I said, "but* ***it did look*** *quite a nasty fight.* ***In fact, I think*** *I saw a cut on your daughter's cheek.* |

The above extracts show that these texts provided an 'authentic input flood'. It would have been possible to alter the epistemic forms in the texts to fit more precisely with the list of targeted forms, or I could have increased the 'flood' by finding places in the texts to add more epistemic forms. However, it was considered that either of these actions would have had a negative effect on the authenticity of the texts, and I was satisfied that, as they stood, they included the key epistemic forms for the instructional treatment.

### 6.5.5 Pedagogical Corpus

A small pedagogical corpus of the texts used in the classes (3,461 tokens[36]; 931 types) was created in order to generate frequency counts of the epistemic stance forms in the texts. This corpus was utilized during the data analysis in order to identify possible relationships between the epistemic stance forms learners used following the intervention and the

[36] These type and token counts do not include *A Pale View* [*S*] because this text was part of *A Pale View* [*W*]. Although not included, it does need to be borne in mind that the epistemic forms in *A Pale View* [*S*] were given double exposure to the students.

frequency of those forms in the input texts. Information on the frequency of the main epistemic forms focused on in this study is given below[37]:

Cognitive Verbs

| | |
|---|---|
| *I think*[38] | II (11); PVS (2) |
| *I suppose* | PVS (1) |
| *I believe* | II (1) |

All the occurrences of cognitive verbs were in spoken language.

Evidential Verbs

| | |
|---|---|
| *seem* | II (3); PVS (1); PVW (3); TB (1) |
| *look* | PVS (2); PVW (2) |
| *appear* | PVW (1) |

The majority of occurrences of evidential verbs are in the descriptive text *A Pale View*.

Modal Verbs

| | |
|---|---|
| *will* | TB (6) |
| *must* | TB (1); PVS (1); PVW (3) |
| *would* | II (2); PVS (1); PVW (1); TB (1) |
| *could* | TB (2) |
| *may* | II (1); TB (1) |
| *might* | II (1); TB (1) |

Out of a total of 22 occurrences of modal verbs used epistemically, 16 are in written language.

Modal Adverbs

| | |
|---|---|
| *probably* | PVW (4); TB (1) |
| *perhaps* | II (1); PVS (2); TB (2) |

[37] In these lists the texts are referred to as follows: *Interview on Issues* = II; *Tony Blair* = TB; *Pale View of Hills* = PVW, for 'written' sections, and PVS, for 'spoken' sections. The figures in brackets give the frequencies.
[38] Negative forms are included in these figures (e.g., *I don't think* is counted as an occurrence of *I think*; *won't* is included under *will*, etc.). Also, in the case of the evidential verbs, *seem*, for example, includes *seem*, *seems* and *seemed*.

| | |
|---|---|
| *certainly* | II (1); PVW (1); TB (2) |
| *definitely* | II (1) |
| *maybe* | II (1) |
| *possibly* | PVW (1) |

The fact that *maybe* only occurred once in the texts highlighted the fact that it is typically not as common in native speaker language as it is in learner language.

Other Epistemic Expressions

| | |
|---|---|
| *I'm sure* | PVS (3); PVW (1) |
| *as far as I remember* | PVW (2) |
| *it is almost certain that* | TB (1) |
| *there is little doubt that* | TB (1) |
| *I do not doubt that* | PVW (1) |
| *it was probably true that* | PVW (1) |
| *it is unlikely that* | TB (1) |
| *to judge from* | PVW (1) |
| *it is true* | PVW (1) |

Apart from three uses of *I'm sure*, all other occurrences of epistemic expressions occurred in more formal written language.

Overall, the selection of texts, which were chosen without counting the frequencies of epistemic forms, provided input on epistemic stance forms which could be considered broadly representative of the way the forms typically occur in the modes and genres covered in this research.

### 6.5.6 Contents of the Intervention Classes

This section gives a detailed account of the content of the four classes for each group. Details are given of the classroom activities and homework tasks for both groups. The choice of

epistemic forms focused on in the explicit group's classes was based on several factors: the epistemic forms in the texts used in the classes; the empirical descriptions on epistemic stance in English reported in Section 2.4; taxonomies of epistemic forms provided in Holmes (1988), Hyland and Milton (1997) and McEnery and Amselom Kifle (2002); and awareness of Japanese EFL learners' specific difficulties in learning epistemic stance as shown by prior research (see Section 2.5) and the pilot study (see Section 5.2).

Week 1: Focus on Spoken Opinions - Modal Adverbs

**Table 6.7** Outline of class one

| **Explicit Group** | **Implicit Group** |
|---|---|
| TEXT 1: *Interview on Issues* | |
| • listening for epistemic forms (cloze gap)<br>• teacher-to-student questioning highlighting the semantics and pragmatics of epistemic forms<br>• explicit instruction on the use of epistemic modal adverbs | • listening for gist<br>• listening for details (cloze gap)<br>• comprehension questions<br>• discussion |
| Homework 1: reading of *Tony Blair* + questions focusing on the semantics of epistemic forms in the text | Homework 1: reading of *Tony Blair* + comprehension questions |

The main points focused on in the explicit instruction for this class were as follows:

- *probably* represents a higher degree of likelihood than *perhaps* and *maybe*[39]
- *perhaps* and *maybe* are roughly equivalent in terms of likelihood
- *perhaps* is more common in writing whereas *maybe* is more common in speech
- *maybe* can sound rather informal in written language
- *certainly* and *definitely* are roughly equivalent in terms of likelihood

[39] This point was emphasized because on several occasions I have experienced Japanese EFL learners expressing some surprise that *probably* is not a synonym of *maybe* and *perhaps*. This is almost certainly due to L1 Japanese influence. For example, in a commonly used Japanese-English dictionary (*Genius Japanese-English Dictionary*, 2nd Edition, 2003) the first three translations given for the Japanese word *tabun* [たぶん] are *probably, maybe* and *perhaps*.

- the most common modal adverbs in writing and speaking, according to corpus information (Biber et al., 1999; Leech, Rayson & Wilson, 2001) were presented:
  Writing: (1) *perhaps*; (=2) *probably/of course*; (4) *certainly*; (=5) *maybe/definitely*
  Speaking: (1) *probably*; (2) *maybe*; (=3) *perhaps/of course* (=5) *certainly/definitely*

Week 2: Focus on Written Opinions - Modal Verbs

**Table 6.8** Outline of class two

| **Explicit Group** | **Implicit Group** |
|---|---|
| TEXT 2: *Tony Blair* | |
| • questions highlighting the epistemic use of modal verbs in *Tony Blair*, including a review of homework 1<br>• return of students' opinion writing from the pre-test – all their uses of epistemic forms were highlighted before they were returned (input enhancement)<br>• explicit instruction on the epistemic use of modal verbs<br>• introduction of *A Pale View of Hills* [*W*] and homework 2 | • discussion work based on *Tony Blair*<br>• return of students' essays from pretest data – some feedback on organizing written arguments<br>• introduction of *A Pale View of Hills* [*W*] and homework 2 |
| Homework 2: reading of *A Pale View of Hills* [*W*] + questions focusing on the semantics and pragmatics of epistemic forms in the text | Homework 2: reading of *A Pale View of Hills* [*W*] + comprehension questions |

The main points focused on in the explicit instruction for this class were as follows:

- the deontic/epistemic distinction in the use of modal verbs, e.g., *he **must** do his homework* (deontic) vs. *he **must** be tired* (epistemic)
- the relative degrees of likelihood of *will, must, may, could* and *might*
- the epistemic use of modal verbs was equated with the meaning of adjectival and adverbial expressions, e.g., *must be = is surely*; *might have* + past participle = *it was possible that*
- the epistemic use of modal verbs for the past, present and future/conditional were presented to the learners, including the fact that *must* cannot be used to express epistemic stance with a future meaning
- *can* is rarely used to express epistemic possibility, e.g., **she can be in the garden*

- *could* and *must* tend to be underused by Japanese learners of English in their epistemic function
- the negative form of epistemic *must* is *can't be*, e.g., *he must be under 40; he can't be over 40.*

Week 3: Focus on Spoken Descriptions - Cognitive Verbs and Evidential Verbs

**Table 6.9** Outline of class three

| **Explicit Group** | **Implicit Group** |
|---|---|
| TEXT 4: *A Pale View of Hills* [S] | |
| • review of homework 1; highlighted any apparent misunderstandings of the meaning or use of epistemic forms<br>• reading task with *A Pale View of Hills* [S]<br>• questions highlighting semantics and pragmatics of epistemic forms in *A Pale View of Hills* [S]<br>• explicit instruction on the use of cognitive and evidential verbs | • review of homework 1<br>• reading and speaking tasks with *A Pale View of Hills* [S]<br>• comprehension questions and discussion based on *A Pale View of Hills* [S] |
| Homework 3: read *A Pale View* [W] again as preparation for the next class | |

The main points focused on in the explicit instruction for this class were as follows:

- *I think* is very common in conversation but rare in academic writing
- many learners of English tend to overuse *I think* in formal writing
- *I think* should not be used at the end of sentences in formal writing
- *I guess* and *I suppose* are informal alternatives for *I think*; *I guess* is more common in American English whilst *I suppose* is more common in British English; both are very rare in formal writing
- options for replacing *I think* in formal writing: *In my opinion...; It is my opinion that...*
- a stronger opinion can be expressed with *I believe*
- comparison of cognitive verb use with the use of modal verbs and/or adverbs to convey a more implicit ('hidden') personal opinion, e.g., *I think this shop is very popular because...* vs. *This shop may be very popular because...*
- various acceptable and unacceptable forms using *seem* and *look*, e.g., *he looks/seems cheerful; *he looks/seems like cheerful*

Week 4: Focus on Descriptive Writing and Other Epistemic Expressions

**Table 6.10** Outline of class four

| **Explicit Group** | **Implicit Group** |
|---|---|
| TEXT 3: *A Pale View of Hills [W]* | |
| • returned homework 2 with brief feedback – highlighted any apparent misunderstandings of the meaning or use of epistemic forms<br>• focus on students' descriptions from the pre-test data – all their uses of epistemic forms were highlighted before they were returned<br>• questions highlighting semantics and pragmatics of epistemic forms in *A Pale View of Hills [W]*<br>• explicit instruction on more 'advanced' uses of epistemic forms<br>• brief review of epistemic forms covered over the four classes including a 'review quiz' (see below) | • review of homework 2<br>• focus on the language of description (adjectives and adverbs) used in *A Pale View of Hills [W]*<br>• focus on students' own descriptions from pre-test writing – some feedback on descriptive writing<br>• productive description task focusing on the use of adjectives and adverbs |

The main points focused on in the explicit instruction for this class were as follows:

- more formal expressions, e.g., *to judge from; judging from; I do not doubt that...*
- combining adverbs and adjectives, e.g., *it is almost certain that...; it was probably true that...*
- the use of appear (more formal), e.g., *it appears quite likely that...*

The review quiz mentioned in Table 6.10 included ten questions covering the types of epistemic stance forms covered during the four classes (adverbs, modal verbs, cognitive verbs, evidential verbs and epistemic expressions).

*Homework tasks*

Homework tasks were assigned at the end of each class. Both groups were asked to read the texts in preparation for the next class but differentiated tasks based on these texts were given to each group: the explicit group's tasks focused on form-function mappings of epistemic stance forms, while the implicit group was given reading comprehension tasks.

### 6.5.7 Remaining Issues

In this section I discuss some remaining issues of importance relating to the classroom interventions: accountability, participation, and the treatment length.

*Accountability*

Although I could not divulge to the students the precise reasons why they were divided into two groups, I did explain to them that the changed timetable was due to research I was carrying out into L2 acquisition. I also informed students that during the research period we would be focusing on descriptions and opinions. I explained that the two groups were being taught the same material, but in different ways. It was not possible to gauge precisely the extent to which the participants might have discussed the contents of their respective classes. It is certainly conceivable that some of the more highly-motivated learners may have been intrigued to know what was happening in the other group's class. However, informal communication with participating students since completing the research suggests to me that students were generally unaware of the research focus, and the differences between the groups.

*Participation*

Overall, attendance and participation in the classes was very good. In fact, as the students could be taught in smaller groups than normal, the atmosphere in the classes seemed more conducive to effective language instruction. I did not observe any drop in interest in the classes due to the fact that they were 'for research'.

*Treatment Length*

The treatment length for each group was 180 minutes consisting of four 45-minute classes. The classes normally had one 90-minute class each week. For a four-week period these

classes were divided into two 45-minute sections. In each case, the implicit group was taught during the first section, followed by the explicit group. Ideally, the treatment would have been longer, as this would have enabled more recycling and practice of the epistemic forms. It would also have enabled output tasks to have played a bigger role in the interventions. However, this length was considered the most viable option considering other content that needed to be covered in the classes as part of their normal curriculum. Moreover, a three-hour intervention is not much shorter than the mean length of 4.08 hours reported in Norris and Ortega's (2000) meta-analysis of studies on L2 instruction.

## 6.6 Data Processing and Analysis

Having explained the data collection tasks and procedure, and having described the contents of the interventions, the remaining section in this chapter provides information on approaches taken to data analysis in this study. This section provides an overview of the procedures that were carried out on the learners' production data. The corpus data was considered as a starting point, but by no means also the end point, of the analysis. Corpus analysis can highlight patterns of language use which are difficult for the naked eye to observe. At the same time, some key elements of language use remain beyond the analytical powers of corpus tools. For example, there is the problem of the polysemous use of forms.

In order to, as it were, *get the best of both worlds*, in this study I used a combination of automated corpus analysis and manual analysis in order to achieve a thorough and comprehensive analysis of the data. Through this approach, I was able to develop a deep understanding of the ways in which learners used epistemic stance. I found consistencies and patterns, as well as anomalies and exceptions, in the ways in which learners used epistemic stance forms following their respective classroom treatments. I was also able to identify

further ways of looking at the data that were appropriate to the data in this study (the use/non-use approach described in Section 6.6.5 and presented in Chapter 9 is one such example).

### 6.6.1 Corpus Compilation

As stated above, the initial analysis of the data involved the use of learner corpora. These learner corpora and sub-corpora were prepared using concordancing software (*Antconc*, Anthony, 2007).[40] Details of the learner corpora used in the analysis are given in Table 6.11 This shows that a total of 24 learner corpora were created on a two (treatment groups) x two (genres) x two (language modes) x three (data collection points) model. These corpora could be combined or further separated (e.g., by proficiency level) as needed in the data analysis.

**Table 6.11** Organization and size of the learner corpora (tokens)

| | | Explicit group (n = 37) | | | Implicit group (n = 44) | | |
|---|---|---|---|---|---|---|---|
| | **test** | **Total** | **opin*** | **desc** | **Total** | **opin** | **desc** |
| **Writing** | pre | 12167 | *6587* | *5580* | 14110 | *7711* | *6399* |
| **tasks** | post | 13533 | *7142* | *6391* | 16128 | *8313* | *7815* |
| | delayed | 13834 | *7146* | *6688* | 16688 | *8640* | *8048* |
| **Speaking** | pre | 7916 | *4297* | *3619* | 9689 | *5219* | *4470* |
| **tasks** | post | 8901 | *4736* | *4165* | 10575 | *5685* | *4890* |
| | delayed | 9234 | *5024* | *4210* | 10907 | *5946* | *4961* |

* opin = opinion; desc = description

### 6.6.2 Corpus Analysis

The following procedures were carried out on the corpora:

- Wordlists were created to find out the frequencies of the forms under analysis. They were also used to carry out keyword analyses, see below.

[40] I changed from *Wordsmith* (Scott, 1996), which I had used in the pilot study, to *Antconc* (Anthony, 2007) because I found the user-interfaces for wordlists, concordancing and keywords (the main types of analysis I used in this research) easier to use.

- Word frequency lists for two different corpora (or two different groups of corpora) were compared using keyword analysis (see Section 4.2) in order to identify epistemic forms with significantly different frequencies in the two corpora.
- For each form focused on in the analysis, a concordance was created in order to: look at how the form was used in context; identify uses of the form which were not epistemic; and to see whether the form was used in any collocations or formulaic expressions.

The automated frequency counts which are run by corpus software such as *Antconc* (Anthony, 2007) do not differentiate between different senses and functional uses of linguistic forms. Furthermore, if a learner wrote '*he maybe drinking some orange juice*' the corpus will count one occurrence of the adverb *maybe* when in fact the learner may simply have forgotten to put a space between *may* and *be*, i.e., s/he intended to use a modal verb. In such cases of ambiguity or lack of clarity, concordance analysis helps the researcher look at the context in order to get a clearer idea on how a form is being used.

### 6.6.3 Analysis of Individual Files

As well as the corpus-based analysis, I also carried out an analysis of each learner's language production. In order to do this I created a document for each learner containing their six written compositions together with the transcripts of their six 'speeches'[41]. I read through each learner file and highlighted every epistemic form. This procedure involved careful analysis of modal verb use. Epistemic uses were highlighted whilst non-epistemic uses and cases in which it was not possible to state with certainty that the use was epistemic were left unmarked. This procedure was carried out first on a hard copy and repeated with an electronic copy a few months later. In this way I read through every document twice, thus ensuring a greater level of accuracy in the analysis, whilst I also 'got to know my data' very

[41] Appendix 5 includes the full production data from a selection of students in each instruction group and at different proficiency levels.

well. For each learner, I also created a spreadsheet showing their frequency of use of epistemic forms for each task and in each of the three tests (an example for one participant can be seen in Appendix 6). These 'summary spreadsheets' also enabled me to calculate epistemic type and token scores for each learner (see below).

### 6.6.4 Epistemic Type and Token Scores

In order to measure the frequency (*tokens*) and range (*types*) of epistemic forms used by each learner, I calculated epistemic token and type scores. The epistemic *token* score is the total number of epistemic forms used, including repetitions of the same form. The epistemic type score is the number of *different* epistemic forms used. For each learner, I calculated separate scores for writing and speaking on each of the three tests. Table 6.12 shows the epistemic token and type scores for one learner from the Explicit group (EM12) together with the forms which she used in each test.

**Table 6.12** Epistemic token and type score analysis: Participant EM12

| | Pre-test | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | **Writing** | **Speaking** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| **TOKENS** | 4 | 4 | 16 | 5 | 10 | 4 |
| **TYPES** | 4 | 2 | 12 | 3 | 8 | 2 |
| **FORMS** | certainly (1)<br>may (1)<br>seem (1)<br>I think (1) | I think (3)<br>seem (1) | I guess (2)<br>may (2)<br>must (2)<br>will (2)<br>certainly (1)<br>could (1)<br>hear (1)<br>might (1)<br>probably (1)<br>seem (1)<br>I suggest (1)<br>I think (1) | I think (3)<br>must (1)<br>seem (1) | perhaps (2)<br>seem (2)<br>certainly (1)<br>in my opinion (1)<br>judging from (1)<br>maybe (1)<br>must (1)<br>will (1) | I think (3)<br>maybe (1) |

Both the epistemic token and type scores are used in the analysis relating to the research questions guiding this study (see Chapters 7~9 below).

### 6.6.5 Individual Patterns of Change and Development

The final stage of analysis involved comparing individual learners' use of epistemic forms before and after the classroom interventions. For each form (e.g., *I think, must, seem*) and each form category (e.g., cognitive verbs, modal adverbs, modal verbs) in each mode (writing and speaking), a notational system was used to compare language use before and after the interventions (this system is shown in Table 6.13).

**Table 6.13** Notational system for *use/non-use* analysis[42]

| Pre-test | Post-test | Delayed Post-test | Notation | |
|---|---|---|---|---|
| √ | √ or X | √ or X | O | |
| X | √ | √ | ++ | *gain → gain* |
| X | √ | X | +- | *gain → loss* |
| X | X | √ | →+ | *delayed gain* |
| X | X | X | [left blank] | *no gain* |

*√ = used; X = not used

The main aim of this analysis was to identify forms and form categories which learners may have started using as a result of the interventions. Here I describe the process of analysis:

(1) I distinguished between cases of *use* or *non-use* of each form/form category prior to the intervention;

(2) in cases of *pre-test non-use*, I distinguished between four possibilities regarding post-test use of the form/form category:

  (a) used in both post-tests = *short- and long-term 'gain'*;

  (b) used in the post-test but not in the delayed post-test = *'gain' → 'loss'*;

  (c) used in the delayed post-test but not in the post-test = *delayed 'gain'*;

[42] In some cases learners used a form in the pre-test but did not subsequently use it in either post-test. This situation was not focused on because the main aim of this analysis was to identify cases in which instruction may have resulted in learners' *gaining* epistemic forms following the pedagogical interventions.

(d) not used in either post-test = *no 'gain'*

The words 'gain' and 'loss' are used with caution here because it is clear that a learner's non-use of a form in the pre-test cannot be considered as certain evidence that s/he did not know that form prior to the intervention; s/he may have known it but simply did not use it. However, this analytical approach was adopted because across a large sample of learners, if clear patterns of change are observed in individuals' use of forms prior to and after interventions, it provides important evidence on instructional effects. The participants' data for this analysis can be seen in Appendix 7, and findings from analysis of this data are presented in Chapter 9.

### 6.6.6 Remaining Issue

One further issue related to the data analysis concerns the use of repetitions in the spoken data. For example, when a learner says *I think err I think err maybe err maybe*..., a corpus analysis will count two tokens each of *I think* and *maybe*. However, in the case of an L2 learner it is likely that the repetition is due to problems with fluency rather than an attempt to 'double their epistemic hedging'. Therefore, counting these forms twice in the analysis inevitably distorts the data to some extent. I decided to retain such repetitions for the corpus analysis (i.e., the keyword analyses reported on Sections 7.2 and 8.1.1 include these repetitions), as any attempt to 'clean up' the corpus would have involved taking out all repetitions (i.e., not just those involving epistemic forms). This would have resulted in distorted versions of what the speakers actually said. However, in calculating the frequencies for analysis sections focusing *only* on epistemic forms (see Sections 7.3 and 8.2) and also for the epistemic type scores (see Sections 7.4 and 8.3), I counted such repetitions of epistemic forms as a single use.

## 6.7 Chapter Summary

The first part of this chapter provided details on the 81 participants in the main study, on the research design, and on the process of data collection. In the middle of the chapter I gave extensive details on the explicit and implicit pedagogical interventions which were at the centre of this research. The last part of the chapter explained how the learners' written and spoken production data was analyzed in order to provide valid and reliable answers to the research questions guiding this study. The following three chapters present the results of the data analysis together with discussion of the findings as they relate to the research questions.

# CHAPTER SEVEN

# EFFECTS OF INSTRUCTION ON LEARNERS' WRITING AND SPEAKING

## 7.0 Introduction

This is the first of three chapters which present results and discussion based on the data analysis described in the previous chapter. This chapter looks at the interaction between instructional type (explicit vs. implicit) and language modality (speech vs. writing). The following chapter focuses on the interaction between instructional type and proficiency level, while Chapter 9 looks at individual patterns of development and change with regard to the use of specific epistemic stance forms and categories. Here and in Chapter 8, the main variables are investigated by presenting three different sources of data analysis: (1) learner corpora keyword analysis; (2) frequency lists of epistemic forms based on manual analysis; and (3) learners' epistemic type scores. Looking at the data from a variety of perspectives in this way enables a more nuanced understanding of the interactions between different variables.

This chapter begins with a comparison of the pre-test use of epistemic forms in writing and speaking in order to establish that the way in which epistemic stance is expressed in the two modes of communication is substantially different (Section 7.1). This is followed by a comparative analysis of the written and spoken data, which is divided into three parts. First, in Section 7.2, I focus on the results of *between-group* (explicit vs. implicit) and *within-group* (pre-test vs. post-test and pre-test vs. delayed post-test) keyword analysis. The second part (Section 7.3) presents frequency figures for epistemic forms and form categories, which followed the manual analysis of the data. The third part of this analysis (Section 7.4) presents the findings from the analysis of epistemic type scores, which provide insights into whether learners did or did not change their *range* of epistemic forms in writing and speaking

following instruction. Section 7.5 provides a summary and discussion of the findings in this chapter.

## 7.1 Pre-test Use of Epistemic Stance in Writing and Speaking

The difference in the way learners use epistemic stance in writing and speaking can be seen from an analysis of the pre-test data from all 81 participants (explicit and implicit group combined) using corpus keyword analysis, as well as epistemic type scores (see Section 6.6.4). The results of the *keyword analysis* demonstrated clear differences in the use of epistemic stance forms in the two modalities (see Table 7.1).

**Table 7.1** Keywords: Pre-test writing vs. speaking

| Significance Level | Writing > Speaking | Speaking > Writing |
|---|---|---|
| $p < .0001$ | *will; may* | *maybe* |
| $p < .001$ | *must; perhaps* | |
| $p < .01$ | *would; believe; seems* | |
| $p < .05$ | *sure; seem; suppose; could* | |

*Note.* The results of all the keyword analyses carried out are presented in tables like this one. The significance levels are based on Rayson's Log-likelihood calculator (retrieved from http://ucrel.ac.uk/llwizard.html). This website gives the significance levels of keyness scores as follows: $p < .05$, critical value = 3.84; $p < .01$, critical value = 6.63; $p < .001$, critical value = 10.83; $p < .0001$, critical value = 15.13. In this table, the column with the heading 'Writing > Speaking' shows the epistemic forms which had significantly higher frequencies in the written corpus than the spoken corpus. The column with the heading 'Speaking > Writing' shows those forms which were significantly more frequent in the spokencorpus than the written corpus.

The imbalance towards the left-hand side of this chart shows that epistemic stance is typically used much more by learners in writing than speaking. The list of keywords in the written corpus includes five modal verbs (*will, may, must, would, could*), one modal adverb (*perhaps*), two cognitive verbs (*believe, suppose*), one evidential verb (*seem(s)*[43]), and one modal adjective (*sure*, which was typically used in the expression *I am sure*...). In other

[43] In the keyword analysis I used unlemmatized corpora. In other words, forms such as *seem, seems, seemed,* which all stem from the same core form ('lemma'), were analysed separately.

words, all the categories of epistemic stance forms focused on in this research are represented in this list. One notable omission is *think*. This means that there was no significant difference in the frequency with which learners used *think* in writing and speech. Just one form, *maybe*, was used significantly more often in speech than writing. In fact, *maybe* was used almost six times more frequently in speaking than writing, which confirms its status as a primary marker of epistemic stance in speaking (see Sections 2.5.2 and 5.2). This keyword analysis therefore demonstrated clear differences in the frequencies of specific epistemic stance forms in writing and speaking.

The analysis of the pre-test epistemic type scores showed the extent to which the learners could use a variety of epistemic forms (the method for calculating this score is shown in Section 6.6.4). The mean epistemic type scores in writing and speaking for all 81 participants in the pre-test data are shown in Table 7.2. This data shows that, on average, the learners used almost twice as many epistemic types in writing as compared to speaking. A paired samples t-test revealed a significant difference between writing ($M = 5.35$, $SD = 2.50$) and speaking ($M = 2.69$, $SD = 1.61$), $t(80) = 10.93$, $p < .001$.

**Table 7.2** Epistemic type scores: Pre-test

| | Epistemic Type Score | |
|---|---|---|
| **N = 81** | ***M*** | ***SD*** |
| Writing | 5.35 | 2.5 |
| Speaking | 2.69 | 1.61 |

The above analysis demonstrated clear differences in the use of epistemic stance in writing and speaking in the pre-test, which provides strong evidence that these different communication modes place differing demands on learners' linguistic and cognitive resources. As a result, it makes sense to consider the relative effects of explicit and implicit

instruction separately for each mode of communication. The following sections compare the pre-test data with the post- and delayed post-test data of each instructional group in order to investigate the relative effects of the interventions on learners' writing and speaking.

## 7.2 Corpus Analysis

For each set of data (pre-test, post-test and delayed post-test) separate corpora were constructed for the written and spoken data of the explicit and implicit groups. The details of these corpora are given in Table 7.3. These data clearly reveal that the learners used a greater range of vocabulary in writing than in speaking. It is also noticeable that for both groups, and in both modes, there was an increase in types and tokens between the pre-test and the delayed post-test. These increases may have been caused by general improvements in fluency and knowledge of L2 forms, and/or by the effects of *task repetition* (Bygate, 2001.)

**Table 7.3** Learner corpora for written and spoken language

| | Speaking | | | | Writing | | |
|---|---|---|---|---|---|---|---|
| | **files** | **types** | **tokens** | | **files** | **types** | **tokens** |
| **Explicit** | 74 | 763 | 7916 | **pre** | 74 | 1417 | 12167 |
| | 74 | 790 | 8901 | **post** | 74 | 1413 | 13533 |
| | 74 | 826 | 9234 | **delayed** | 74 | 1427 | 13834 |
| **Implicit** | 88 | 866 | 9689 | **pre** | 88 | 1466 | 14110 |
| | 88 | 890 | 10575 | **post** | 88 | 1593 | 16128 |
| | 88 | 894 | 10907 | **delayed** | 88 | 1609 | 16688 |

The following section presents the results from two types of keyword analysis: the first type involves *between-group* analysis, i.e., the frequency of words in comparable corpora of the explicit and implicit groups are compared to see if there are any significant differences in the use of specific epistemic forms between the groups; the second type of analysis involves *within-group* analysis, and looks at whether there are any significant differences in the

frequency of use of epistemic forms by one group for one mode (e.g., the explicit group's spoken language) over time (e.g., between the pre- and post-tests).

### 7.2.1 Between-Group Keyword Analysis

*Pre-test*

In the case of the *pre-test* data it was expected that there would be few significant differences in the use of epistemic forms by the two groups. Those forms which did have significantly different frequencies are shown in Table 7.4.

**Table 7.4** Keywords: Pre-test explicit vs. implicit

| | Explicit > Implicit | | Implicit > Explicit | |
|---|---|---|---|---|
| **Significance Level** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| $p < .0001$ | | | | |
| $p < .001$ | | *know* | | *feel* |
| $p < .01$ | *probably* | *may; probably* | | |
| $p < .05$ | | | *sure* | |

This table tells us that the explicit group used *probably* significantly more often than the implicit group in both writing and speaking, and that they used *know* and *may* significantly more in speaking. In contrast, the implicit group used *sure* significantly more than the explicit group in writing and *feel* significantly more in speaking. This shows that the frequency of use of epistemic forms by the two groups was not precisely the same at the time of the pre-test. However, for most of these forms the actual frequency of use was very low[44]. Also, the majority of common epistemic forms (e.g., *think, believe, guess, suppose, seem, look, must,*

[44] For example, in the case of *may* in speaking it was used 8 times in total (by 6 learners) in the explicit group data, and just once in the implicit group data. It is certainly important to be cautious about over-interpreting the importance of some of the individual keywords, particularly those with the lower significance levels ($p < 0.05$ and $p < 0.01$) which had low frequencies in both groups. However, as can be seen by comparing Figure 7.5 with Figure 7.4, when several different epistemic forms all exhibit similar patterns of difference between the two groups, this data provides clear evidence of the differential effects of explicit and implicit instruction.

*might, could, maybe, perhaps*) do not appear in this table because there were no significant differences in their frequency of use in the pre-test between the two groups in either writing or speaking. As a result, it can be seen that in general there was little difference between the two groups prior to the interventions. At the same time, where pre-test differences do exist for specific forms, they need to be taken into account in the post-test data analysis.

*Post-test*

The keyword analysis of the post-test data (see Table 7.5) revealed far greater differences between the two groups in their use of epistemic forms.

**Table 7.5** Keywords: Post-test explicit vs. implicit

| | **Explicit > Implicit** | | **Implicit > Explicit** | |
|---|---|---|---|---|
| **Significance Level** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| $p < .0001$ | *be*[45]*; probably; perhaps* | *suppose* | *think*[46] | |
| $p < .001$ | *might; believe; must* | *be; guess; might* | | *maybe* |
| $p < .01$ | *certainly; suppose* | *must* | | |
| $p < .05$ | *doubt; seem; judging; possible; definitely; sure* | *would; probably* | | *think* |

In the case of writing, after the intervention, the explicit group used a wide range of epistemic forms significantly more than the implicit group. Most of these keywords are in line with the contents of the explicit instruction and cover all the categories of epistemic forms focused on (modal adverbs: *probably, perhaps, certainly, definitely*; cognitive verbs: *believe, suppose*; modal verbs: *might, must*; evidential verbs: *seem*; epistemic expressions: *judging (from), (it*

[45] Of course, *be* is not, by itself, an epistemic stance form but it is included in this table because this significant difference was caused by its strong syntactic relationship with several epistemic forms (see Section 7.2.3 below for a full discussion).

[46] In the keyword analysis data, *think* refers to all uses and not just those in the epistemic form *I (don't) think*. However, the vast majority of occurrences are epistemic, and the difference in frequencies between groups is undoubtedly due to the effects of instruction on the use of *I think*. In the analysis in later sections of this chapter (7.3 and 7.4), which followed manual analysis of concordance lines, *I think* refers only to epistemic uses. The same situation applies to other cognitive verbs, e.g., *suppose, believe*.

*is) possible (that), (I am) sure (that)*). Furthermore, the significantly lower use of *think* by the explicit group in the post-test provides strong evidence that the explicit intervention had an immediate effect in decreasing learners' use of this form.

It also has to be taken into account, when considering the modal verbs, that this analysis includes both deontic and epistemic uses. Therefore, considering that the increase in their frequencies was almost entirely due to epistemic uses, the instructional effect was actually much greater than is shown by these keyword statistics[47].

The data for *speaking* shows less epistemic keywords in the post-test data than in the case of writing. However, following their respective interventions, the explicit group used some cognitive verbs (*suppose, guess*) and modal verbs (*might, must, would*) significantly more than the implicit group in speaking, when this had not been the case prior to instruction. Moreover, the students in the explicit group used *think* and *maybe* significantly less than the implicit group following instruction. This finding regarding *think* is interesting because the intervention had mainly targeted the overuse of *I think* in writing, but not in speaking. However, what probably happened is that because learners gained new forms to express epistemic stance, they used *think* and *maybe* less frequently.

*Delayed Post-test*

Finally, Table 7.6 shows the results of the keyword analysis comparing the delayed post-test data for the two groups. Without doubt the most striking finding from this table is the decrease from the number of epistemic keywords in the post-test data. The significant post-test differences in the use of modal verbs had entirely disappeared by the time of the delayed

[47] An example from this data is the case of *must* which is a keyword ($p < .001$) in Table 7.5 because its frequency increased from 27 (Pre) to 65 (Post). However, the increase in epistemic uses was from 5 to 31, whilst the change in non-epistemic uses was from 22 to 34. This means that *most* of the change was due to development in the use of epistemic stance.

post-test. The remaining differences in the delayed post-test data mostly involved cognitive and evidential verbs. In writing, the explicit group learners used *believe* significantly more, and *think* significantly less, than the implicit group learners. In speaking, the explicit group used *seem, tend* and *suppose* significantly more than the implicit group. Also, there was no longer any difference in the use of *think* and *maybe* five months after the interventions.

**Table 7.6** Keywords: Delayed post-test explicit vs. implicit

| | Explicit > Implicit | | Implicit > Explicit | |
|---|---|---|---|---|
| **Significance Level** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| $p < .0001$ | *probably*[48] | | | |
| $p < .001$ | | | *think* | |
| $p < .01$ | *believe* | *seem; tend* | | |
| $p < .05$ | *judging; opinion* | *suppose* | | |

The between-group keyword analysis suggests that the interventions led to immediate changes in learners' use of epistemic forms. In particular, many of the forms targeted in the interventions were used significantly more often by the explicit group than the implicit group in the immediate post-test. However, by the time of the delayed post-test, the majority of these significant differences were no longer evident.

### 7.2.2 Within-Group Keyword Analysis

The second set of keyword analyses focused on the explicit and implicit groups separately and compared the frequencies of epistemic forms for each mode (writing and speaking) in the pre-test with the post- and delayed post-test, respectively. In this section, the data for the explicit group is looked at first, followed by the implicit group.

[48] The data for *probably* should be considered with a note of caution because it was already used more frequently by the explicit group (than the implicit group) at the time of the pre-test (see Table 7.4). However, the fact that its keyness score was much greater in both sets of post-test data than in the pre-test data strongly suggests that the explicit intervention lead to learners using it more than previously.

*Explicit Group*

The results of the keyword analysis for the explicit group are shown in Tables 7.7 (pre-test vs. post-test) and 7.8 (pre-test vs. delayed post-test). It is clear from Table 7.7 that the explicit intervention had a significant short-term effect on the learners' use of epistemic forms for both writing and speaking. Learners increased their use of epistemic forms in all the main areas that were focused on in the explicit intervention (cognitive verbs, evidential verbs, modal verbs and modal adverbs). There was also a highly significant decrease in the use of

**Table 7.7** Keywords: Explicit group pre-test vs. post-test

| | **Post-test > Pre-test** | | **Pre-test > Post-test** | |
|---|---|---|---|---|
| **Significance Level** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| $p < .0001$ | *be* | | *think* | |
| $p < .001$ | *might; probably; must; that* | *suppose* | | |
| $p < .01$ | *sure; perhaps; believe; seems* | *be* | | *maybe; think; know* |
| $p < .05$ | *certainly; doubt; suppose; definitely* | *seem; look; seems; would* | | |

*think* in writing, and both *think* and *maybe* in speech. The keyword analysis also showed very significant increases in learners' use of *be* and *that*, which are not, of course, epistemic forms. However, concordance analysis showed that these increases were in fact the result of their use in epistemic forms (e.g., *might be, must be, it seems that*). This finding is looked at in more detail in Section 7.2.3. The only case where changes in learner production contradicted the contents of the explicit intervention was the increase in learners' use of *suppose* in writing; they had been taught that it would be a good alternative to *think* in *spoken* language.

Comparison of the data for writing and speaking shows that instruction apparently had a greater effect on learners' writing. In the spoken data, there were fewer epistemic forms which showed significant changes in frequency and the degree of change for specific forms

tended to be smaller. In spite of this, it can still be argued from this initial analysis that the explicit intervention had a clear immediate effect on the way learners used epistemic forms in both modes of communication.

The keyword analysis comparing learners' pre- and delayed post-test data provides information on whether the explicit intervention also had a *long-term* effect on learners' use of epistemic forms in writing and speaking. As Table 7.8 shows, the number of forms which had significant differences in frequency had decreased after the five-month interval, providing strong evidence that the long-term effect of the intervention was not as strong as the immediate effect. However, learners did make long-term gains in both writing and speaking as regards the use of *seem*. Also, the more frequent use of *be* in both modes in the delayed post-test suggests an overall increase in the use of modal verbs (see Section 7.2.3). In the case of writing, long-term gains can also be seen for *look, sure* and *believe*. The one instructional category which saw no long-term gains in this analysis is modal adverbs. It is also apparent that the intervention had a long-term effect as regards *decreasing* learners' use of *think* in writing.

**Table 7.8** Keywords: Explicit group pre-test vs. delayed post-test

| | Delayed Post-test > Pre-test | | Pre-test > Delayed Post-test | |
|---|---|---|---|---|
| **Significance Level** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| $p < .001$ | *looks* | | *think* | *know* |
| $p < .01$ | *be; might* | *seem* | | |
| $p < .05$ | *sure; believe; seem* | *be* | | |

*Implicit Group*

The results of the parallel keyword analysis for the implicit group are presented in Tables 7.9 (pre-test vs. post-test) and 7.10 (pre-test vs. delayed post-test).

**Table 7.9** Keywords: Implicit group pre-test vs. post-test

| | Post-test > Pre-test | | Pre-test > Post-test | |
|---|---|---|---|---|
| **Significance Level** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| $p < .05$ | *probably* | *may* | | *would* |

Table 7.9 shows that there were few significant differences in the frequency of use of epistemic forms by the implicit group in both writing and speaking following the implicit intervention. The increase in the use of *may* and *probably* in the post-test may well be related to their low use in the pre-test (see the comparison with the explicit group in Table 7.4 above). By the time of the delayed post-test (see Table 7.10) a small number of forms were used significantly more often than in the pre-test (*might, looked, seemed*). These rare examples of epistemic forms which *did* show long-term gains in the case of the implicit group are looked at in detail in Chapter 9, when individual learners' gains of specific forms are focused on.

**Table 7.10** Keywords: Implicit group pre-test vs. delayed post-test

| | Delayed Post-test > Pre-test | | Pre-test > Delayed Post-test | |
|---|---|---|---|---|
| **Significance Level** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| $p < .01$ | *might; looked* | | | |
| $p < .05$ | *seemed* | *will* | *will* | |

Overall, this keyword analysis shows the following:

- the explicit intervention had a very strong immediate effect on learners' use of epistemic forms, whilst the long-term effect was less robust;
- the explicit intervention had a greater effect on learners' use of epistemic forms than the implicit intervention in the case of both writing and speaking, and in both the short- and long-term;
- the explicit intervention had a stronger effect in the case of writing than speaking;
- the effects of the explicit intervention were more durable in the case of writing than speaking.

*Loss of gains*

Here I will discuss in more detail the finding that long-term effects were not as strong as the immediate effects in the case of the explicit group. There is a fairly consistent pattern in the data of some of the immediate gains being lost by the time of the delayed post-test. This 'loss of gains' has also been observed in other studies which have used a delayed post-test (e.g., Lyster, 1994; Koike & Pearson, 2005; Takimoto, 2009; Félix-Brasdefer, 2008a, 2008b). Moreover, Norris and Ortega's (2000) meta-analysis also found that on average around 20% of immediate gains were lost by the time of a delayed post-test. In this study I will use the term *partial loss of gains* to describe this situation.

This pattern was investigated further by carrying out a post-hoc keyword analysis comparing the frequencies of epistemic forms *between the two post-tests* for the *explicit group*'s data. I compared the keyness scores for epistemic forms between the pre- and post-tests, with those scores for the comparison between the two post-tests. The results from this analysis are presented in Table 7.11. In the typical case, the change between the pre- and post-tests is followed by a partial reversal of that change between the two post-tests. An example of this pattern can be seen in the case of *must* in writing. When its pre- and post-test frequencies were compared, the keyness score was 12.4 ($p < .001$), indicating a significant increase in its use following the explicit intervention. However, when the two post-test frequencies were compared, the keyness score was 7.2 ($p < .01$) in the *opposite direction.* This meant that its frequency had significantly reduced between the two post-tests, although the lower keyness value shows that this was a case of *partial* loss of gains.

This pattern of partial loss of gains can be seen by comparing the plus (+) and minus (-) signs in Table 7.11. In all but a small number of cases, the plus sign is followed by a minus sign but with the minus number being a lower figure than the plus number. This demonstrates a

consistent pattern of 'gain' followed by 'partial loss'. The same pattern, but in reverse, is also evident in those few cases where instruction led to a *decrease* in the use of a form between the pre- and post-tests (see *think* in both modes, and *maybe* in speaking). To reiterate, there is a clear overall pattern for both writing and speaking of development between the pre- and post-tests being followed by varying degrees to which gains were losts (but rarely 'full reversal') by the time of the delayed post-test.

**Table 7.11** Explicit group: A comparison of keyness scores

| | Writing | | Speaking | |
|---|---|---|---|---|
| | **Pre to Post** | **Post to Delayed** | **Pre to Post** | **Post to Delayed** |
| *be* | 30.3 [+]**** | **6.7 [-]**** | 10.1 [+]** | **1.1** [-] |
| *believe* | 7.3 [+]** | **0.4 [-]** | 2.5 [+] | **0.0** [-] |
| *certainly* | 6.5 [+]* | **5.0 [-]*** | 2.5 [+] | **0.4** [-] |
| *doubt* | 5.1 [+]* | 5.6 [-]* | - | - |
| *know* | 0 | 0.5 [+] | 6.8 [-]** | 1.4 [-] |
| *look* | 3.5 [+] | 3.5 [-] | 5.6 [+]* | **4.0** [-]* |
| *maybe* | 1.9 [+] | **0.7** [-] | 8.8 [-]** | **7.9** [+]** |
| *might* | 14.1 [+]*** | **0.8** [-] | 0.5 [+] | 0.9 [-] |
| *must* | 12.4 [+]*** | **7.2** [-]** | 3.3 [+] | **0.5** [-] |
| *perhaps* | 7.4 [+]** | **4.6** [-]* | 3.8 [+] | 4.3 [-]* |
| *probably* | 13.0 [+]*** | **7.0** [-]** | 0.7 [+] | 1.3 [-] |
| *seem* | 2.7 [+] | 0.2 [+] | 6.4 [+]* | 0.6 [+] |
| *seems* | 7.3 [+]** | **1.7** [-] | 4.8 [+]* | **3.2** [-] |
| *suppose* | 4.9 [+]* | **2.9** [-] | 14.3 [+]*** | **10.2** [-]** |
| *sure* | 9.8 [+]** | **0.9** [-] | 1.3 [+] | 1.4 [-] |
| *that* | 10.9 [+]*** | **8.9** [-]** | 0.8 [+] | 4.4 [-] |
| *think* | 26.2 [-]**** | **2.8** [+] | 6.9 [-]* | **3.2** [+] |

**** $p < .0001$, *** $p < .001$, ** $p < .01$, * $p < .05$

[+] keyness score represents an increase in frequency between two tests
[-] keyness score represents a decrease in frequency between two tests
*Note.* Cases of 'partial loss of gains' have been put in bold print and underlined.

### 7.2.3 *BE* and *THAT*

When the keyword analysis comparing the pre- and post-test written data for the explicit group was run, it was at first surprising to find *be* as by far the most significant keyword in

the latter corpus, i.e., it was the word with the most significant gain in frequency between the pre- and post-tests. Furthermore, it was also a highly significant keyword when the pre- and post-test spoken corpora for the explicit group were compared. The explicit group written data keyword analysis also showed *that* to be a fairly significant keyword in the post-test corpus, although this was not the case for the spoken corpus. As these forms showed no significant differences in comparisons of the pre- and post-test implicit group data, I decided to carry out an explorative manual analysis of concordances of these two forms as it seemed highly likely that the changes were caused by the explicit intervention.

*BE*

In the case of *be*, its use in epistemic modal verb expressions (e.g., *may be, must be*) was the main reason for the large change in its frequency of use by the explicit group (see Table 7.12). A secondary reason was its use in other epistemic expressions: in particular, *seem to be*. By comparison, there was little change in the use of *be* by the implicit group (see Table 7.13).

**Table 7.12** Use* of *BE*: Explicit group[49]

| | Pretest | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | **Writing** | **Speaking** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| **epistemic modal verbs** | 3 | 1.4 | 8.4 | 3.1 | 5.7 | 1.9 |
| **other epistemic uses** | 1 | 0.3 | 2.6 | 1 | 1.9 | 0.6 |
| **non-epistemic uses** | 2.7 | 1.6 | 2.5 | 2.6 | 2.5 | 2.9 |
| **Total** | 6.6 | 3.3 | 13.5 | 6.7 | 10.1 | 5.5 |

[49] In this chapter, when an asterisk is placed after 'Use' in the title of tables or figures, the measurement used is the standardized frequency per 1000 words in the relevant corpus.

**Table 7.13** Use* of *BE*: Implicit group

| | Pretest | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | Writing | Speaking | Writing | Speaking | Writing | Speaking |
| epistemic modal verbs | 4.1 | 1.4 | 4.1 | 0.9 | 4.1 | 1.1 |
| other epistemic uses | 0.9 | 0.5 | 1.2 | 0.3 | 1.6 | 0.1 |
| non-epistemic uses | 2.9 | 2.5 | 2.3 | 1.7 | 2.8 | 3.9 |
| Total | 7.9 | 4.4 | 7.6 | 2.9 | 8.5 | 4.9 |

Figures 7.1 and 7.2 present the use of *be* in writing and speaking, respectively. These graphs show the frequency of use of *be* in both epistemic and non-epistemic contexts. In the case of

**Figure 7.1** Use* of *BE*: Writing


**Figure 7.2** Use* of *BE*: Speaking


*writing*, the explicit group showed a very large increase in the use of *be* in epistemic contexts between the pre- and post-tests, with partial loss of gains between the two post-tests. In the

case of the implicit group there was a very slight gradual increase in epistemic uses, which was mainly due to an increase in the use of the expression *seem to be*. By comparison, non-epistemic uses show very similar patterns for both groups with little change observable.

The comparable data for spoken language in Figure 7.2 shows a similar pattern of change for the explicit group in the use of *be* in epistemic expressions, whilst by comparison its use in epistemic expressions by the implicit group decreases during the experimental period. However, gains by the explicit group look to be more robust in the case of writing than speaking. The frequency of use of *be* in epistemic expressions nearly doubles over the six-month experimental period in writing (standardized frequencies: 4 → 7.6), whereas the overall gain in spoken language is smaller (1.7 → 2.5).

*THAT*

A similar process of analysis was carried out for *that* after it also showed up as a keyword in the pre-test to post-test comparison for the explicit group's writing. As it is commonly used in epistemic expressions (e.g., *I think that, it seems that* etc.) I decided to carry out concordance analysis for the use of *that* in the corpora. Table 7.14 shows the standardized frequencies of use of *that* by the learners in the explicit group for the following categories: *I think that*; other epistemic uses (e.g., *I believe that, it is true that*); and non-epistemic uses. Table 7.15 presents the equivalent data for the implicit group.

**Table 7.14** Use* of *THAT*: Explicit group

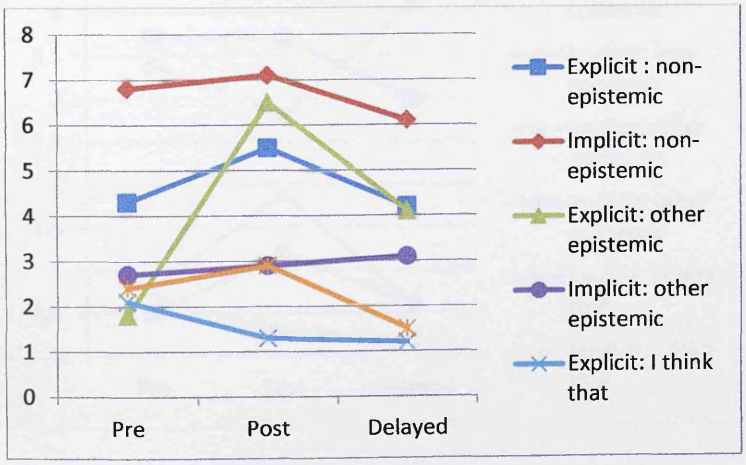
| | Pretest | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | **Writing** | **Speaking** | **Writing** | **Speaking** | **Writing** | **Speaking** |
| ***I think that*** | 2.1 | 0.5 | 1.3 | 0.3 | 1.2 | 0.1 |
| **other epistemic uses** | 1.8 | 0.8 | 6.5 | 1.9 | 4.1 | 0.6 |
| **non-epistemic uses** | 4.3 | 3.7 | 5.5 | 3.7 | 4.2 | 3 |
| **Total** | 8.2 | 4.9 | 13.3 | 6 | 9.5 | 3.8 |

**Table 7.15** Use* of *THAT*: Implicit group

| | Pretest | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | Writing | Speaking | Writing | Speaking | Writing | Speaking |
| ***I think that*** | 2.4 | 0.7 | 2.9 | 0.3 | 1.5 | 0.2 |
| **other epistemic uses** | 2.7 | 0.5 | 2.9 | 1.2 | 3.1 | 0.6 |
| **non-epistemic uses** | 6.8 | 3.4 | 7.1 | 2.8 | 6.1 | 4.1 |
| **Total** | 11.9 | 4.6 | 12.9 | 4.3 | 10.7 | 4.9 |

It is immediately clear from looking at the frequencies in the above tables that epistemic expressions including *that* are much more common in the learners' writing than their speaking. The data for *written language* is presented graphically in Figure 7.3. It is noticeable that in the explicit group's writing, the use of *I think that* reduced in line with the explicit instruction, whilst the use of *that* in 'other epistemic expressions' (e.g., *I believe that, it seems*

**Figure 7.3** Use* of *THAT*: Writing

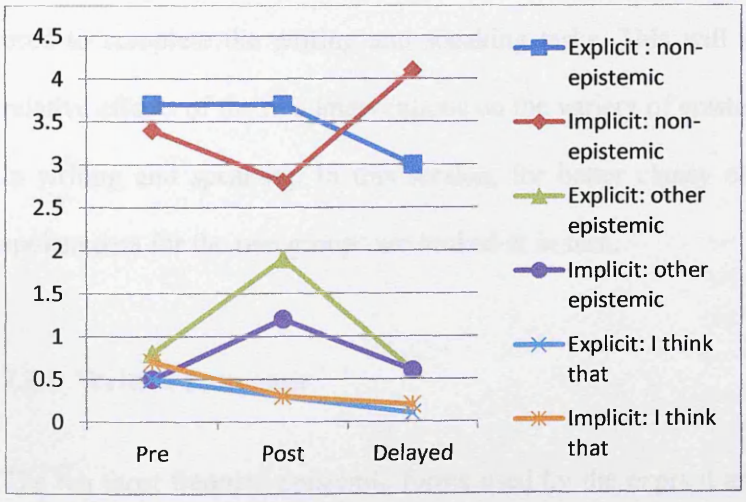



*that, it is true that*) increased, also in line with the intervention. However, partial loss of gains between the two post-tests was evident for this category. The implicit group also decreased their use of *I think that,* and slightly increased their use of 'other epistemic expressions' during the research period. This suggests a certain degree of development but it cannot

necessarily be connected to the implicit intervention, because there is no dramatic change between the pre- and post-tests, as there is for the explicit group.

By contrast, the learners were much less likely to use epistemic expressions with *that* in speaking (see Figure 7.4). It is interesting to note that *I think that* was relatively uncommon in spoken language as learners tended to use *I think*. Other epistemic expressions with *that* (in particular, *it is true that*) were also much less common in learners' spoken language. The explicit intervention did have a slight immediate effect on the use of such forms in speech by the explicit group but those effects did not last until the delayed post-test. The comparable data for the implicit group likewise shows slight development followed by a reversal.

**Figure 7.4** Use* of *THAT*: Speaking




The decision to use corpus analysis to provide an initial overview of the effects of the interventions appears fully justified by the data presented above. As well as providing insights into the changes in the frequency of use of specific forms following the interventions, it also uncovered important findings (the cases of *be* and *that*) which would have been much harder to identify through manual analysis of the data alone.

As described in Section 6.6, after carrying out the keyword analysis I used concordances and analysis of individual files to eliminate non-epistemic uses of forms from the frequency counts. For the spoken data, I also discounted repetitions (see Section 6.6.6). The data presented in the following two sections is based on the data following this 'cleaning' process.

## 7.3 Learners' Expression of Epistemic Stance: Writing vs. Speaking

One of the main aims of the pedagogical intervention was to develop variety in learners' use of epistemic forms because of their apparent reliance on *I think* in writing and on *I think* and *maybe* in their spoken language (see Sections 2.5 and 5.2). Whereas the previous section looked at learners' use of epistemic stance forms in the context of whole corpora of speech and writing, in this section the epistemic forms are looked at *separately* from other language used to complete the writing and speaking tasks. This will afford further insights into the relative effects of the two interventions on the variety of epistemic forms used by the learners in writing and speaking. In this section, for better clarity of presentation, the written and spoken data for the two groups are looked at in turn.

### 7.3.1 Written Language

The ten most frequent epistemic forms used by the explicit and implicit groups at each data collection point are shown in Tables 7.16 and 7.17. Also, Figures 7.5 to 7.10 provide a breakdown of epistemic forms used by each group in the three tests. Comparison of the two groups at the time of the pre-test shows little overall difference. The four most common epistemic forms *(I think, will, may, seem)* are the same in both groups, accounting for 51% and 54% of the epistemic forms used by the explicit and implicit groups, respectively.

*Post-test*

Following the interventions, the distribution of use of epistemic forms changed noticeably in the case of the explicit group. Although *I think* remained the most frequently used form, its contribution to epistemic stance use reduced considerably (36.9% → 10.6%). The comparable data for the implicit group (37.6% → 33.3%) showed a far smaller decrease. The 'more difficult' modal verbs *could, might* and *must* played a much greater role in the expression of epistemic stance following the intervention (3.7% → 13%). There was not such a large increase in the use of these modal verbs by the implicit group (2.9% → 5.6%). As regards the evidential verbs *seem* and *look*, their contribution for the explicit group increased from 10.5% to 14.3%. Interestingly, there was a similar increase in their contribution to the epistemic stance use by the implicit group (11.7% → 16.4%).

**Table 7.16** Most frequent epistemic forms: Explicit group writing

| Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|
| **Form** | **freq.** | **%** | **Form** | **freq.** | **%** | **Form** | **freq.** | **%** |
| *I think* | 129 | 36.9% | *I think* | 61 | 10.6% | *I think* | 85 | 17.2% |
| *will* | 32 | 9.1% | *seem* | 56 | 9.7% | *will* | 50 | 10.1% |
| *may* | 27 | 7.7% | *will* | 53 | 9.2% | *seem* | 48 | 9.7% |
| *seem* | 25 | 7.1% | *may* | 44 | 7.6% | *may* | 34 | 6.9% |
| *would* | 17 | 4.9% | *probably* | 34 | 5.9% | *look* | 31 | 6.3% |
| *look* | 12 | 3.4% | *must* | 31 | 5.4% | *might* | 23 | 4.6% |
| *maybe* | 11 | 3.1% | *might* | 29 | 5% | *must* | 21 | 4.3% |
| *probably* | 9 | 2.6% | *look* | 26 | 4.5% | *opinion* | 16 | 3.2% |
| *of course* | 7 | 2% | *perhaps* | 22 | 3.8% | *probably* | 16 | 3.2% |
| *perhaps* | 7 | 2% | *opinion* | 21 | 3.7% | *could* | 15 | 3% |
| Others | 74 | 21.1% | Others | 198 | 34.4% | Others | 155 | 31.4% |
| **TOTAL** | **350** | | **TOTAL** | **575** | | **TOTAL** | **494** | |

*Note.* The percentages in these charts represent *the proportion of the total number of epistemic forms used.*

**Table 7.17** Most frequent epistemic forms: Implicit group writing

| Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|
| **Form** | **freq.** | **%** | **Form** | **freq.** | **%** | **Form** | **freq.** | **%** |
| *I think* | 167 | 37.6% | *I think* | 173 | 33.3% | *I think* | 156 | 30.5% |
| *will* | 58 | 13.1% | *will* | 49 | 9.4% | *seem* | 49 | 9.6% |
| *seem* | 31 | 6.7% | *seem* | 43 | 8.3% | *may* | 43 | 8.4% |
| *may* | 28 | 6.3% | *look* | 42 | 8.1% | *will* | 39 | 7.6% |
| *look* | 21 | 4.7% | *may* | 42 | 8.1% | *look* | 38 | 7.4% |
| *maybe* | 19 | 4.3% | *maybe* | 26 | 5% | *might* | 27 | 5.3% |
| *I guess* | 10 | 2.3% | *would* | 17 | 3.3% | *maybe* | 23 | 4.4% |
| *opinion* | 9 | 2% | *could* | 12 | 2.3% | *would* | 13 | 2.5% |
| *sure* | 9 | 2% | *I guess* | 11 | 2.1% | *must* | 12 | 2.3% |
| *would* | 9 | 2% | *I know* | 10 | 1.9% | *I know* | 10 | 2% |
| Others | 83 | 18.7% | Others | 94 | 18.1% | Others | 102 | 19.9% |
| **TOTAL** | **444** | | **TOTAL** | **519** | | **TOTAL** | **512** | |

The use of modal adverbs by the explicit group also increased sharply, reflected in particular by the data for *probably* and *perhaps* (combined contribution: 4.6% → 9.7%). In contrast, the frequency of use of these two forms hardly changed in the case of the implicit group (combined contribution: 1.6% → 2.3%). In fact, *maybe* was the only modal adverb in the top ten epistemic forms used by the implicit group in both the pre- and post-tests, and its contribution increased slightly (4.3% → 5%). In the case of the explicit group, its contribution did not change (3.1% → 3.1%).

**Figure 7.5** Explicit group writing: Pre-test

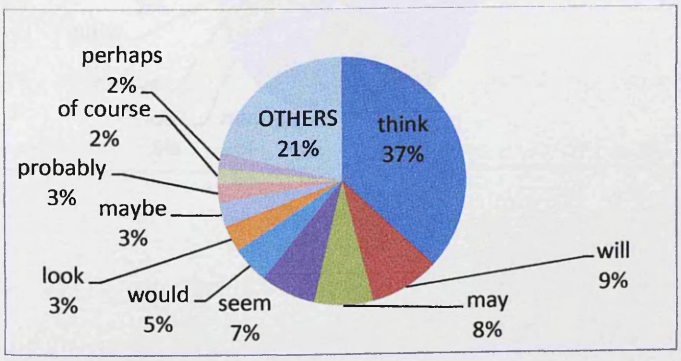


**Figure 7.6** Explicit group writing: Post-test

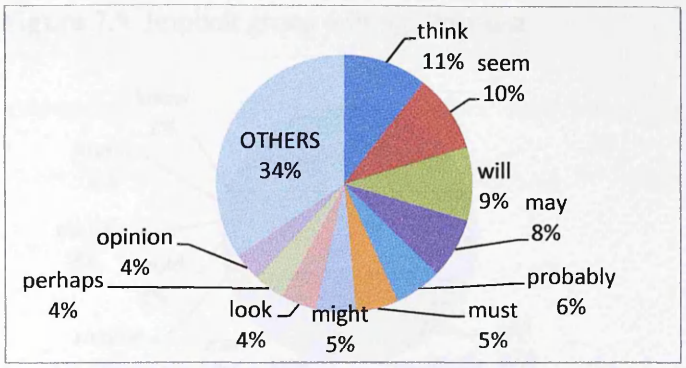



**Figure 7.7** Explicit group writing: Delayed post-test

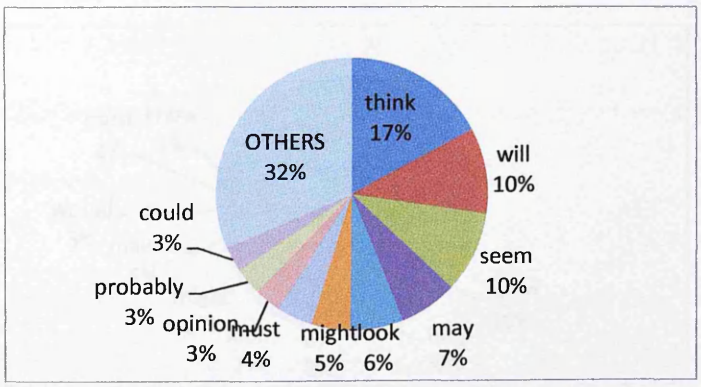



**Figure 7.8** Implicit group writing: Pre-test

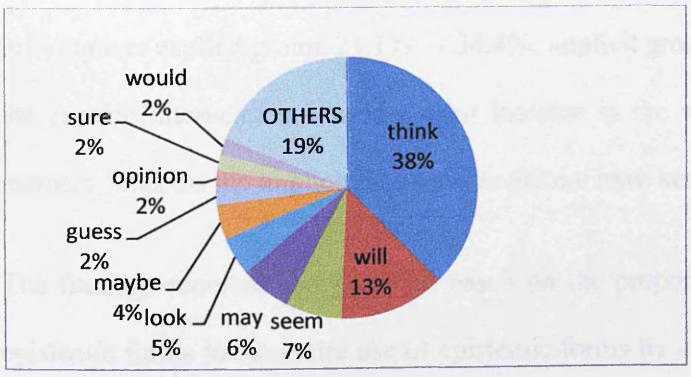


**Figure 7.9** Implicit group writing: Post-test

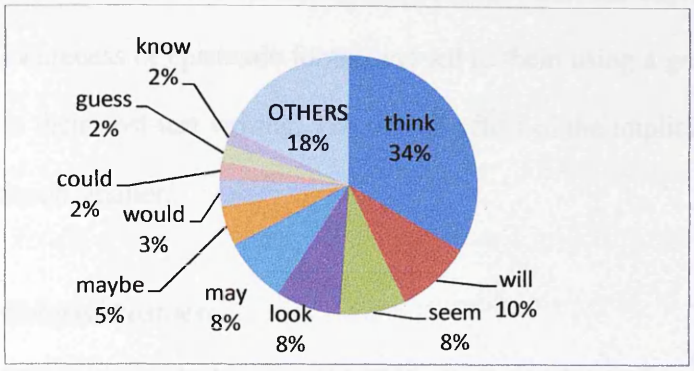
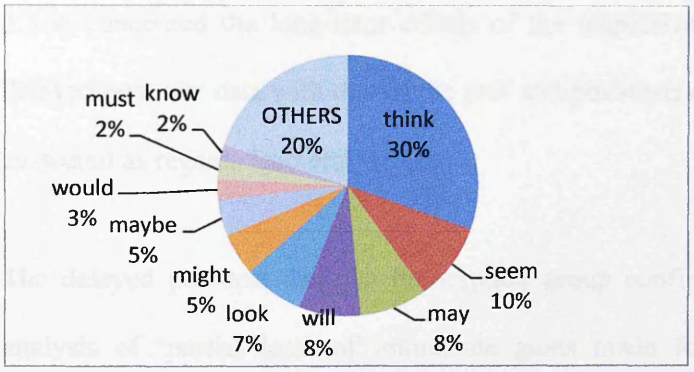



**Figure 7.10** Implicit group writing: Delayed post-test




The proportion of epistemic forms of 'Others' (forms other than the ten most frequent) is also informative: explicit group, 21.1% → 34.4%; implicit group, 18.7% → 18.1%). It reveals that the explicit intervention caused a clear increase in the *variety* of epistemic forms used by learners, whereas the implicit intervention did not have such an effect.

The findings reported above are all based on the proportional contribution (percentage) of epistemic forms to the entire use of epistemic forms by a group. However, it is important to consider these results in light of the overall change in the frequency of use of epistemic forms in writing by the two groups. In the case of the explicit group, their total frequency of epistemic forms increased by over 50% between the pre- and post-test from 350 to 575

(number per learner: 9.5 → 15.5[50]). The comparable figures for the implicit group were: 444 (10.1) → 519 (11.8). There is little doubt that the explicit intervention activated learners' awareness of epistemic forms, and led to them using a greater frequency and variety of them in their post-test writing. The overall effect of the implicit intervention appears to have been much smaller.

*Delayed Post-test*

The above analysis presented the immediate effects of the intervention, as shown by the post-test data. However, one of the main questions (RQ1b) targeted by this research (see Section 3.3.3) concerned the long-term effects of the respective interventions. Comparison of the delayed post-test data with that of the pre- and post-tests enables this question to be partially answered as regards learners' writing.

The delayed post-test data for the explicit group confirms the finding from the keyword analysis of 'partial loss' of immediate gains made following the intervention. This is exemplified by the following: the percentage for *I think* went back up (36.9% → 10.6% → 17.2%[51]); the use of several modal verbs and the modal adverbs *maybe, perhaps and probably* decreased. In all these cases development moved in the reverse direction to the change between the pre- and post-tests. However, in all these cases this involved *partial* loss of gains. Overall, despite this reversal, five months after the intervention, the explicit group's use of epistemic forms in writing had developed in line with the instructional content.

One category of epistemic forms which did not follow this pattern of gain followed by partial loss was that of evidential verbs (*look* and *seem*). The learners' use of these forms continued

[50] These figures are the average epistemic *token* scores (see Section 6.6.4).
[51] These three percentages represent the pre-test → post-test → delayed post-test data, respectively.

to increase: 10.5% → 14.3% → 16%. As a result, they were both among the top five epistemic forms used in the delayed post-test writing.

In contrast to the explicit group, the data for the implicit group at the time of the delayed post-test is generally quite similar to that of the post-test. The percentage for *I think* reduced slightly during the six-month experimental period: 37.6% → 33.3% → 30.5%. This would appear to show gradual development on the part of the learners. However, because the size of the reduction is small, it is hard to claim with much confidence that this change is due to the implicit intervention when it could have been caused by natural development. The next four most frequent forms in each of the tests, in varying orders (see Table 7.17), were *look*, *may*, *seem* and *will*. Their proportional contribution to the expression of epistemic stance hardly changed: 31.1% → 33.9%→33%.

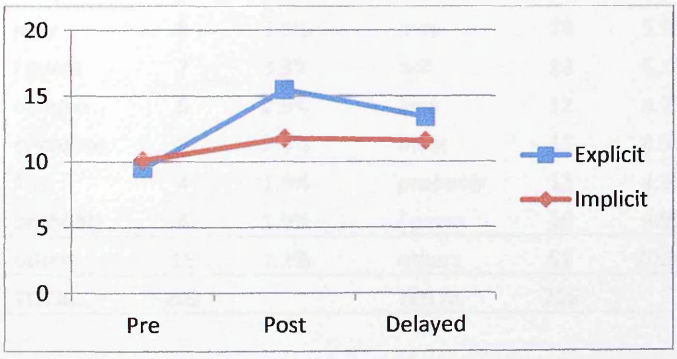
However, within this last set of data, a separation of the two modal verbs (*may* and *will*) and the two evidential verbs (*look* and *seem*) shows the following percentages: *may* + *will* (19.4% → 17.5% → 16%); *look* + *seem* (11.7% → 16.4% → 17%). This data supports the finding (see Table 7.10) that the use of evidential verbs may have developed as a result of the implicit intervention. Furthermore, it is also interesting that for these two verbs there was a similar pattern of development for both the explicit and implicit groups.

The implicit group data also showed one other exception to the general pattern. This was the case of *might* which more than doubled in frequency between the two post-tests. However, this is explained by the fact that one learner [IL15] used *might* 11 times in her delayed post-test descriptive essay. If her data is removed from the overall data, *might* fits with the general pattern of little development being observed in the implicit group's use of modal verbs to express epistemic stance. This finding also shows how the data from one learner, or a small

number of learners, can have a noticeable effect on apparent group averages. Although such extreme cases are extremely rare in the data[52], this demonstrates the importance of analysing interlanguage data at the levels of both groups and individuals (see Chapter 9).

The overall pattern of change for the learners' writing is shown clearly by the total frequency of epistemic forms (the number per learner is given in parentheses) used by each group in each test: explicit group, 350 (9.5) → 575 (15.5) → 494 (13.4); implicit group, 444 (10.1) → 519 (11.8) → 512 (11.6). This data is also shown in Figure 7.11, which gives an overall impression of the relative effects of explicit and implicit instruction on learners' use of epistemic forms.

**Figure 7.11** Average number of epistemic tokens per learner: Writing




### 7.3.2 Spoken Language

In order to answer the question guiding the analysis in this chapter (RQ2a), it is necessary to compare the above data for writing with the comparable data for spoken language. This will show whether the same pattern of effects can be observed in the case of language produced under greater processing constraints. The ten most frequent epistemic forms used by the two

[52] By reading through the learner files (see Section 6.6.3) I was able to identify 'extreme' cases such as this one. In fact, such cases were quite rare.

groups in their spoken language in each of the tests are shown in Tables 7.18 and 7.19. The internal breakdown of epistemic forms used by each group in each test is shown in Figures 7.12 to 7.17. There was very little difference in the pattern of use of epistemic forms by the two groups at the time of the pre-test. As can be seen very clearly from Figures 7.12 and 7.15, for both groups *I think* and *maybe* together accounted for the majority of epistemic form use: explicit group, 67.5%; implicit group, 67.1%.

**Table 7.18** Most frequent epistemic forms: Explicit group speaking

| Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|
| **Form** | **freq.** | **%** | **Form** | **freq.** | **%** | **Form** | **freq.** | **%** |
| *I think* | 95 | 45.5% | *I think* | 78 | 30.5% | *I think* | 97 | 39.8% |
| *maybe* | 46 | 22% | *maybe* | 24 | 9.4% | *maybe* | 50 | 20.5% |
| *will* | 11 | 5.3% | *I suppose* | 16 | 6.3% | *will* | 12 | 4.9% |
| *I know* | 8 | 3.8% | *seem* | 15 | 5.9% | *look* | 10 | 4.1% |
| *may* | 8 | 3.8% | *may* | 14 | 5.5% | *seem* | 10 | 4.1% |
| *I guess* | 7 | 3.3% | *will* | 13 | 5.1% | *may* | 8 | 3.3% |
| *opinion* | 6 | 2.9% | *look* | 12 | 4.7% | *must* | 7 | 2.9% |
| *of course* | 5 | 2.4% | *must* | 11 | 4.3% | *I guess* | 5 | 2% |
| *look* | 4 | 1.9% | *probably* | 11 | 4.3% | *I know* | 5 | 2% |
| *probably* | 4 | 1.9% | *I guess* | 10 | 3.9% | *probably* | 5 | 2% |
| others | 15 | 7.2% | others | 52 | 20.3% | others | 35 | 14.3% |
| **TOTAL** | **209** | | **TOTAL** | **256** | | **TOTAL** | **244** | |

*Post-test*

The immediate effects of the *explicit* intervention on learners' use of epistemic forms in spoken language can be seen in Table 7.18 and Figure 7.13. The proportion of epistemic stance use accounted for by *I think* and *maybe* reduced from 67.5% to 39.8%. This was broadly in line with instruction, which, while acknowledging that both forms are perfectly appropriate for spoken language, also informed the learners that they should avoid excessive use of the same forms. *I suppose* and *I guess* were suggested as alternatives to *I think* and their combined percentage increased from 3.8% to 10.2%. *Probably* was put forward as an

adverbial alternative to *maybe*, with a higher level of epistemic strength. Its percentage increased from 1.9% to 4.3%. There was also an increase in the use of evidential verbs (the contribution of *look* and *seem* increased from 3.3% to 10.5%) and modal verbs (the contribution of *will, may, must, might, would* and *could* nearly doubled from 12% to 20.7%).

**Table 7.19** Most frequent epistemic forms: Implicit group speaking

| Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|
| **Form** | **freq.** | **%** | **Form** | **freq.** | **%** | **Form** | **freq.** | **%** |
| *I think* | 121 | 47.3% | *I think* | 128 | 49.8% | *I think* | 130 | 49.6% |
| *maybe* | 51 | 19.9% | *maybe* | 63 | 24.5% | *maybe* | 50 | 19.1% |
| *look* | 11 | 4.3% | *I know* | 10 | 3.9% | *will* | 25 | 9.5% |
| *seem* | 10 | 3.9% | *will* | 9 | 3.5% | *look* | 10 | 3.8% |
| *will* | 10 | 3.9% | *look* | 8 | 3.1% | *would* | 8 | 3.1% |
| *I know* | 8 | 3.1% | *hear* | 5 | 1.9% | *of course* | 6 | 2.3% |
| *of course* | 8 | 3.1% | *may* | 5 | 1.9% | *seem* | 5 | 1.9% |
| *opinion* | 5 | 1.2% | *seem* | 5 | 1.9% | *I know* | 3 | 1.1% |
| *I feel* | 4 | 1.6% | *true* | 4 | 1.6% | | | |
| *true* | 4 | 1.6% | *could* | 3 | 1.2% | | | |
| *would* | 4 | 1.6% | | | | | | |
| others | 20 | 7.8% | others | 17 | 6.6% | others | 25 | 9.5% |
| **TOTAL** | **256** | | **TOTAL** | **257** | | **TOTAL** | **262** | |

*Note.* The delayed post-test data only includes eight forms because there were seven different forms which occurred twice each.

The *implicit* group's spoken data does not reveal nearly as much change between the pre- and post-test. In fact, the use of *I think* and *maybe* (as a proportion of epistemic forms) increased from 67% to 74.3%. Among other epistemic forms no meaningful changes were observed. As was the case for writing, whilst the explicit intervention had a clear immediate effect on learners' use of epistemic forms, this was not the case for the implicit intervention.

Whereas in the case of writing, the explicit intervention caused an immediate increase in the frequency and variety of epistemic form use, in the case of speaking there was a much larger increase in variety than frequency. The increase in variety is shown by the increase in the

proportion of 'Others' from 7.2% to 20.3%. However, the total frequency of epistemic forms (and number of forms per learner) only increased slightly: 209 (5.6) → 256 (6.9). The comparable data for the implicit group shows a slight decrease for variety and almost no change regarding frequency: 'Others', 7.8% → 6.6%; total frequency, 256 (5.8) → 257 (5.8).

**Figure 7.12** Explicit group speaking: Pre-test

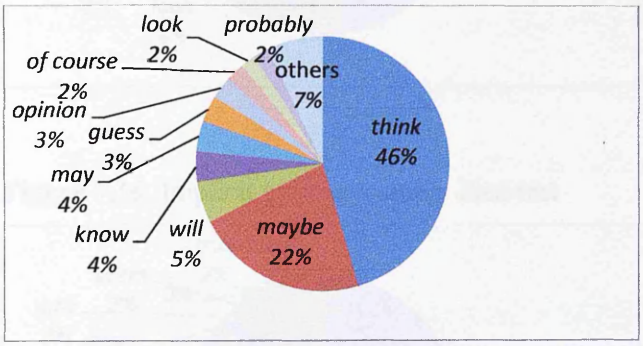



**Figure 7.13** Explicit group speaking: Post-test

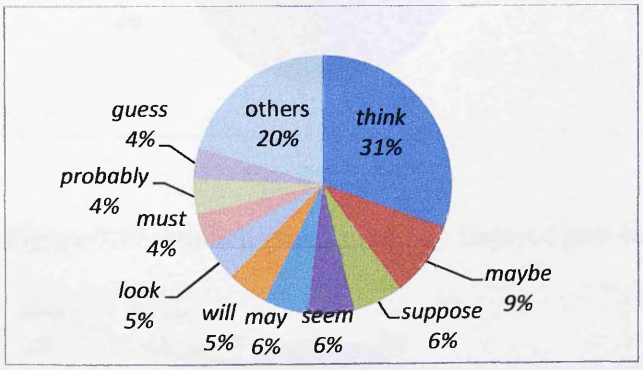



**Figure 7.14** Explicit group speaking: Delayed post-test

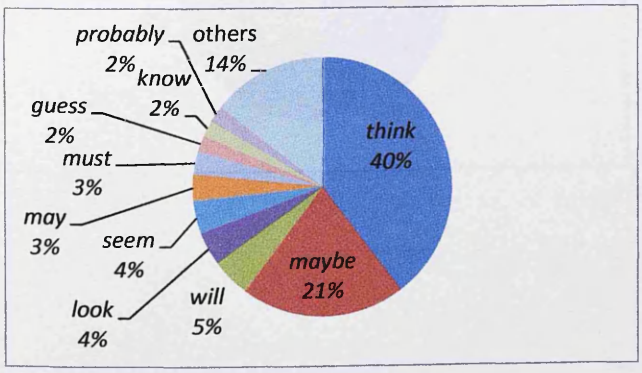


**Figure 7.15** Implicit group speaking: Pre-test

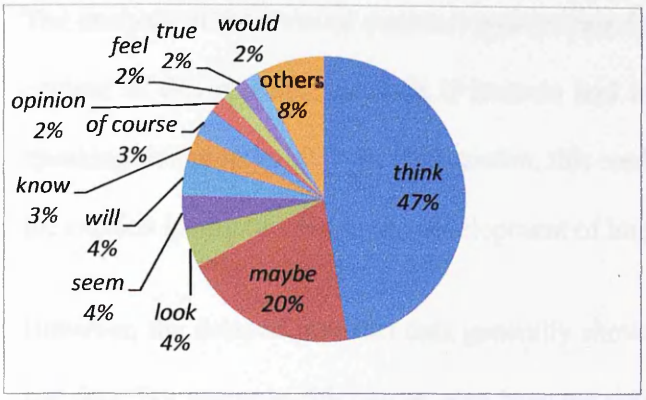



**Figure 7.16** Implicit group speaking: Post-test

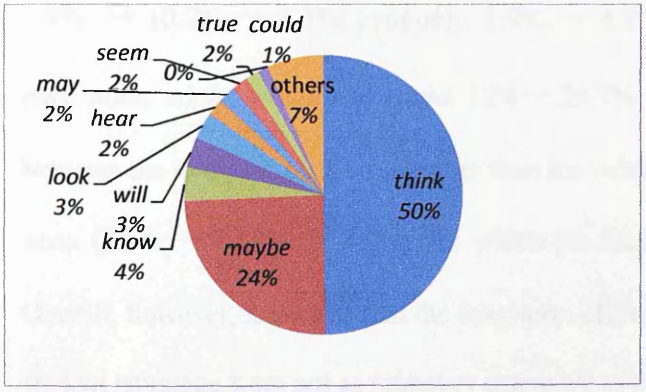
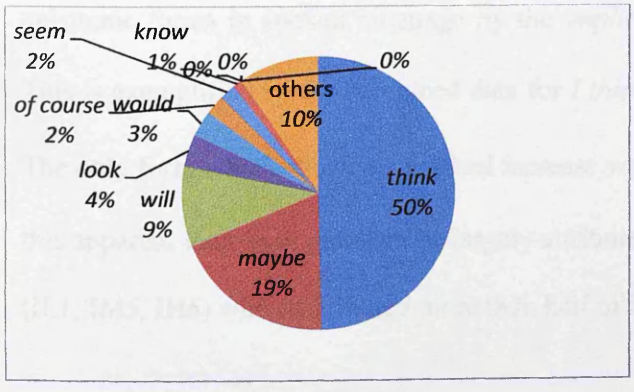



**Figure 7.17** Implicit group speaking: Delayed post-test



*Delayed Post-test*

The analysis of the delayed post-test spoken data for the explicit group was important in the context of this research, because if learners had increased their use of epistemic forms in speaking five months after the intervention, this could be considered as possible evidence that the explicit instruction led to the development of implicit knowledge.

However, the delayed post-test data generally shows quite a strong reversal towards the pre-test data. For example, this can be seen from the data for *I think* and *maybe* combined: 67.5% → 39.8% → 60.2%. It is also shown by the following percentages: *I suppose* and *I guess*, 3.8% → 10.2% → 3.3%; *probably*, 1.9% → 4.3% → 2%; and the combined use of *will, may, must, might, would* and *could*, 12%→ 20.7% →13.9%. In all these cases, the reversal between the two post-tests was greater than for writing. One exception is the case of *look* and *seem* (3.3% → 10.5% → 8.2%), for which the majority of post-test gains were maintained. Overall, however, it is clear that the long-term effects of the explicit intervention on learners' spoken language were not as robust or extensive as for writing.

A quick glance at Figures 7.15-7.17 is enough to see that there was little change in the use of epistemic forms in spoken language by the *implicit* group during the experimental period. This is exemplified by the combined data for *I think* and *maybe*: 67.1% → 74.3% → 68.6%. The only form which showed a marked increase was *will*: 3.9% → 3.5% → 9.5%. However, this apparent long-term gain can be largely attributed to multiple use of *will* by three learners (IL1, IM5, IH6) who contributed more than half of its delayed post-test use between them.

The total frequencies (number of forms per learner) of epistemic forms used by each group were as follows: explicit group, 209 (5.6) → 256 (6.9) → 244 (6.6); implicit group, 256 (5.8) → 257 (5.8) → 262 (6.0). If this data (shown in Figure 7.18) is compared with the data for

writing (see Figure 7.11), it is clear that the interventions had less effect on learners' frequency of use of epistemic forms in speaking.

**Figure 7.18** Average number of epistemic tokens per learner: Speaking


### 7.3.3 Section Summary

The data presented in this section shows that the explicit intervention led to both short- and long-term increases in learners' variety and frequency of use of epistemic forms in their writing. It also led to a short-term increase in their variety, but not frequency, of use of epistemic forms in speaking, although no long-term effects on spoken language can be confidently attributed to the intervention based on this analysis. As regards the implicit group, in the case of writing, this data shows no major changes in the use of epistemic forms following instruction, except in the case of the evidential verbs, *look* and *seem*. The implicit intervention had no discernible effect on the learners' use of epistemic forms in speech. These findings are discussed in more detail at the end of the chapter.

## 7.4 Epistemic Type Scores: Writing vs. Speaking

In this section, the differential effects of instruction on the two modes of communication are compared by looking at the extent to which the interventions led to learners using a greater

variety of epistemic forms. In Section 6.6.4, I explained how two epistemic type scores (one for writing and one for speaking) were calculated for each learner on each of the three tests. I also carried out an analysis (see Section 7.1) which confirmed a highly significant difference in the participants' pre-test epistemic type scores for writing and speaking.

The epistemic type score data for each group on the three tests is shown in Table 7.20 and Figure 7.19. This shows a clear difference between epistemic type scores for writing and speaking on all tests. As in the previous section of this chapter, I will first look at the effects of the two types of instruction on the learners' epistemic type scores for *writing*, followed by analysis of the effects on their scores for *speaking*.

**Table 7.20** Epistemic type scores

| | Pre-test | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Explicit - Writing | 5.49 | 2.64 | 9.65 | 3.12 | 8.32 | 3.7 |
| Implicit - Writing | 5.23 | 2.4 | 5.89 | 2.38 | 6.2 | 2.21 |
| Explicit - Speaking | 2.57 | 1.66 | 3.95 | 2.21 | 3.38 | 1.88 |
| Implicit - Speaking | 2.8 | 1.58 | 2.52 | 1.49 | 2.8 | 1.47 |

**Figure 7.19** Epistemic type scores

### 7.4.1 Written Language

As can be seen from Figure 7.19 above, the mean epistemic type scores for writing for the two groups were almost the same at the time of the pre-test. However, immediately after the classroom interventions, the explicit group's score rose sharply, with the average learner using around four more epistemic forms in their post-test writing than in the pre-test. In the case of the implicit group, there was also an increase, but it was much smaller (on average the learners gained around one-half of an epistemic form).

By the time of the delayed post-test, the explicit group's score had partially decreased, leaving the explicit group learners with an average gain over the six-month experimental period of just under three epistemic types per learner. The implicit group's score continued to rise, but only slightly. In their case, at the end of the experimental period they had gained an average of one epistemic type per learner.

I carried out a mixed design ANOVA in order to assess the impact of the two types of instruction over time (pre-test, post-test and delayed post-test). There was a significant interaction between group and time, $F(2,158) = 12.91$, $p < .001$, partial eta squared = .14. There was also a very significant effect for time, $F(2,158) = 27.19$, $p < .001$, partial eta squared = .26. Furthermore, the main effect comparing the two types of intervention was also significant, $F(1,79) = 19.2$, $p < .001$, partial eta squared = .20. These results provide strong confirmation that the two types of instruction had different effects on the learners' use of epistemic forms. Although the significant effect for time is confounded by the interaction with type of instruction, it is clear from looking at Figure 7.19 that while both groups made gains over time, the majority of these gains were made by the explicit group.

### 7.4.2 Spoken Language

In the case of speaking, the effects of instruction on the explicit group were not as great as for writing (on average, the learners gained around 1.4 epistemic forms). In the case of the implicit group, there was in fact a drop in the average epistemic type score, by around 0.3 types per learner. As was the case for writing, the use of epistemic forms in speaking by the explicit group reversed between the two post-tests. However, in the case of speaking a greater proportion of gains was lost: 41% for speaking; 32% for writing. Nevertheless, overall it appears that the explicit intervention did lead to long-term gains in speaking as well as writing. This compares with the implicit group, which showed no gains at all in their variety of use of epistemic forms in speaking.

I carried out a mixed design ANOVA in order to assess the impact of the two types of instruction over time on learners' use of epistemic types in speaking. There was a significant interaction between group and time, $F(2,158) = 8.84$, $p < .001$, partial eta squared = .10. There was also an effect for time, $F(2,158) = 4.25$, $p < .05$, partial eta squared = .05. As with the written data, this effect for time must be considered in light of the main interaction with instructional group. The main effect comparing the two types of intervention was not significant, $F(1,79) = 3.70$, $p = .06$, partial eta squared = .05. However, the fact that it is approaching significance, together with the main interaction effect, and the differences apparent in Figure 7.19, suggests that there was a small difference in the effects of instruction on the two groups' use of epistemic stance in speaking.

These findings provide further evidence that explicit instruction had an effect on learners' *variety* of use of epistemic forms in speaking. The small effect for time can be entirely attributed to the explicit group on account of the fact that the mean epistemic type score for the implicit group was the same for the pre-test and delayed post-test.

## 7.5 Summary and Discussion

Analysis of the pre-test data (Section 7.1) confirmed that learners' use of epistemic stance in writing and speaking was significantly different. Keyword analysis (Section 7.2) of the learner corpora found that: (1) the explicit intervention was more effective than the implicit intervention for both writing and speaking in both the short- and long-term; (2) the long-term effect of explicit instruction was not as strong as the short-term effect for both writing and speaking; (3) the long-term effect of explicit instruction was more robust in the case of writing than speaking.

The analysis in Section 7.3 of the most common epistemic forms used by learners in each test provided insights into how learners' epistemic repertoires for writing and speaking changed following their respective interventions. As regards writing, it was observed in the case of the explicit group that long-term changes were in line with the instructional content: a decrease in the use of *I think* and increases in the use of modal verbs, cognitive verbs, evidential verbs and modal adverbs. At the same time, it was also apparent that there was variation in uptake of different epistemic form categories, with, for example, robust long-term gains for the evidential verbs *look* and *seem* but less effect than expected in the case of the modal adverbs *perhaps* and *probably.* In the case of the implicit group, there was little long-term change in learners' writing except for the intriguing case of evidential verbs (their use of *look* and *seem* clearly increased during the experimental period).

The results for spoken language were less impressive. For the explicit group there was a greater level of loss of immediate gains, with only the evidential verbs *look* and *seem* exhibiting clear long-term development. No development at all was observed for the implicit group's spoken language.

The above findings were further supported by the analysis of the learners' epistemic type scores (Section 7.4). In the case of writing a strong effect for time was observed. In other words, overall instruction led to a long-term increase in learners' epistemic type scores for writing. There was also a significant main effect *between* the two instructional groups, which provided clear evidence of the greater effectiveness of explicit instruction. A similar effect for time (although smaller) was also found in the case of spoken language. Taking into account the fact that the main effect for type of instruction also *neared* significance, these results indicate that explicit instruction did have a long-term effect on learners' variety of use of epistemic forms in speaking, whereas this was not the case for implicit instruction.

The above analysis has provided answers to RQ2a:

> *What are the differential effects of explicit and implicit instruction on learners' use of epistemic stance in writing and speaking?*

The main findings for this interaction are as follows:

- Explicit instruction leads to long-term development in the frequency and variety of learners' use of epistemic stance in writing.
- Explicit instruction leads to long-term development in the variety *but not frequency* of learners' use of epistemic stance in speaking.
- Implicit instruction has a small long-term positive effect on the frequency and variety of learners' use of epistemic stance in writing.
- Implicit instruction has no effect on the frequency and variety of learners' use of epistemic stance in speaking.

The main issues arising from these findings, and which are discussed below, are: (1) the interaction between explicit/implicit instruction and explicit/implicit knowledge (in as far as they are represented by written and spoken production); (2) the differential effects of explicit instruction on the *frequency* and *variety* of learners' epistemic form use in writing and

speaking; and (3) the effectiveness of using like-for-like written and spoken tasks to measure relative instructional effects on explicit/implicit knowledge.

As regards the first issue, this analysis has shown that both explicit and implicit instruction had a greater effect on learners' writing than their speaking. Previous research on this issue has been rather inconclusive (see Section 3.4.3). The fact that learners were more likely to be able to utilize new L2 knowledge for writing than speaking is almost certainly due to the different processing constraints of the written and spoken tasks. In the case of writing tasks, in which learners have time to access explicit knowledge, they are able to retrieve a wider range of form-function mappings. By contrast, in the case of the spoken tasks, the online nature of processing means that they can only retrieve a more implicit level of L2 knowledge. These findings suggest that both explicit and implicit instruction can develop learners' *explicit knowledge* with a clear advantage for explicit instruction. The above results also suggest that explicit instruction can lead to long-term development in learners' *implicit knowledge*, although the effects are much weaker than for explicit knowledge. Implicit instruction was not found to have any effect on implicit knowledge[53].

It was interesting to note that whilst explicit instruction led to significant increases in the frequency and variety of epistemic form use in writing, it only led to a significant increase in *variety* in speaking. I would speculate that this also relates to the amount of processing time available for the different tasks. For the writing tasks, the learners will have had much more time to consider their use of epistemic stance forms, which, in light of the intervention, may have led them to use stance more extensively. For the speaking tasks, the learners were able

[53] It is useful to compare the case of L2 learners with that of native speakers: presumably in the case of an adult native speaker the most common epistemic forms will be fully automatized and therefore a component of implicit knowledge. As a result, differences between spoken and written language will mostly reflect register choices rather than processing constraints.

to use some *new* forms but they did not have the processing time available to change the overall level of epistemic use.

The remaining issue for discussion relates to the methodology used in this study to measure the interaction between type of instruction and learners' written and spoken language. I know of no other studies which have used *like-for-like tasks* to compare instructional effects on writing and speaking. Although there is a lack of authenticity in using a 'speech' to measure spoken language (see Section 6.3.2), the language produced is nevertheless subject to constraints typical of online communication. By using like-for-like tasks, the writing/speaking variable is effectively controlled for, enabling comparison of language produced under different degrees of processing constraints. In this respect, the above findings in this study are extremely informative regarding the extent of the difference between learners' use of epistemic forms in writing and speaking. This approach could be applied to research on the effects of instruction on various aspects of L2 performance. One thing is abundantly clear from these findings: in meta-analyses of effects of instruction, written and spoken tasks should not be considered 'equally' in the way they measure instructional effects (e.g., Norris & Ortega, 2000; Spada & Tomita, 2010). A meta-analysis is needed which *compares* instructional effects measured by writing and speaking tasks.

In sum, therefore, it has been shown that explicit instruction is preferable to implicit instruction in developing learners' written and spoken production. However, it has also been shown that explicit instruction alone does not lead to major changes in learners' spoken language in the long-term. Undoubtedly, other factors such as more input and practice (e.g., DeKeyser, 2007; Dörnyei, 2009) are needed for explicit instruction to lead to effective and durable development of learners' spoken language (I return to this issue in Section 10.1). Having analysed the interaction between type of instruction and mode of communication, in

the next chapter I focus on the variable of proficiency, by looking at the effects of the two types of instruction on learners at different proficiency levels.

# CHAPTER EIGHT

# THE INTERACTION BETWEEN TYPE OF INSTRUCTION AND PROFICIENCY

## 8.0 Introduction

This chapter continues the analysis of instructional effects on epistemic stance by looking at the interaction between type of instruction and proficiency level. This chapter follows a similar structure to the previous chapter on writing and speaking. I use learner corpus analysis and epistemic type scores to establish that there are some underlying differences in the use of epistemic forms by learners at different proficiency levels (Section 8.1). The interaction between type of instruction and proficiency level is examined through two types of data analysis[54]: (1) by looking at frequencies of epistemic forms calculated through the manual analysis of concordances (Section 8.2); (2) by calculating inferential statistics based on learners' epistemic type scores (Section 8.3). The last section (8.4) summarizes the main findings of this chapter.

## 8.1 Pre-test Use of Epistemic Stance by Proficiency Levels

Prior to carrying out this study, I hypothesized, based on previous research on epistemic stance (e.g., Kärkkäinen, 1992; Hyland & Milton, 1997; and see Section 5.2.5) that learners at different proficiency levels would have different patterns of use of epistemic forms. In order to confirm whether this was also the case with the participants in this study, I carried out keyword analysis on the pre-test data as well as analysis of learners' pre-test epistemic type scores.

[54] Whilst the previous chapter also used keyword analysis in comparing the two instructional groups, it was not used for analysis here due to the fact that when the different corpora for explicit and implicit learners were divided by modality (writing and speaking) and further divided into three proficiency groups, the corpora were too small for the effective use of keyword analysis.

### 8.1.1 Learner Corpus Data

The pre-test learner corpora for writing and speaking were subdivided into corpora for each of the three proficiency groups which were called 'High', 'Mid' and 'Low' (see Section 6.1.2 for details on these groups). Table 8.1 presents data on the types and tokens used by each proficiency grouping (including learners from both the explicit and implicit groups) in their pre-test writing and speaking. This table shows that the learners in the High group used a greater variety of words (types), and produced more words in total (tokens), than the Mid group learners, who, in turn, produced more than those in the Low group.

**Table 8.1** Pre-test learner corpora by proficiency group

| | Writing | | Speaking | |
|---|---|---|---|---|
| **Proficiency Group** | **Types** | **Tokens** | **Types** | **Tokens** |
| Low | 959 | 6798 | 519 | 3954 |
| Mid | 1110 | 9107 | 587 | 5816 |
| High | 1372 | 10372 | 821 | 7835 |

A series of keyword analyses were carried out on these corpora. This involved comparing each pair of corpora (High vs. Mid, High vs. Low, Mid vs. Low) for each modality. When working with small corpora such as these, there is a greater chance of finding individual keywords which may have little importance by themselves[55]. Therefore, in this section I focus only on the most relevant findings. I report on the findings for the written data first, followed by the spoken data.

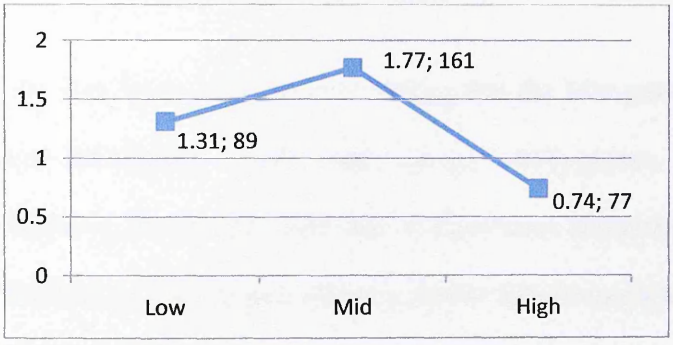
*Written Language*

In the case of the pre-test writing I will focus on two issues relating to proficiency levels which were observed through the keyword analysis: (1) the use of *think*; and (2) differences

[55] For example, with corpora of this size, it is possible for a form that is used four times in one corpus and not at all in another corpus to have a keyness of $p < .05$.

between the High and Low groups. The use of *think* by the three different groups produced an interesting finding: both the Mid ($p < .0001$) and Low ($p < .001$) groups used it significantly more than the High group, with the Mid group also using it significantly more than the Low group ($p < .05$). This appears to show that learners increase their use of *think* in writing until their proficiency reaches a point at which they start to replace it with other forms. This non-linear developmental pattern can be seen in Figure 8.1.

**Figure 8.1** Use of *THINK* in pre-test writing




*Note.* Here and in Figure 8.2 below, at each data point the standardized frequency per 1000 words in the corpus is given, followed by the raw frequency.

Apart from the use of *think*, there were no other very significant individual keywords found in comparing High vs. Mid, and Mid vs. Low. Unsurprisingly, the biggest differences were found in the comparison of the High and Low groups. A number of forms were found more frequently in the High group, and although none of the individual keyness scores were particularly high (they were all at the 1% or 5% level), the fact that several epistemic forms were found to be keywords whereas this was not the case for the other comparisons, strongly suggested that the High group used a greater range of epistemic forms than the Low group. These keywords (raw frequencies shown as High > Low in brackets) were as follows: *suppose* (8 > 0); *seems* (24 > 5); *guess* (11 > 1); *believe* (5 > 0); *shows* (5 > 0); *might* (9 > 1).

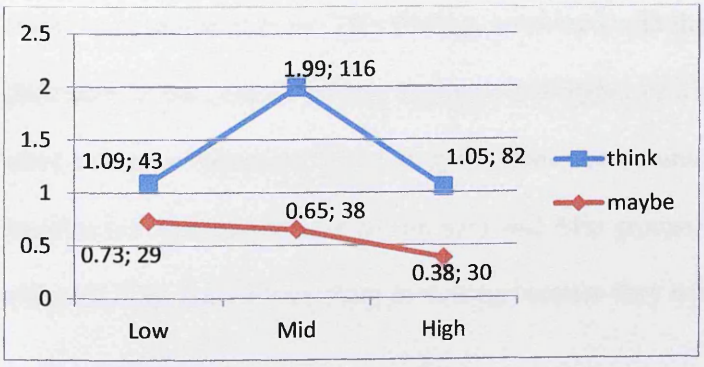
It is interesting to note that the keywords are predominantly cognitive or evidential verbs, with only one modal verb on the list. This data also shows that the learners in the High group are using forms in writing (*suppose* and *guess*) which are predominantly used in speaking by native speakers (see Biber et al., 1999, p. 982).

*Spoken Language*

Analysis of the spoken data highlighted three issues to focus on: (1) learners' use of *think* and *maybe*; (2) a greater use of epistemic forms by the High group as compared to the Low group; (3) the use of *be* by the High group.

The first issue concerned the finding that the Mid group used *think* significantly more than both the High ($p < .0001$) and Low ($p < .001$) groups. This matched the results for writing. However, in this case there was no significant difference between the High and Low groups. Overall, the spoken data shows a similar non-linear pattern for *think* as was found for writing (see Figure 8.2).

**Figure 8.2** Use of *THINK* and *MAYBE* in pre-test speaking




In the case of *maybe*, both the Low and Mid groups used it significantly more than the High group ($p < .05$ in both cases). Therefore, the data for *maybe* showed a downward progression with increasing proficiency (see Figure 8.2). It would appear very likely that the data for both

words is a result of a similar non-linear developmental pattern, except that in the case of *maybe* the decrease in use starts at an earlier level of proficiency.

The second finding for speaking also matched the situation for writing: In the comparison between the High and Low groups, a number of keywords were identified, which suggested a clear difference in the use of epistemic stance by these two groups. The keywords found (the raw frequencies shown as High > Low are given in brackets) were as follows: *[of] course* (8[56] > 0); *will* (15 > 1); *might* (6 > 0); *could* (5 > 0); *probably* (5 > 0). This suggests that the High group was more likely to use adverbs other than *maybe*, and a greater range of modal verbs, than the Low group.

The third finding for speaking concerns the use of *be*. It was a significant keyword between the High group and both the Mid ($p < .001$) and Low groups ($p < .001$). The raw frequency figures for *be* were as follows: High (48), Mid (14), Low (7). An analysis of concordances revealed that the numbers of *epistemic* uses were: High (23), Mid (5), Low (3). The concordance lines showed that the High group learners used *be* with all the epistemic modal verbs (*will be, must be, would be, may be, might be, could be*) and also used it in the phrases *seems to be* and *tend to be.* This finding, combined with the fact that there was no comparable difference in the case of writing, suggests that higher proficiency learners are able to produce more complex epistemic forms in spontaneous communication. By contrast, less proficient learners (as represented here by the Low and Mid groups) are less able to do this in speech, although they can produce them in writing because they have more processing time.

[56] There were actually 10 occurrences of 'course' in the High group data, but analysis of the concordance showed that 8 of these uses were in the epistemic adverb, 'of course'

This keyword analysis of the pre-test data has shown different patterns of use of epistemic forms according to proficiency level. In both writing and speaking, the High group was found to use a much more advanced range of epistemic forms than the Low group.

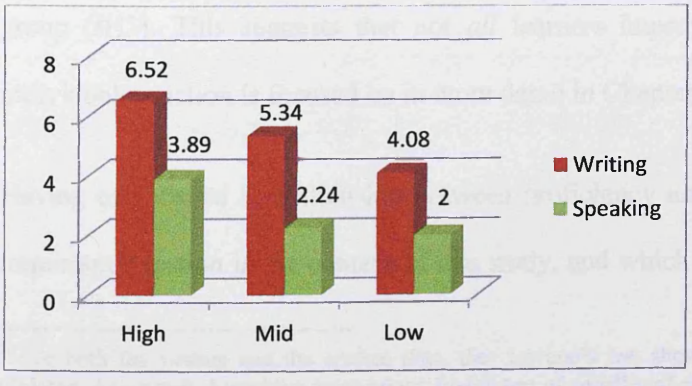
### 8.1.2 Epistemic Type Scores

Whilst the corpus analysis above focused on the *frequencies* of epistemic forms in the writing and speaking of the participants in the different proficiency groups, it was also important to look at the *variety* (types) of epistemic forms used by each group in writing and speaking. Table 8.2 and Figure 8.3 show the pre-test epistemic type scores for each proficiency group. It can be seen that mean epistemic scores rise in line with proficiency in both modes. It is also apparent that there is only a small difference between the Low and Mid groups for speaking, whilst the High group has a much higher epistemic type score.

**Table 8.2** Pre-test epistemic type scores by proficiency group

| | Writing | | Speaking | |
|---|---|---|---|---|
| **Proficiency Group** | ***M*** | ***SD*** | ***M*** | ***SD*** |
| Low | 4.08 | 1.53 | 2 | 1.32 |
| Mid | 5.34 | 2.3 | 2.24 | 0.95 |
| High | 6.52 | 2.9 | 3.89 | 1.8 |

**Figure 8.3** Pre-test epistemic type scores by proficiency group



A one-way between-groups analysis of variance on the epistemic type scores for *writing* found a statistically significant difference between the three proficiency groups: $F(2, 49.79^{57})$, $p < .001$. Post-hoc comparisons using the Tukey test indicated that the mean score for the High group was significantly higher than that of the Low group ($p < .001$). No significant differences were found in the High vs. Mid and Mid vs. Low comparisons.

The same procedure was carried out on the epistemic type scores for speaking. This analysis also found a statistically significant difference between the three proficiency groups: $F(2, 47.19)$, $p < .001$. Post-hoc comparisons using the Tukey test showed that the mean score for the High group was significantly higher than both the Mid ($p < .001$) and Low ($p < .001$) groups. There was no significant difference between the Mid and Low groups.

These results clearly show differences in the variety of epistemic stance forms used by learners at different proficiency levels. In writing, there appears to be a dividing line at around the Mid group level, whilst in speaking, the dividing line appears to be set 'higher'. It is also important to note that while, in general, the use of epistemic forms increases with proficiency, at the same time the degree of variation among learners also increases (this can be seen from the fact that the standard deviations are highest in the High group for both writing and speaking, see Table 8.2 above). This situation is exemplified by the fact that the only participant who did not use *any* epistemic types in his writing was actually in the High group (IH3). This suggests that not *all* learners improve with proficiency (the issue of individual variation is focused on in more detail in Chapter 9).

Having established a relationship between proficiency and the use of epistemic stance, the important question in the context of this study, and which will be answered in the remainder

[57] For both the written and the spoken data, the Levene's test showed that the assumption of variance was violated. As a result, I used the more robust Welch test of equality of means (Field, 2009).

of this chapter, is, 'Do implicit and explicit instruction have differential effects on learners at different proficiency levels?' The following two sections look at this issue in two ways: through analysis of epistemic form frequencies after the manual analysis of concordances (Section 8.2) and epistemic type scores (Section 8.3).

## 8.2 Most Frequent Epistemic Forms by Proficiency Levels

This section looks at the interaction between instruction and proficiency by analysing the frequency of use of epistemic forms in writing and speaking, in each of the tests, in order to see whether: (1) the pattern of change over time was similar, irrespective of proficiency level; or (2) instruction led to different patterns of change in the use of epistemic stance by learners at different levels of proficiency. Due to the number of variables involved (two types of instruction, two modalities, and three proficiency levels), the analysis is divided into four sections: explicit group writing; explicit group speaking; implicit group writing; and implicit group speaking. Therefore, the initial focus will be on the interaction between explicit instruction and proficiency, followed by a similar analysis for implicit instruction.

In each section, I present the five most frequently used epistemic forms in each of the three tests. The following information is presented in Tables 8.3~8.14: the frequency of use of the top five forms; the total frequency of all 'Other' forms not included in the top five; and the total number of epistemic tokens. This data provides some insights into the way learners in each proficiency group expressed their epistemic viewpoint, and how that did or did not change over time following the classroom interventions.

### 8.2.1 Explicit Group: Writing

The most common epistemic forms used in writing by each proficiency group in the explicit condition are presented in Tables 8.3~8.5. One main finding from this data was that the explicit intervention had a powerful effect on learners' use of *I think* at all three proficiency levels. In the case of the High group, after the intervention it was no longer the first choice epistemic form. In the case of the Mid and Low groups there was a very large decrease in its use over the six months: Mid 53.1% → 16% → 22.6%[58]; Low 34.9% → 11.6% → 19.7%. The intervention appears to have accelerated the process by which learners decrease their use of *I think* as their proficiency develops.

A second finding was that the intervention appears to have led High group learners to use a greater range of forms to convey epistemic stance. They increased their use of the evidential verbs *seem* and *look* (10.8% → 14.5% → 21%), and the more advanced modal verbs *could, might, must* (5.4% → 18.3% → 17.4%). There was not such a clear overall development in the use of these forms by the Mid and Low groups. This finding suggests that the High group accounts for a large proportion of the long-term gains on more advanced epistemic forms made by the Explicit group in writing.

Lastly, all three proficiency groups showed an overall increase in the use of epistemic forms over the six month period in spite of partial loss of gains between the two post-tests. The raw frequencies are as follows: High, 157 → 241 → 190; Mid, 130 → 187 → 177; Low, 63 → 147 → 127. Figure 8.4 presents this data converted into epistemic forms (tokens) per learner.

[58] The percentages used throughout this chapter represent a percentage of the total epistemic form use by a proficiency grouping in one mode of communication on one test. For example, in this case *I think* accounted for 53.1% of the Explicit Mid group's epistemic form use in writing before the explicit intervention. By the time of the delayed post-test that percentage had decreased to 22.6%.

**Table 8.3** Explicit: High group writing

| | Pre-test | | | Post-test | | | Delayed Post-test | |
|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | **freq.** | **%** |
| 1 | *I think* | 38 | 24.2 | *seem* | 24 | 10 | *seem* | 23 | 12.1 |
| 2 | *will* | 16 | 10.2 | *will* | 22 | 9.1 | *I think* | 20 | 10.5 |
| 3 | *seem* | 14 | 8.9 | *might* | 16 | 6.6 | *look* | 17 | 8.9 |
| 4 | *may* | 11 | 7 | *must* | 15 | 6.2 | *will* | 16 | 8.4 |
| 5 | *would* | 11 | 7 | *I think* | 15 | 6.2 | *could* | 13 | 6.8 |
| | Others | 67 | 42.7 | Others | 149 | 61.8 | Others | 101 | 53.2 |
| | **Total** | **157** | | **Total** | **241** | | **Total** | **190** | |

**Table 8.4** Explicit: Mid group writing

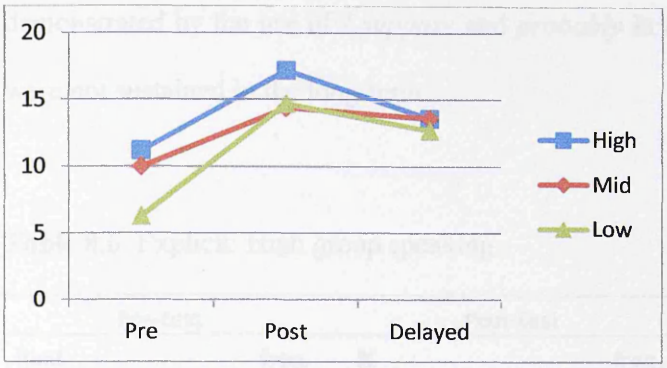
| | Pre-test | | | Post-test | | | Delayed Post-test | |
|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | **freq.** | **%** |
| 1 | *I think* | 69 | 53.1 | *I think* | 30 | 16 | *I think* | 40 | 22.6 |
| 2 | *may* | 9 | 6.9 | *may* | 19 | 10.2 | *will* | 23 | 13 |
| 3 | *seem* | 8 | 6.2 | *seem* | 15 | 8 | *seem* | 18 | 10.2 |
| 4 | *will* | 8 | 6.2 | *will* | 15 | 8 | *may* | 9 | 5.1 |
| 5 | *look* | 6 | 4.6 | *I believe* | 10 | 5.3 | *I know* | 8 | 4.5 |
| | | | | *would* | 10 | 5.3 | | | |
| | Others | 30 | 23.1 | Others | 98 | 52.4 | Others | 79 | 44.6 |
| | **Total** | **130** | | **Total** | **187** | | **Total** | **177** | |

**Table 8.5** Explicit: Low group writing

| | Pre-test | | | Post-test | | | Delayed Post-test | |
|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | **freq.** | **%** |
| 1 | *I think* | 22 | 34.9 | *seem* | 17 | 11.6 | *I think* | 25 | 19.7 |
| 2 | *will* | 8 | 12.7 | *I think* | 16 | 10.9 | *may* | 18 | 14.2 |
| 3 | *may* | 7 | 11.1 | *will* | 16 | 10.9 | *might* | 12 | 9.4 |
| 4 | *maybe* | 4 | 6.3 | *may* | 12 | 8.2 | *will* | 11 | 8.7 |
| 5 | VARIOUS[59] | 2 | 3.2 | *probably* | 11 | 7.5 | *must* | 8 | 6.3 |
| | Others | 20 | 31.7 | Others | 75 | 51 | Others | 53 | 41.7 |
| | **Total** | **63** | | **Total** | **147** | | **Total** | **127** | |

[59] 'VARIOUS' stands for cases when there were three or more forms used with equal frequencies.

**Figure 8.4** Number of epistemic forms per learner: Explicit group writing




This shows that the proficiency groups' frequency of use of epistemic forms *converges* over the research period. The fact that the Low group gained most was presumably due to the fact that they had more room for development than the High group. It may be the case that the High group somewhat overused epistemic forms following the explicit interventions, and their frequency of use then *settled down* by the time of the delayed post-test.

### 8.2.2 Explicit Group: Speaking

The most common epistemic forms used in speaking by each proficiency group in the explicit condition are presented in Tables 8.6~8.8. The effects of the explicit instruction at different proficiency levels in the case of speaking can be seen by looking at the combined use of *I think* and *maybe*: High, 54.4% → 29.9% → 51.6%; Mid, 84.4% → 51.4% → 67.6%; Low, 80.7% → 50.1% → 72.4%. This data again shows a clear distinction between the High group, and the Mid and Low groups. In the case of the High group, there was hardly any long-term change in the use of these two forms, whilst there was a noticeable decrease in their use by both the Mid and Low groups over the research period. A likely reason for this difference is that the Mid and Low groups had more room to develop as regards avoiding excessive reliance on *I think* and *maybe* in speaking.

As regards other specific epistemic forms, only the High group showed noticeable change, as demonstrated by the use of *I suppose* and *probably* in the post-test. However, these changes were not sustained in the long-term.

**Table 8.6** Explicit: High group speaking

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *I think* | 44 | 38.6 | *I think* | 28 | 20.9 | *I think* | 39 | 31 |
| 2 | *maybe* | 18 | 15.8 | *I suppose* | 13 | 9.7 | *maybe* | 26 | 20.6 |
| 3 | *will* | 10 | 8.8 | *maybe* | 12 | 9 | *look* | 8 | 6.3 |
| 4 | *of course* | 5 | 4.4 | *look* | 9 | 6.7 | *must* | 7 | 5.6 |
| 5 | VARIOUS | 4 | 3.5 | *probably* | 9 | 6.7 | VARIOUS | 5 | 4 |
| | Others | 33 | 28.9 | Others | 63 | 47 | Others | 41 | 32.5 |
| | **Total** | **114** | | **Total** | **134** | | **Total** | **126** | |

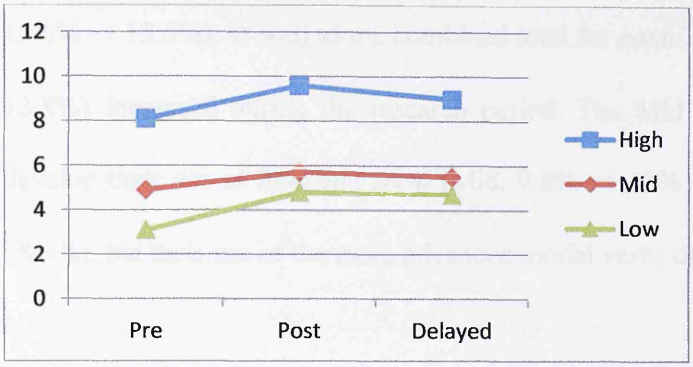
**Table 8.7** Explicit: Mid group speaking

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *I think* | 41 | 64.1 | *I think* | 35 | 47.3 | *I think* | 38 | 53.5 |
| 2 | *maybe* | 13 | 20.3 | *seem* | 7 | 9.5 | *maybe* | 10 | 14.1 |
| 3 | *I guess* | 2 | 3.1 | *may* | 6 | 8.1 | *will* | 5 | 7 |
| 4 | *look* | 2 | 3.1 | *I guess* | 5 | 6.8 | *may* | 4 | 5.6 |
| 5 | VARIOUS | 1 | 1.6 | *will* | 4 | 5.4 | VARIOUS | 2 | 2.8 |
| | Others | 5 | 7.8 | Others | 17 | 23 | Others | 12 | 16.9 |
| | **Total** | **64** | | **Total** | **74** | | **Total** | **71** | |

**Table 8.8** Explicit: Low group speaking

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *maybe* | 15 | 48.4 | *I think* | 15 | 31.3 | *I think* | 20 | 42.6 |
| 2 | *I think* | 10 | 32.3 | *maybe* | 9 | 18.8 | *maybe* | 14 | 29.8 |
| 3 | *may* | 2 | 6.5 | *may* | 4 | 8.3 | *seem* | 3 | 6.4 |
| 4 | VARIOUS | 1 | 3.2 | *might* | 4 | 8.3 | VARIOUS | 2 | 4.3 |
| 5 | | | | VARIOUS | 2 | 4.2 | | | |
| | Others | 2 | 6.5 | Others | 14 | 29.2 | Others | 6 | 12.8 |
| | **Total** | **31** | | **Total** | **48** | | **Total** | **47** | |

**Figure 8.5** Number of epistemic forms per learner: Explicit group speaking




To summarize, as with the written data a pattern was observed in which changes in the use of epistemic forms by the High proficiency group were different from those by the other two groups, which were quite similar to each other. The raw frequencies of epistemic forms for the explicit group's speaking in each test are as follows: High, 114 → 134 → 126; Mid, 64 → 74 → 71; Low, 31 → 48 → 47. Figure 8.5 presents this data converted into epistemic forms (tokens) per learner. This clearly demonstrates the gap between the High group, and the Mid and Low groups. It is also clear from comparing this graph with the one for writing (Figure 8.4), that the explicit instruction had a smaller effect on learners' frequency of use of epistemic stance in speaking, regardless of proficiency level.

### 8.2.3 Implicit Group: Writing

The data for the use of epistemic forms in writing by the implicit group is shown in Tables 8.9 ~8.11. The first finding for this group again involves a difference between the High group and the Mid+Low groups: whereas the High group's use of *I think* stayed almost the same during the research period (20.7% → 23.7% → 21%), in the case of the other two groups it decreased (Mid group, 42.9% → 36.3% → 34.2%; Low group, 48% → 37.3% → 33.7%). Also, as was the case for the Explicit instruction group, the Implicit High group showed signs

of development as regards advanced epistemic forms. The total use of *seem* and *look* (17% → 15.6% → 19.5%), as well as the combined total for *could, might* and *must* (7.4% → 11.9% → 13.8%) increased during the research period. The Mid and Low groups also appeared to develop their use of *look* and *seem* (Mid, 9.8% → 13% →14.1%; Low, 9.2% → 21.7% → 18.3%), but their use of the more advanced modal verbs did not increase in the same way.

It is interesting to note here that both the Mid and Low groups increased their frequency of use of epistemic forms following instruction, while the High group's frequency hardly changes. The raw frequencies are as follows: High, 135 → 135 → 138; Mid, 184 → 223 → 199; Low, 125 → 161 → 175. Figure 8.6 presents this data converted into epistemic tokens per learner. This difference might be due to the Low and Mid groups having more room for development, although that argument is weakened by the fact that the Mid group were already using more epistemic forms than the high group before the intervention. It could, however, be the case that the High group is developing qualitatively (as exemplified by their increased use of the advanced modal verbs) whilst the other two groups are developing more quantitatively.

**Table 8.9** Implicit: High group writing

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *I think* | 28 | 20.7 | *I think* | 32 | 23.7 | *I think* | 29 | 21 |
| 2 | *will* | 19 | 14.1 | *seem* | 13 | 9.6 | *seem* | 18 | 13 |
| 3 | *seem* | 13 | 9.6 | *will* | 12 | 8.9 | *may* | 10 | 7.2 |
| 4 | *look* | 10 | 7.4 | *look* | 8 | 5.9 | *look* | 9 | 6.5 |
| 5 | *I guess* | 7 | 5.2 | *could* | 8 | 5.9 | *must* | 9 | 6.5 |
| | *may* | 7 | 5.2 | | | | | | |
| | Others | 58 | 43 | Others | 62 | 45.9 | Others | 63 | 45.6 |
| | **Total** | **135** | | **Total** | **135** | | **Total** | **138** | |

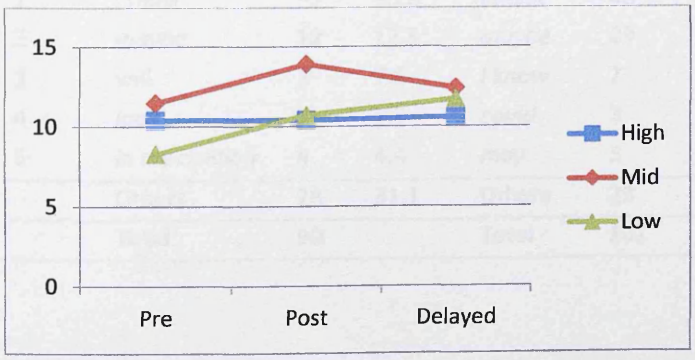
**Table 8.10** Implicit: Mid group writing

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *I think* | 79 | 42.9 | *I think* | 81 | 36.3 | *I think* | 68 | 34.2 |
| 2 | *may* | 17 | 9.2 | *will* | 31 | 13.9 | *will* | 21 | 10.6 |
| 3 | *will* | 16 | 8.7 | *may* | 20 | 9 | *may* | 20 | 10.1 |
| 4 | *seem* | 14 | 7.6 | *seem* | 17 | 7.6 | *seem* | 16 | 8 |
| 5 | *maybe* | 8 | 4.3 | *look* | 12 | 5.4 | *look* | 12 | 6 |
| | Others | 50 | 27.2 | Others | 62 | 27.8 | Others | 62 | 31.2 |
| | **Total** | **184** | | **Total** | **223** | | **Total** | **199** | |

**Table 8.11** Implicit: Low group writing

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *I think* | 60 | 48 | *I think* | 60 | 37.3 | *I think* | 59 | 33.7 |
| 2 | *will* | 23 | 18.4 | *look* | 22 | 13.7 | *look* | 17 | 9.7 |
| 3 | *look* | 7 | 5.6 | *may* | 15 | 9.3 | *might*[60] | 17 | 9.7 |
| 4 | *maybe* | 7 | 5.6 | *seem* | 13 | 8.1 | *seem* | 15 | 8.6 |
| 5 | *may* | 4 | 3.2 | *would* | 11 | 6.8 | *may* | 13 | 7.4 |
| | *true* | 4 | 3.2 | | | | *will* | 13 | 7.4 |
| | Others | 20 | 16 | Others | 40 | 24.8 | Others | 54 | 30.9 |
| | **Total** | **125** | | **Total** | **161** | | **Total** | **175** | |

**Figure 8.6** Number of epistemic forms per learner: Implicit group writing




[60] The high frequency for *might* here is due to the repeated use of this form by one learner (see Section 7.3.1).

Overall, as with the explicit group, the data shows differential effects of the implicit intervention on learners' writing according to proficiency level, with a distinction between the High group, and the Mid and Low groups.

### 8.2.4 Implicit Group: Speaking

The data for the use of epistemic forms in speaking by the implicit instruction group is shown in Tables 8.12~8.14. It is quite clear that the intervention did not have any clear effects on the learners' use of epistemic stance forms in speaking. It is interesting to note that *I think* and *maybe* occupy the top two places, and in that order, in all nine lists in Tables 8.12~8.14. The total frequency of use of epistemic forms by the proficiency groups hardly changed: High, 90 → 101 → 92; Mid, 99 → 87 → 96; Low, 67 → 69 → 74. Figure 8.7 presents this data converted into epistemic tokens per learner, and it shows very clearly that the intervention did not affect the frequency of epistemic stance use by any of the proficiency groups.

**Table 8.12** Implicit: High group speaking

| | **Pre-test** | | | **Post-test** | | | **Delayed Post-test** | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *I think* | 32 | 35.6 | *I think* | 46 | 45.5 | *I think* | 40 | 43.5 |
| 2 | *maybe* | 12 | 13.3 | *maybe* | 29 | 28.7 | *maybe* | 15 | 16.3 |
| 3 | *will* | 7 | 7.8 | *I know* | 7 | 6.9 | *look* | 6 | 6.5 |
| 4 | *look* | 7 | 7.8 | *could* | 3 | 3 | *would* | 6 | 6.5 |
| 5 | *in my opinion* | 4 | 4.4 | *may* | 3 | 3 | *will* | 4 | 4.3 |
| | Others | 28 | 31.1 | Others | 23 | 22.8 | Others | 21 | 22.8 |
| | **Total** | **90** | | **Total** | **101** | | **Total** | **92** | |

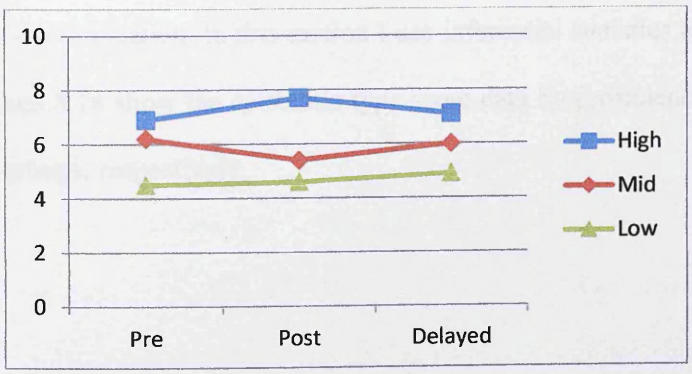
**Table 8.13** Implicit: Mid group speaking

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *think* | 56 | 56.6 | *think* | 45 | 51.7 | *think* | 50 | 52.1 |
| 2 | *maybe* | 25 | 25.3 | *maybe* | 23 | 26.4 | *maybe* | 19 | 19.8 |
| 3 | *of course* | 4 | 4 | *will* | 5 | 5.7 | *will* | 12 | 12.5 |
| 4 | *seem* | 3 | 3 | *hear* | 3 | 3.4 | *of course* | 5 | 5.2 |
| 5 | VARIOUS | 2 | 2 | *I know* | 3 | 3.4 | *seem* | 3 | 3.1 |
| | Others | 9 | 9.1 | Others | 8 | 9.2 | Others | 7 | 7.3 |
| | **Total** | **99** | | **Total** | **87** | | **Total** | **96** | |

**Table 8.14** Implicit: Low group speaking

| | Pre-test | | | Post-test | | | Delayed Post-test | | |
|---|---|---|---|---|---|---|---|---|---|
| **Rank** | | **freq.** | **%** | | **freq.** | **%** | | **freq.** | **%** |
| 1 | *I think* | 33 | 49.3 | *I think* | 37 | 53.6 | *I think* | 40 | 54.1 |
| 2 | *maybe* | 14 | 20.9 | *maybe* | 11 | 15.9 | *maybe* | 16 | 21.6 |
| 3 | *seem* | 5 | 7.5 | *look* | 8 | 11.6 | *will* | 9 | 12.2 |
| 4 | *I know* | 4 | 6 | VARIOUS | 2 | 2.9 | *look* | 3 | 4.05 |
| 5 | *look* | 3 | 4.5 | | | | *seem* | 2 | 2.7 |
| | Others | 8 | 11.9 | Others | 9 | 13 | Others | 4 | 5.4 |
| | **Total** | **67** | | **Total** | **69** | | **Total** | **74** | |

**Figure 8.7** Number of epistemic forms per learner: Implicit group speaking



### 8.2.5 Section Summary

The above analysis shows a complex interaction between type of instruction, proficiency level, and mode of communication. With the proviso that any attempt to summarize these findings runs the risk of over-simplifying this complexity, it does appear that learners typically proceed through similar patterns of development of epistemic stance with increasing proficiency. It seems that instruction can accelerate learners' progress through this developmental pattern with explicit instruction having a stronger effect than implicit instruction, and with instructional effects being more pronounced in the case of writing than speaking. Examples of apparent interactions between developmental sequences and instructional effects are presented in the discussion in Section 8.4. The following section focuses on the epistemic type score data by proficiency level.

## 8.3 Proficiency and Epistemic Type Scores

The above analysis of the use of specific forms can be triangulated by looking at the interaction between epistemic type score, proficiency, instructional type, and mode of communication. In this section I use inferential statistics to investigate this issue. Tables 8.15 and 8.16 show the epistemic type score data by proficiency level for the explicit and implicit groups, respectively.

**Table 8.15** Epistemic type scores by proficiency level: Explicit group

| | Pre-test | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| **Writing** | | | | | | |
| **High** | 7.21 | 2.67 | 11.14 | 2.54 | 9.14 | 3.26 |
| **Mid** | 4.62 | 2.02 | 8.69 | 2.46 | 8.31 | 3.73 |
| **Low** | 4.2 | 2.15 | 8.8 | 3.99 | 7.2 | 4.29 |
| **Speaking** | | | | | | |
| **High** | 3.71 | 1.73 | 5.57 | 2.38 | 4.86 | 1.7 |
| **Mid** | 1.92 | 0.95 | 3.15 | 1.21 | 2.77 | 1.54 |
| **Low** | 1.8 | 1.48 | 2.7 | 1.64 | 2.1 | 0.99 |

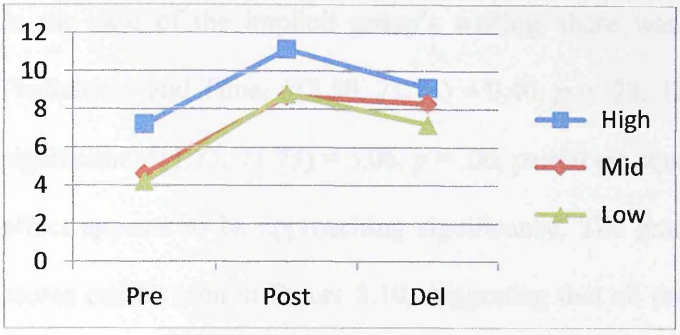
**Table 8.16** Epistemic type scores by proficiency level: Implicit group

| | Pre-test | | Post-test | | Delayed Post-test | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| **Writing** | | | | | | |
| **High** | 5.77 | 3.06 | 5.84 | 3.39 | 6.31 | 1.97 |
| **Mid** | 5.94 | 2.41 | 6.63 | 2.06 | 6.75 | 2.54 |
| **Low** | 4 | 1 | 5.13 | 1.36 | 5.53 | 1.96 |
| **Speaking** | | | | | | |
| **High** | 4.08 | 1.94 | 3 | 1.35 | 3.85 | 1.52 |
| **Mid** | 2.5 | 0.89 | 2.56 | 1.55 | 2.63 | 1.41 |
| **Low** | 2 | 1.13 | 2.07 | 1.49 | 2.07 | 0.96 |

### 8.3.1 Explicit Group: Writing

The mixed design analysis of variance did not find a significant interaction between Proficiency Group and Time, $F(4,68) = 0.53$, $p = .71$. There was, however, a very significant effect for Time, $F(2, 68) = 24.90$, $p < .001$, partial eta squared = .42. These findings suggest that all proficiency groups benefited from the explicit instruction in the long-term, as can be seen from Figure 8.8. This shows a parallel development by all the groups between the pre- and post-tests, followed by a partial loss of gains for all groups between the post-tests, although the Mid group did not reverse as much as the other two groups.

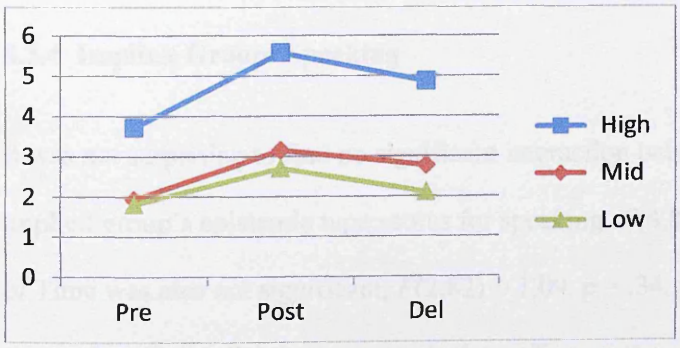
**Figure 8.8** Epistemic type scores by proficiency level: Explicit group writing




### 8.3.2 Explicit Group: Speaking

Similar results were found in the case of the explicit group's spoken language. Once again there was no significant interaction between Proficiency and Time, $F(3.36, 57.12) = 0.47$, $p = .73$, whilst there was a significant main effect for Time, $F(1.68, 57.12$[61]$) = 8.42$, $p = .001$, partial eta squared = .20. Although the effect size is not as large as for writing, it still shows that the explicit intervention had a long-term effect on all proficiency groups, as is shown by Figure 8.9. Once again, there is a broadly parallel pattern of gain followed by partial loss.

**Figure 8.9** Epistemic type scores by proficiency level: Explicit group speaking

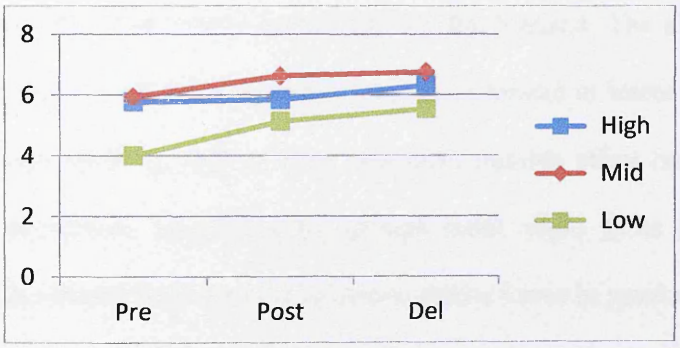



[61] For this data and also for the implicit group's written data, Mauchly's Test of Sphericity was violated; therefore I have used the Greenhouse-Geisser correction (Field, 2009).

### 8.3.3 Implicit Group: Writing

In the case of the implicit group's writing, there was no significant interaction between Proficiency and Time, $F(3.50, 71.73) = 0.40$, $p = .78$. The main effect for time was also not significant, $F(1.75, 71.73) = 3.06$, $p = .06$, partial eta squared = .07. However, in this case the effect appears to be approaching significance. The gradual development in epistemic type scores can be seen in Figure 8.10, suggesting that all proficiency groups did develop during the six-month experimental period. However, this development cannot be ascribed to the implicit intervention with any confidence.

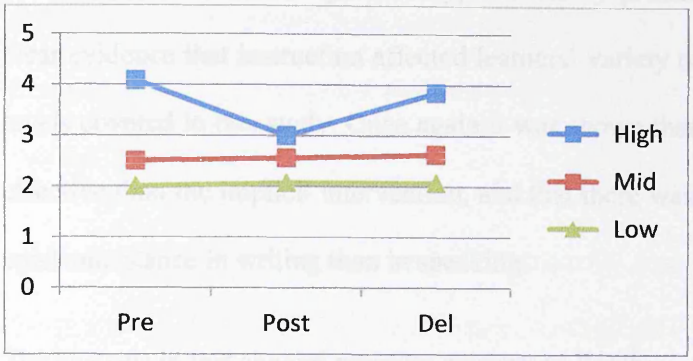
**Figure 8.10** Epistemic type scores by proficiency level: Implicit group writing




### 8.3.4 Implicit Group: Speaking

It was not surprising to find no significant interaction between Proficiency and Time for the implicit group's epistemic type scores for speaking, $F(4,82) = 1.24$, $p = .30$. The main effect of Time was also not significant, $F(2,82) = 1.09$, $p = .34$, partial eta squared = .03. This shows that the implicit intervention had no effect on the variety of epistemic stance forms used by the learners in speaking, as can be seen in Figure 8.11. In the case of the Mid and Low groups, the lack of development is very clear, whilst the High group's epistemic type score actually decreases during the research period.

**Figure 8.11** Epistemic type scores by proficiency level: Implicit group speaking




### 8.3.5 Section Summary

It is important to remember that the data for epistemic type scores informs us about the *variety* of epistemic forms used by the learners. The above findings clearly show that the explicit instruction brought about development in learners' epistemic variety in both writing and speaking, with a larger and more durable effect on the former. In the case of implicit instruction, all proficiency groups made slight gains in writing but none of the groups developed their range of epistemic stance forms in speaking.

## 8.4 Summary and Discussion

In the first part of this chapter (Section 8.1) it was established from the pre-test data that both the *frequency* and *variety* of epistemic forms used by learners increases in line with proficiency. The next section (8.2) analyzed the most frequent epistemic forms used in writing and speaking by the three proficiency groupings. The explicit intervention was found to be effective for learners in all proficiency groups, with greater effects on their use of epistemic forms in writing than in speaking. By contrast, implicit instruction had a small effect on learners' use of epistemic forms in writing at all levels, but almost no effects in the case of speaking for any of the proficiency groups.

The analysis of learners' epistemic type scores by proficiency level in Section 8.3 provided clear evidence that instruction affected learners' variety of epistemic forms at all proficiency levels covered in this study. Once again it was shown that the explicit intervention was more effective than the implicit intervention, and that there was a greater effect on learners' use of epistemic stance in writing than in speaking.

The analysis in this chapter provides answers to RQ2b:

*What interactions are there between the effectiveness of explicit and implicit instruction, and L2 proficiency?*

As the summary of findings above has shown, when epistemic stance use is measured more broadly in terms of *frequency* of epistemic forms (Section 8.2) or *variety* of stance form use (Section 8.3), the patterns of development following instruction were similar for the three proficiency groups:

- The explicit group made *strong* long-term gains for the frequency and variety of use of epistemic stance in writing *for all proficiency groups* (see Figures 8.4 and 8.8).
- The explicit group made *weak* long-term gains for the frequency and variety of use of epistemic stance in speaking *for all proficiency groups* (see Figures 8.5 and 8.9).
- The implicit group made *weak* long-term gains on the variety of learners' use of epistemic stance in writing *for all proficiency groups* (see Figure 8.10). The implicit Mid and Low proficiency groups made *weak* long-term gains for frequency, but the High group did not develop in this regard (see Figure 8.6).
- The implicit group *did not* make long-term gains on the frequency and variety of their use of epistemic stance in speaking *for all proficiency groups* (see Figures 8.7 and 8.11).

Apart from the difference between the High and Mid+Low implicit groups for writing, proficiency does not seem to have made a big difference as far as overall measurements of frequency and variety are concerned. However, a closer look at the breakdown of forms used

by learners before and after instruction (see Tables 8.3~8.14) provides insights into the way in which learners develop their use of epistemic stance with increasing proficiency. It also shows that explicit instruction was more effective than implicit instruction in accelerating learners' development.

I will discuss developmental patterns for epistemic stance with reference to two distinctive features in learners' use of epistemic stance in English: (1) the reliance on *I think* in writing and speaking, and on *maybe* in speaking; and (2) the use of the 'advanced' modal forms *could, might, must*. In the following discussion I refer to the change in the use of epistemic stance over the six-month research period. I focus on the explicit group because the explicit intervention provided the strongest instructional effect, which provides the clearest view of developmental patterns.

*I THINK* and *MAYBE*

Low Group:

- In speaking they slightly decreased their overall reliance on *I think* and *maybe* but they still accounted for over 70% of epistemic stance use in the delayed post-test. *I think* had overtaken *maybe* as the first choice form.
- In writing, their use of *I think* decreased from 35% to just under 20%.

Mid Group:

- In speaking they decreased their reliance on *I think* and *maybe* from 84% to 68%.
- In writing, their use of *I think* decreased from 53% to 23%.

High Group:

- By the time of the delayed post-test, *I think* and *maybe* accounted for 52% of their epistemic stance use in speaking.
- In writing, *I think* had been replaced by *seem* as the most frequent epistemic stance marker by the time of the delayed post-test.

These findings demonstrate the resilience of the path-breaking forms *I think* and *maybe* in the expression of epistemic stance in speaking. The data also show how *I think* may gradually get

dropped as the main form for epistemic stance in writing, although it does appear that without explicit instruction or feedback on this point, this may take a long time. This data has shown how explicit instruction can, with difficulty, help learners to shed their most favoured epistemic forms. I will now look at a more advanced stage of epistemic form use by focusing on learners' use of *could, might* and *must.*

*COULD, MIGHT, MUST*

Low Group:

- In speaking, they did not use any of these forms in the pre- or delayed post-test.
- In writing, they increased their use of them from 3% to 16%. Closer analysis found that five of the ten learners in this group used these forms in the delayed post-test.

Mid Group:

- In speaking there was just one use of these forms in the delayed post-test.
- In writing, they slightly increased their use of them from 2 uses to 6 (3%).

High Group:

- In speaking, they increased their use of these three forms from 4% to 9% (in fact, they were used by four of the 14 learners in the group in the delayed post-test).
- In writing, they increased their use of these forms from 5% to 17% (12 of the 14 learners in this group used at least one of these forms in the delayed post-test).

This analysis shows a clear difference between the High group and the Mid+Low groups. It appears that the High group was ready to develop their use of these advanced modals, whereas these forms were beyond the current level of most of the learners in the Mid and Low groups, especially in the case of speaking.

These overviews give insights into development in epistemic stance use at 'lower' and 'higher' stages. It is clear that explicit instruction can help propel learning forwards but change seems to be quite strongly restricted to the learner's current stage of development[62].

[62] I am not arguing here that there is only one route in the development of epistemic stance nor that it is impossible to change the order through explicit instruction. At the same time, the data does provide strong

By comparison, development by the implicit group was like a 'weak echo' of that for the explicit group. The same patterns were there but the degree of change was much lower.

As discussed in Section 3.5.3, the interaction between type of instruction and proficiency level has rarely been studied (exceptions include Spada & Lightbown, 1993; Codina-Espurz, 2008). Certainly, this looks like a fruitful line of enquiry because this type of research can benefit both understanding of L2 acquisition and provide strong practical evidence for teachers regarding the issue of when learners are likely to be 'ready' to learn certain forms. Therefore, I strongly support Takahashi's (2010) view that the proficiency variable should be more frequently operationalized in research on instruction and L2 pragmatic development, and I would also suggest that similar research conducted from a concept-oriented approach (Bardovi-Harlig, 2007) could provide useful information on how L2 learners develop the formal means of expressing functional domains of language use.

To summarize, the findings in this chapter suggest that there is a broad acquisitional order for epistemic stance: as learners' proficiency level rises they are able to move from a state in which they rely on a small number of forms to a more advanced state in which they can express epistemic stance in a much more precise and nuanced way by using a wide range of forms including evidential verbs and a full range of modal verbs. Above all, the data analyzed in this chapter has shown that explicit instruction can accelerate learners' progress in the acquisition of epistemic stance.

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evidence that when learners are presented with a range of possible forms to integrate into their epistemic repertoire it does appear that learners are likely to gain forms 'at their next level'. These 'levels' appear to be dictated by 'ease of processing'. In other words, flexible lexical forms precede syntactic forms which are more difficult to accurately build into sentences. It must however be emphasized here that not all individual learners fitted this typical pattern of development.

# CHAPTER NINE

# EFFECTS OF INSTRUCTION ON LEARNERS' USE OF SPECIFIC FORMS

## 9.0 Introduction

The analysis in the previous two chapters on mode of communication and proficiency was more group-oriented. In this chapter, which focuses on the differential effects of the interventions on learners' use of specific epistemic forms, the analysis is based on each learner's use or non-use of the target forms (see Section 6.6.5). In particular, the analytical focus is narrowed onto those learners who *did not use a specific form in the pre-test.* By looking at their subsequent use or non-use of the form on the post- and delayed post-tests, patterns of uptake of taught forms can be uncovered. I carried out this analysis for each of the categories of epistemic forms focused on in the interventions: cognitive verbs (reported on in Section 9.1); evidential verbs (Section 9.2); modal verbs (Section 9.3); modal adverbs (Section 9.4); and epistemic expressions (Section 9.5). In Section 9.6 the findings from these analyses are summarized and discussed in relation to RQ2c on the interaction between type of instruction and learning of different target forms. This is followed, in Section 9.7, with an overview of gains made by each student over the duration of this research. This will provide answers to RQ2d concerning the degree of individual variation in relation to instructional effects. Finally, in Section 9.8, I bring together the findings from all three analysis chapters which relate to the overarching issues (RQs 1a and 1b) of the short- and long-term effects of the two interventions.

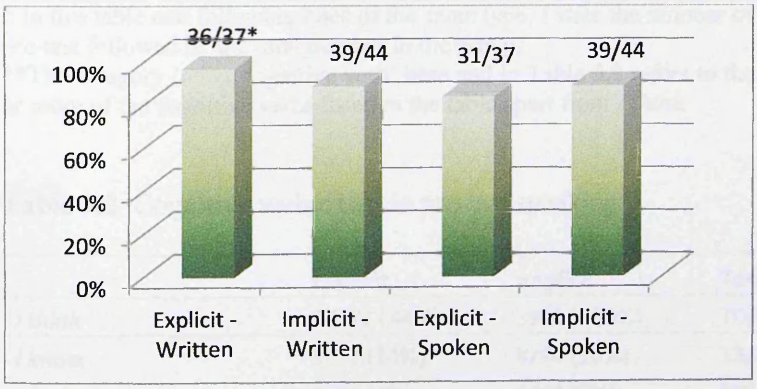
## 9.1 *I THINK* and Other Cognitive Verbs

In the following analysis of cognitive verb use, *I think* is separated from the other cognitive verbs because of its clear status as the learners' primary epistemic stance marker.

### 9.1.1 Pre-test Use

As Figure 9.1 shows, nearly all the learners used *I think* in the pre-test in writing (93%) and speaking (86%). By contrast, learners' use of other cognitive verbs in the pre-test was quite rare. Figure 9.2 presents the combined data for other cognitive verbs that were used in the pre-test: *I assume, I believe, I feel, I guess, I know, I suppose, I wonder.* It shows that 38% of the learners used another cognitive verb in writing, and 27% of them used one in speaking. Tables 9.1 (writing) and 9.2 (speaking) give the breakdown on the number of learners who used each of these verbs in the pre-test writing and speaking respectively.

**Figure 9.1** *I THINK*: Percentage of pre-test users




*In this figure and following ones of the same type, this describes the number of learners who used the form (e.g., 36) followed by the number of learners in the group (e.g., 37).

As well as the common use of *I think* in both language modes, this data also reveals that learners appear to make little differentiation between writing and speaking as regards their choice of cognitive verbs (see also Sections 7.2.2 and 8.1.1).

**Figure 9.2** Cognitive verbs (except *I THINK*): Percentage of pre-test users

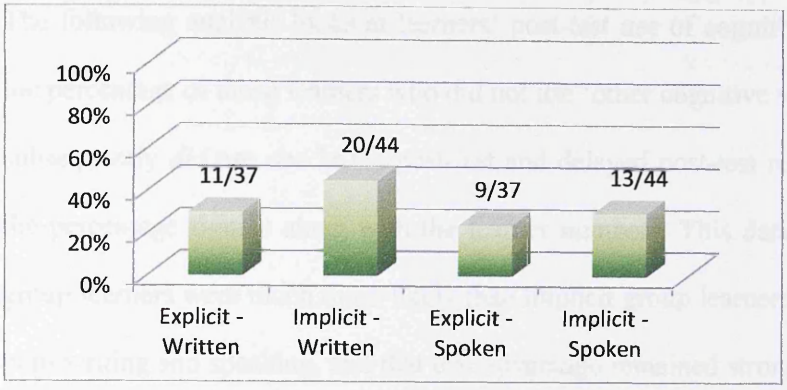



**Table 9.1** Cognitive verbs: Use in pre-test writing[63]

| | Explicit | Implicit | Total |
|---|---|---|---|
| *I think* | 36/37* (97%) | 39/44 (89%) | 75/81 (93%) |
| *I guess* | 5/37 (14%) | 6/44 (14%) | 11/81 (14%) |
| *I know* | 3/37 (8%) | 8/44 (18%) | 11/81 (14%) |
| *I suppose* | 5/37 (14%) | 5/44 (11%) | 10/81 (12%) |
| *I believe* | 4/37 (11%) | 3/44 (7%) | 7/81 (9%) |
| *I feel* | 0 | 3/44 (7%) | 3/81 (4%) |
| *I wonder* | 0 | 3/44 (7%) | 3/81 (4%) |
| **other cognitive verb(s) | 11/37 (30%) | 20/44 (45%) | 31/81 (38%) |

* In this table and following ones of the same type, I state the number of learners who used the form in the pre-test followed by the total number in the group.
**The category 'other cognitive verb' here and in Table 9.2 refers to the number of learners who used one or more of the cognitive verbs listed in the table apart from *I think*.

**Table 9.2** Cognitive verbs: Use in pre-test speaking

| | Explicit | Implicit | Total |
|---|---|---|---|
| *I think* | 31/37 (84%) | 39/44 (89%) | 70/81 (86%) |
| *I know* | 5/37 (14%) | 8/44 (18%) | 13/81 (16%) |
| *I feel* | 1/37 (3%) | 4/44 (9%) | 5/81 (6%) |
| *I guess* | 4/37 (11%) | 1/44 (2%) | 5/81 (6%) |
| *I suppose* | 1/37 (3%) | 0 | 1/81 (1%) |
| *I wonder* | 0 | 1/44 (2%) | 1/81 (1%) |
| *other cognitive verb(s) | 9/37 (24%) | 13/44 (30%) | 22/81 (27%) |

[63] This type of table in this chapter only includes forms which were used by at least three different learners at some point in this study.

### 9.1.2 Post-test Use by Pre-test Non-users

The following analysis looks at learners' post-test use of cognitive verbs. Figure 9.3 shows the percentage of those learners who did not use 'other cognitive verb(s)[64]' in the pre-test, but subsequently *did* use one in the post-test and delayed post-test respectively. Table 9.3 gives the percentage figures along with the learner numbers. This data demonstrates that explicit group learners were much more likely than implicit group learners to gain a cognitive verb in both writing and speaking, and that this advantage remained strong at the time of the delayed post-test. Moreover, the explicit group learners were much more likely to gain a verb that had been given an explicit focus (i.e., *I believe, I guess, I suppose*) than the implicit group, who predominantly gained *I know*, which was not focused on in the interventions.

**Figure 9.3** Other cognitive verbs: Post-test use by pre-test non-users

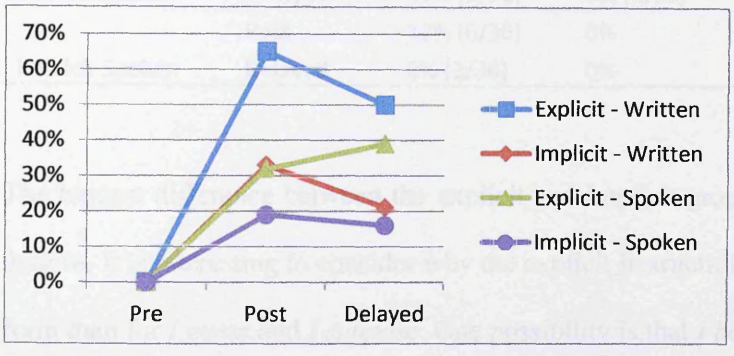



**Table 9.3** Other cognitive verbs: Post-test use by pre-test non-users

| | Post-test | Delayed Post-test |
|---|---|---|
| Explicit Written | 65% (17/26)[65] | 50% (13/26) |
| Implicit Written | 33% (8/24) | 21% (5/24) |
| Explicit Spoken | 32% (9/28) | 39% (11/28) |
| Implicit Spoken | 19% (6/31) | 16% (5/31) |

[64] In this section, I use this expression to refer to learners' use of cognitive verbs other than *I think*.

[65] In each data table for 'pre-test' non-users, the percentage is based on the number of those learners who did not use the form or form category (here: 'other cognitive verb(s)') in the pre-test (here: 26 learners), but who *did* use that form or form category in the post-test (here: 17 learners) or delayed post-test.

The data for the four most frequently used 'other cognitive verb(s)' is given in Table 9.4 and Figures 9.4~9.7 below. Some interesting trends can be seen in these graphs. Firstly, the data for *I guess, I suppose* and *I believe* shows clear differences between the explicit and implicit groups. In all cases the 'explicit-written' line is above the 'implicit-written' line, and the 'explicit-spoken' line is above the 'implicit-spoken' line, suggesting greater short- and long-term effects for the explicit intervention as regards these forms.

**Table 9.4** Other cognitive verbs: Post-test use of specific forms by pre-test non-users

| | | ***I know*** | ***I suppose*** | ***I guess*** | ***I believe*** |
|---|---|---|---|---|---|
| | Post | 12% (4/34) | 25% (8/32) | 19% (6/32) | 33% (11/33) |
| Explicit Written | Delayed | 26% (9/34) | 9% (3/32) | 19% (6/32) | 21% (7/33) |
| | Post | 11% (4/36) | 10% (4/39) | 11% (4/38) | 2% (1/41) |
| Implicit Written | Delayed | 14% (5/36) | 5% (2/39) | 11% (4/38) | 2% (1/41) |
| | Post | 9% (3/32) | 19% (7/36) | 15% (5/33) | 5% (2/37) |
| Explicit Spoken | Delayed | 16% (5/32) | 6% (2/36) | 6% (2/33) | 5% (2/37) |
| | Post | 17% (6/36) | 0% | 2% (1/43) | 2% (1/44) |
| Implicit Spoken | Delayed | 8% (3/36) | 0% | 0% | 2% (1/44) |

The biggest difference between the explicit and implicit groups can be seen in the case of *I believe*. It is interesting to consider why the explicit instruction had a stronger effect for this form than for *I guess* and *I suppose*. One possibility is that *I believe* was taught to learners as a means of expressing a stronger opinion as compared to *I think.* In this way it offered a way to extend the functionality of their epistemic repertoire. By comparison, *I guess* and *I suppose* offered 'other ways of doing the same thing', i.e., they fulfill the same function as *I think.* This appears to be a situation in which *I believe* has higher contingency (i.e., 'functional salience') than the other two forms. This issue is discussed in more detail in Section 9.6.

**Figure 9.4** *I GUESS*: Post-test use by pre-test non-users


**Figure 9.5** *I SUPPOSE*: Post-test use by pre-test non-users

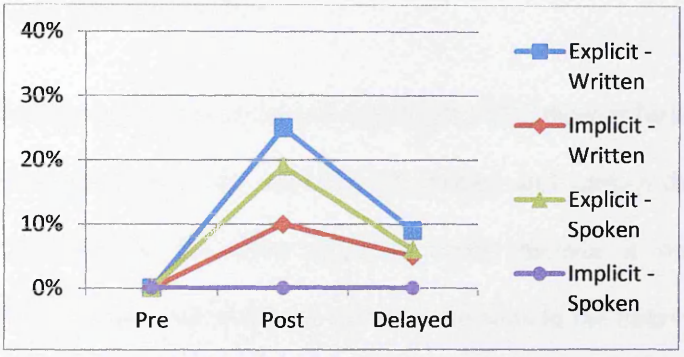



**Figure 9.6** *I BELIEVE*: Post-test use by pre-test non-users


*Note.* In this chart the 'implicit-written' line is 'hidden behind' the 'implicit-spoken' line because the percentages were the same for both post-tests.

It is also noticeable that in spite of the fact that the explicit instruction informed learners that *I guess* and *I suppose* are more typically used in spoken language, there was a greater increase in their use in written language. It may well be that register distinctions remain less essential for learners at this level of proficiency, and furthermore, the greater processing

demands of the speaking task probably made it more difficult for the learners to access new forms. This differential effect depending on the mode of communication can be seen very clearly for *I believe* (see Figure 9.6), where there is a large difference in uptake when comparing the explicit group data for writing and speaking.

The 'gain → partial loss' pattern with respect to the post- and delayed post-tests, which was repeatedly observed in the previous two chapters of analysis, is apparent here too. It was clearly the case for the explicit group for *I suppose* (writing and speaking), *I guess* (speaking), and *I believe* (writing).

Lastly, in the case of *I know* (see Figure 9.7), there is little difference between the explicit and implicit groups, and between the written and spoken data. *I know* can be considered as a 'control' for the other cognitive verbs because it was not focused on in the explicit intervention, and it did not occur in the texts in the interventions. It is therefore probable that most of the post-test uses of *I know* were not caused by the interventions, i.e., the learners knew the form at the time of the pre-test but did not use it. As the patterns of gain for *I know* are clearly different from those of the other three verbs, it appears highly likely that instruction did have an effect on learners' use of those verbs.

**Figure 9.7** *I KNOW*: Post-test use by pre-test non-users

### 9.1.3 Example Learner[66]

As an example from the data set I will focus on a learner from the Explicit group Mid level: (EM13). In the pre-test he used *I think* three times in his discursive writing and once in his discursive speaking, and he used *I guess* and *I know* in his descriptive writing and speaking. For example:

Pre-Desc-W[67]: ...***I guess*** *it is the picture of the restaurant where...*
Pre-Opin-W: *People who work at not their country can speak English,* ***I think****.*
Pre-Desc-S: ...***I don't don't know*** *this what this is but* ***I guess*** *erm this is resort place...*

In the post-test, his speaking did not change as regards his use of cognitive verbs (he used *I guess* and *I know* in his description and *I think* in his opinion). However, in his writing he used *I believe*:

Post-Opin-W: *It is because* ***I believe*** *that there are a lot of opportunities to learn about...*

Five months later, while there were still no gains in his speaking, he again used of *I believe* in his discursive writing and also used *I suppose* and *I guess* in his descriptive writing:

Del-Desc-W: ***I didn't know*** *the words of "Churreria Chocolateria". But* ***I guess*** *it is the name of this shop and "chocolateria" derived from "chocolate" and "cafeteria". So* ***I suppose*** *this shop serves food and drinks.*

For this learner, as regards cognitive verbs, it appears that the explicit intervention had a short- and long-term effect on his ability to use them in writing. However, this knowledge has not become embedded enough for him to be able to produce the forms when speaking.

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[66] In this and the next three sections, following the data analysis, the actual use of the respective epistemic category in the spoken and/or written language of one learner in the *explicit* group is presented. The purpose of this is to give the reader a more concrete sense of what was being discussed in the preceding section. Although the learners were chosen to be reasonably representative of the typical developmental trends found in the data in that section, at the same time, it is important to be aware that due to the variety of language used by individual learners in this study, no individual learner can be considered to be *truly* representative. The full set of production data for each of the learners presented in these sections can be found in Appendix 5.

[67] The Key for all examples from the learner data presented in this section is as follows: Pre = Pre-test; Post = Post-test; Del = Delayed Post-test; Desc = Description; Opin = Opinion; W = Writing; S = Speaking.

### 9.1.4 Section Summary

The main findings from this section on cognitive verbs are:

- *I think* was the dominant epistemic stance form in both writing and speaking in the pre-test; no other epistemic form in any category was used by such a large proportion of the participants.
- Explicit instruction led to greater immediate increases in learners' use of *I suppose, I guess,* and *I believe*, than implicit instruction. However, long-term gains varied, and only *I believe* showed a clear long-term advantage for explicit instruction (and this was only in the case of writing).

## 9.2 Evidential Verbs

This section looks at learners' use of evidential verbs. This category was dominated by the forms *seem* and *look*, although other evidential verbs which occurred in the learner data included *appear, say, show, sound* and *hear.*

### 9.2.1 Pre-test Use

The percentage of learners in each group who used at least one evidential verb form in the pre-test is presented in Figure 9.8. In total, 59% of the participants used one in writing, whilst 22% did so in their speaking. This represents quite a large difference between the two modes of communication, suggesting that learners find it difficult to produce these forms under the greater processing demands of speech. These data, along with a breakdown for individual forms, are shown in Tables 9.5 (writing) and 9.6 (speaking).

### 9.2.2 Post-test Use by Pre-test Non-users

The post-test use of evidential verbs by 'pre-test non-users' can be seen in Table 9.7 and Figure 9.9. The data for writing reveals that levels of uptake by both the explicit and implicit

**Figure 9.8**: Evidential verbs: Percentage of pre-test users

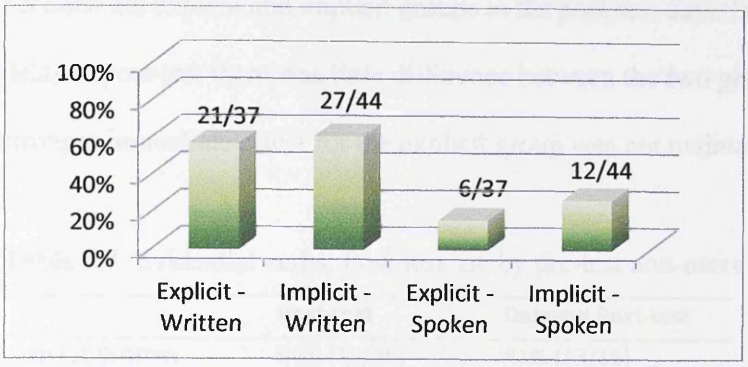



**Table 9.5** Evidential verbs: Use in pre-test writing

| | Explicit | Implicit | Total |
|---|---|---|---|
| *seem* | 15/37 (41%) | 17/44 (39%) | 32/81 (40%) |
| *look* | 11/37 (30%) | 12/44 (27%) | 23/81 (28%) |
| *hear* | 3/37 (8%) | 4/44 (9%) | 7/81 (9%) |
| *say* | 1/37 (3%) | 3/44 (7%) | 4/81 (5%) |
| *appear* | 1/37 (3%) | 1/44 (2%) | 2/81 (2%) |
| *evidential verb(s) | 21/37 (57%) | 27/44 (61%) | 48/81 (59%) |

* Here and in Table 9.6 this refers to the number of learners who used at least one of the above forms.

**Table 9.6** Evidential verbs: Use in pre-test speaking

| | Explicit | Implicit | Total |
|---|---|---|---|
| *seem* | 3/37 (8%) | 6/44 (14%) | 11/81 (14%) |
| *look* | 3/37 (8%) | 5/44 (11%) | 8/81 (10%) |
| *hear* | 0 | 2/44 (5%) | 2/81 (2%) |
| *say* | 0 | 1/44 (2%) | 1/81 (1%) |
| *appear* | 0 | 0 | 0 |
| evidential verb(s) | 6/37 (16%) | 12/44 (27%) | 18/81 (22%) |

groups are high. Before carrying out this research, it was not expected that the implicit intervention would lead to as high a level of uptake as the explicit intervention. Yet, for evidential verbs in writing, this is nearly the case.

In the case of speaking, the uptake figures are much lower, and there is a clear difference between the explicit and implicit groups in the post-test data. However, by the time of the delayed post-test there was little difference between the two groups, indicating that the stronger immediate effect for the explicit group was not maintained.

**Table 9.7** Evidential verbs: Post-test use by pre-test non-users

| | Post-test | Delayed Post-test |
|---|---|---|
| Explicit Written | 94% (15/16) | 81% (13/16) |
| Implicit Written | 88% (15/17) | 76% (13/17) |
| Explicit Spoken | 42% (13/31) | 26% (8/31) |
| Implicit Spoken | 16% (5/32) | 22% (7/32) |

**Figure 9.9** Evidential verbs: Post-test use by pre-test non-users


When the data for *seem*, *look* and *appear* are looked at separately (see Table 9.8, and Figures 9.10~9.12) it can be observed that the patterns of change are broadly similar for *seem* and *look*, whilst there was little development at all for *appear*. I will begin this discussion by focusing on *seem* and *look*, and consider the data for *appear* afterwards.

In the case of writing, the long-term effects for both *seem* and *look* are almost the same for both groups, with an uptake level of just under 50%. This is a surprising finding (see below for discussion) because *seem* and *look* are among very few epistemic forms in the experiment

which were gained by the implicit group to the same degree as the explicit group. In spoken language, the instruction appears to have benefited the explicit group more in the short-term, although the gap narrows by the time of the delayed post-test for both forms.

**Table 9.8** Evidential verbs: Post-test use of specific forms by pre-test non-users

| | | *seem* | *look* | *appear* |
|---|---|---|---|---|
| Explicit Written | Post | 68% (15/22) | 50% (13/26) | 8% (3/36) |
| | Delayed | 45% (10/22) | 46% (12/26) | 6% (2/36) |
| Implicit Written | Post | 48% (13/27) | 50% (16/32) | 0% |
| | Delayed | 48% (13/27) | 47% (15/32) | 0% |
| Explicit Spoken | Post | 32% (11/34) | 18% (6/34) | 5% (2/43) |
| | Delayed | 15% (5/34) | 15% (5/34) | 0% |
| Implicit Spoken | Post | 8% (3/39) | 5% (2/38) | 0% |
| | Delayed | 5% (2/39) | 13% (5/38) | 0% |

**Figure 9.10** *SEEM*: Post-test use by pre-test non-users

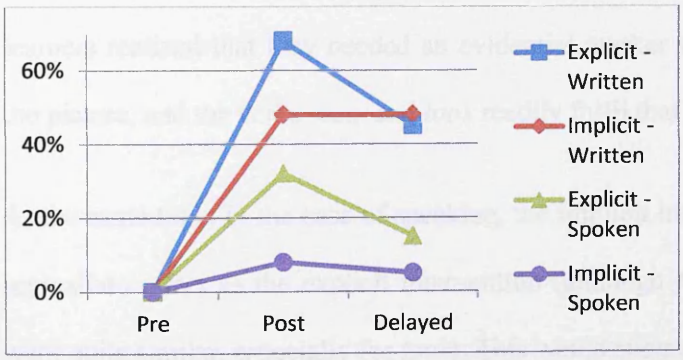
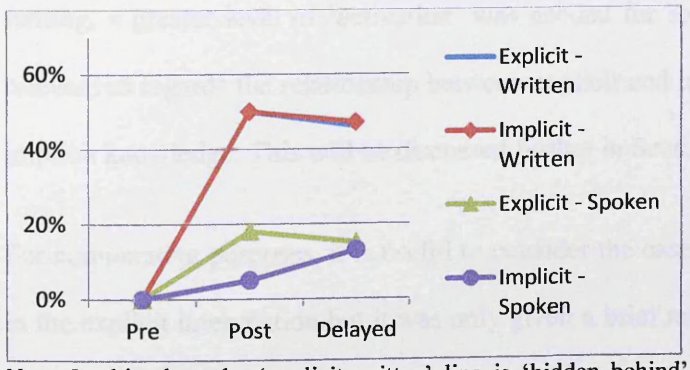



**Figure 9.11** *LOOK*: Post-test use by pre-test non-users




*Note.* In this chart the 'explicit-written' line is 'hidden behind' the 'implicit-written' line because the percentages were almost the same.

The major issue here is why the implicit group's pattern of gain for these forms in writing was so similar to the explicit group. The explanation I give here is somewhat speculative as this was an unexpected finding in this research, which may not have been uncovered if the analysis had not dug deep into the data[68]. It seems likely that these two verbs were probably known by most learners at the time of the pre-test; this is hinted at by the relatively high proportion of learners who used them in the first data collection (see Table 9.5). As a result, the amount of attention needed to 'activate' these forms into production for those learners who did not use them may have been low compared to other forms which were not so well-known (or not known at all) at the time of the pre-test. In such a case as this, the implicit presentation of forms may have proved sufficient for this activation to take place, particularly as these forms had an almost 'obligatory' role to play in the picture description task, i.e., the learners realized that they needed an evidential marker to describe actions and/or events in the picture, and the verbs *seem* and *look* readily fulfil that function.

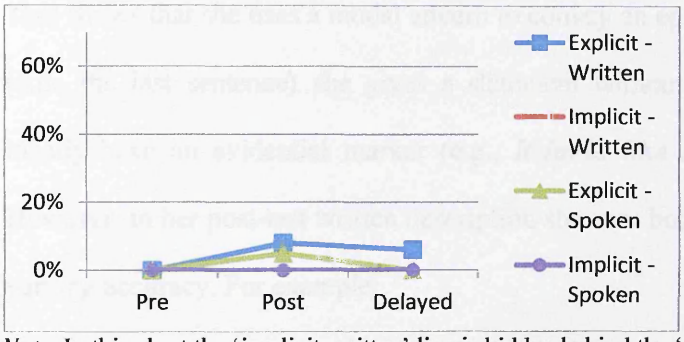
At the same time, in the case of speaking, the implicit intervention did not have as strong an immediate effect as the explicit intervention (although the long-term gains by both groups were quite similar, especially for *look*). This would suggest that whilst the level of 'activation' in the implicit intervention was enough for the learners to be able to produce the form in writing, a greater level of 'activation' was needed for spoken language. These findings are relevant as regards the relationship between explicit and implicit instruction, and explicit and implicit knowledge. This will be discussed further in Section 9.6.

For comparative purposes, it is useful to consider the case of *appear*. This verb was included in the explicit intervention but it was only given a brief mention in the last of the four classes

[68] My attention to the surprising gains on *seem* and *look* by the implicit group learners was first flagged up by the keyword analysis (see Section 7.2.2 and Table 7.10).

in the context of the formal phrase, *it appears quite likely that*. As can be seen from Figure 9.12, the interventions had little influence on its use. It is likely that *appear* was not as well-known to the learners before the intervention or perhaps not known at all[69]. Therefore, although all three forms were in the input in the intervention (and taught to the explicit group), the learners' attention was caught by the forms they were already aware of, and which were given more focus in the instruction.

**Figure 9.12** *APPEAR:* Post-test use by pre-test non-users




*Note.* In this chart the 'implicit-written' line is hidden behind the 'implicit-spoken' line.

In the case of evidential verbs, genre plays an important role, because the genre of description often requires the use of these forms. It is interesting to note that all but one of the 225 occurrences (99.6%) of *look* in this research (covering all three tests, both groups, and both modes) were in the descriptive task responses, and 284 of the 300 occurrences (94.7%) of *seem* were likewise to be found in the descriptions. It is clear that the learners have a strong form-function mapping which utilizes these two forms for a specific communicative purpose. These findings support those of the pilot study (see Section 5.2.2) in observing that the use of *seem* in hedging an opinion (e.g., *that seems unfair*) was very rare in the learners' discourse.

[69] Informal analysis of junior and senior high school textbooks in Japan revealed that *seem* and *look* are a common part of the taught content, whilst *appear* is not.

### 9.2.3 Example Learner

As an example from the data set I will focus on the use of evidential verbs by a learner from the Explicit group Low level (EL1), who was quite typical of lower proficiency learners. In the pre-test she did not use any evidential verbs in either of the description tasks. The following is an extract from her written description:

Pre-Desc-W: ***Probably*** *this shop is old. And people has been loving it. Customers are almost adults.*

This shows that she uses a modal adverb to convey an epistemic viewpoint and at other times (e.g., the last sentence) she gives a statement without any stance marking which would ideally have an evidential marker (e.g., *It* ***looks like*** *most of the customers are adults.*) However, in her post-test written description she uses both *seem* (x2) and *look*, although with varying accuracy. For example:

Post-Desc-W: *This restaurant* ***seems*** *small, so ...*
*...the time when this restaurant opens* ***seems*** *not so far.*

In the delayed post-test written description she again used evidential forms (*look*, x2):

Del-Desc-W: *While the man who is talking to a child* ***looks*** *relaxed... and has something to drink, the child* ***looks*** *a little bit worry about show.*

By comparison, she did not use any evidential verbs in the speaking tasks. This is interesting, because clauses can be seen in which she would probably have used *look* or *seem* if she had been writing. For example:

Del-Desc-S: *many people ... they are very relax and happy there*

Whereas she used '***looks*** *relaxed*' in writing, she uses '*are very relax*' in her speech. This may well demonstrate that these evidential verbs have not become embedded enough in her knowledge of the language in order for her to produce them under greater time-pressure. For

this learner, with a lower level of proficiency, the explicit intervention had a long-term effect on her ability to produce evidential forms in writing, but not in speech.

### 9.2.4 Section Summary

The main points of this section on evidential verbs are as follows:

- The evidential verb category is almost equally dominated by *look* and *seem*.
- Evidential verbs were much more commonly used in the pre-test in writing than speaking, which suggests that they present some processing difficulties for learners.
- In writing, there were strong gains for *look* and *seem* by *both* groups, in both the short- and long-term; this finding for the implicit group had not been expected.
- In spoken language, immediate effects were stronger for the explicit group, but there was little difference in gains between the groups in the long-term.

## 9.3 Modal Verbs

The third category of epistemic stance focused on in this analysis is that of modal verbs. The forms under focus in this category were: *could, may, might, must, will* (all taught in the explicit intervention) and *would* (not taught explicitly).

### 9.3.1 Pre-test Use

This analysis looks at learners' overall use of modal verbs as well as their use of specific verbs. Figure 9.13 presents the percentage of learners in each group who used at least one modal verb form in the pre-test. In total, 85% of the participants used at least one modal verb in writing, whilst 28% did so in their spoken language. This finding is quite similar to that for evidential verbs and shows that modal verbs are another category of epistemic form which learners find difficult to produce under the greater processing demands of speech.

The overall totals for modal verb use in the pre-test, along with a breakdown for individual forms, are presented in Tables 9.9 (written) and 9.10 (spoken). These tables reveal that *will* was the most commonly used modal verb in both writing and speaking, followed by *may*. *Would,* which acts as a 'control' modal in this data because it was not taught explicitly in the intervention, was the third most common choice of modal in the written data. The remaining modals, *could, might,* and *must,* were rarely used for epistemic stance in both writing and speaking. This data supports previous research (e.g., Hyland & Milton, 1997; McEnery & Amselom Kifle, 2002; Salsbury & Bardovi-Harlig, 2000, 2001) in finding that *may* and *will* appear to be acquired more easily for expressing epistemic stance, whereas *might, must* and *could* are typically acquired later (this issue is discussed further below).

**Figure 9.13** The use of modal verbs in the pre-test

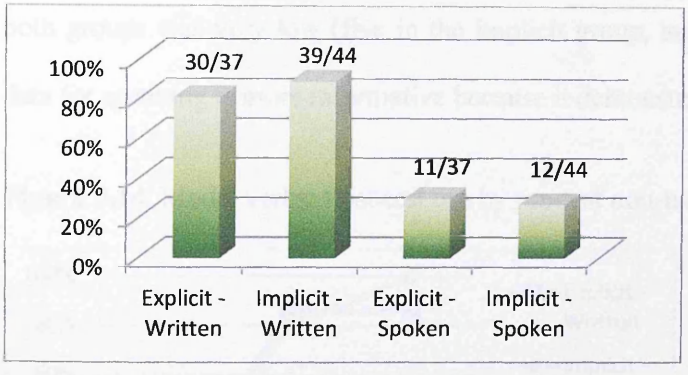



**Table 9.9** Modal verbs: Use in pre-test writing

| | Explicit | Implicit | Total |
|---|---|---|---|
| *will* | 20/37 (54%) | 30/44 (68%) | 50/81 (62%) |
| *may* | 14/37 (38%) | 14/44 (32%) | 28/81 (35%) |
| *would* | 10/37 (27%) | 7/44 (16%) | 17/81 (21%) |
| *might* | 5/37 (14%) | 6/44 (14%) | 11/81 (14%) |
| *could* | 2/37 (5%) | 5/44 (11%) | 7/81 (9%) |
| *must* | 5/37 (14%) | 2/44 (5%) | 7/81 (9%) |
| *modal verb(s) | 30/37 (81%) | 39/44 (89%) | 69/81 (85%) |

* Here and in Table 9.10 this refers to the number of learners who used at least one of the above forms.

**Table 9.10** Modal verbs: Use in pre-test speaking

| | Explicit | Implicit | Total |
|---|---|---|---|
| *will* | 5/37 (14%) | 8/44 (18%) | 13/81 (16%) |
| *may* | 6/37 (16%) | 1/44 (2%) | 7/81 (9%) |
| *might* | 2/37 (5%) | 2/44 (5%) | 4/81 (5%) |
| *would* | 1/37 (3%) | 2/44 (5%) | 3/81 (4%) |
| *must* | 1/37 (3%) | 1/44 (2%) | 2/81 (2%) |
| *could* | 0 | 1/44 (2%) | 1/81 (1%) |
| *modal verb(s) | 11/37 (30%) | 12/44 (27%) | 23/81 (28%) |

### 9.3.2 Post-test Use by Pre-test Non-Users

The following analysis looks at the post-test use of modal verbs by those learners who did not use them in the pre-test. Figure 9.14 and Table 9.11 present data on post- and delayed post-test use of modal verbs by these learners. The percentages for writing are very high for both groups. However, this information is not so informative because the number of non-users in both groups was very low (five in the implicit group, and seven in the explicit group). The data for speaking is more informative because it demonstrates a higher level of immediate

**Figure 9.14** Modal verbs: Post-test use by pre-test non-users


gain by learners in the explicit group. More than 50% of the pre-test non-users in the explicit group produced a modal verb in speech in the immediate post-test. However, the delayed post-test data shows some loss of gains in the case of the explicit group whilst the implicit group continued to gain, with both groups ending up at around the same level of gain five

months after the interventions. It is interesting to note that this overall pattern for modal verbs in speaking is very similar to that found for evidential verbs (see Figure 9.9 above).

**Table 9.11** Modal verbs: Post-test use by pre-test non-users

| | Post-test | Delayed Post-test |
|---|---|---|
| Explicit written | 86% (6/7) | 86% (6/7) |
| Implicit written | 80% (4/5) | 100% (5/5) |
| Explicit spoken | 54% (14/26) | 42% (11/26) |
| Implicit spoken | 22% (7/32) | 34% (11/32) |

The following section reports on post-test use by pre-test non-users for each of the modal verbs. Percentages and learner numbers are presented in Table 9.12 and Figures 9.15~9.20.

**Table 9.12** Modal verbs: Post-test use of specific forms by pre-test non-users

| | | *will* | *may* | *might* | *could* | *must* | *would* |
|---|---|---|---|---|---|---|---|
| Explicit | Post | 71% | 48% (11/23) | 50% (16/32) | 23% (8/35) | 44% | 19% (5/27) |
| Written | Delayed | 59% | 43% (10/23) | 34% (11/32) | 20% (7/35) | 41% | 15% (4/27) |
| Implicit | Post | 21% (3/14) | 47% (14/30) | 13% (5/38) | 10% (4/39) | 14% (6/42) | 14% (5/37) |
| Written | Delayed | 50% (7/14) | 47% (14/30) | 29% (11/38) | 3% (1/39) | 17% (7/42) | 14% (5/37) |
| Explicit | Post | 28% (9/32) | 26% (8/31) | 11% (4/35) | 3% (1/37) | 17% (6/36) | 6% (2/36) |
| Spoken | Delayed | 19% (6/32) | 16% (5/31) | 9% (3/35) | 3% (1/37) | 8% (3/36) | 3% (1/36) |
| Implicit | Post | 19% (7/36) | 9% (4/43) | 0% | 0% | 0% | 2% (1/42) |
| Spoken | Delayed | 25% (9/36) | 5% (2/43) | 5% (2/42) | 0% | 2% (1/43) | 10% (4/42) |

I will discuss each modal verb in turn, beginning with *will*. Figure 9.15 reveals that for writing there was a very large difference in immediate uptake between the explicit (71%) and implicit (21%) groups. However, this gap of 50 percentage points had reduced to just nine by the delayed post-test. While this seems like a major flux, it is partly caused by the relatively low number of learners who were pre-test non-users, which means that post-test use by one learner makes a large difference to the percentages. In the case of speaking, little difference can be observed between the explicit and implicit groups.

**Figure 9.15** *WILL*: Post-test use by pre-test non-users


The next most commonly-used verb in the pre-test was *may*. Post-test use by those who did not use it in the pre-test can be seen in Figure 9.16. The findings for writing as regards short-term effects could not be more different from *will*: around half of the learners in *both* groups used *may* in the first post-test. Although not surprising for the explicit group, this finding did contrast with expectations in the case of the implicit group. In fact, *may* was exceptional among the modal verbs in being the only one which implicit group learners made substantial gains on immediately following the intervention. The results for *may* are actually very similar to those for *look* (see Figure 9.11 above), so it appears likely that *may* is another epistemic form which most of the learners knew at the time of the pre-test, and the implicit intervention was enough to 'nudge' the form back to their attention.

**Figure 9.16** *MAY*: Post-test use by pre-test non-users

While the implicit intervention may have been enough to nudge *may* into learners' production in the case of writing, this did not happen for speaking, where the implicit group's uptake was much lower than that of the explicit group. This suggests that for many learners, *may* has not become embedded enough in their interlanguage for them to retrieve it for speaking, whilst they can do so for writing.

The three other modal verbs which were focused on in the explicit intervention (*could, might, must*) were all rarely used in the pre-test. Their post-test patterns of uptake (see Figures 9.17~9.19 and Table 9.12) are similar in some ways, but different in others. As regards similarities, first, the explicit group made greater gains than the implicit group in both writing and speaking for all three verbs. There is also a pattern of 'gain → partial loss' for all three verbs in the explicit group writing. On the other hand, the findings for the verbs diverge in that the explicit group's uptake of *might* and *must* was greater than for *could*; furthermore, the implicit group almost matched the explicit group in the long-term for *might,* whereas this was not the case for *must* and *could.*

**Figure 9.17** *COULD*: Post-test use by pre-test non-users

**Figure 9.18** *MIGHT*: Post-test use by pre-test non-users

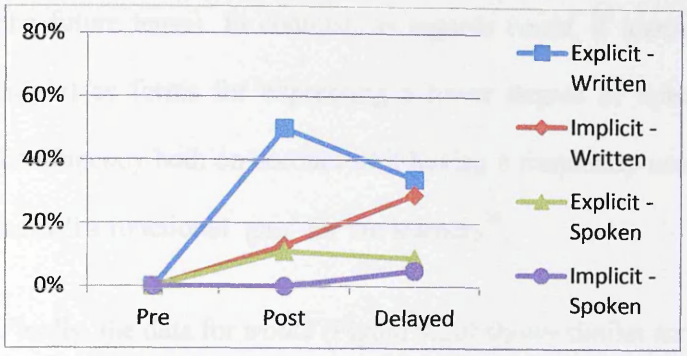
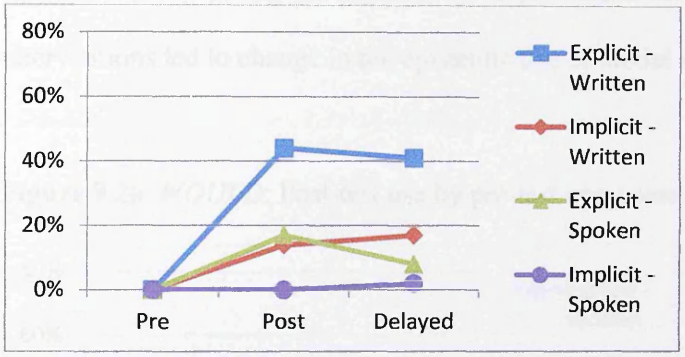



**Figure 9.19** *MUST*: Post-test use by pre-test non-users




In analyzing the findings for these three verbs it is helpful to consider the issue of contingency (N. Ellis, 2006a, 2006b, 2008). The verb which was gained by the largest percentage in both groups was *might*. This modal verb is predominantly used to express epistemic possibility (Coates, 1983, p.148), which means that its form-function mapping is quite clear. On the other hand, in the cases of *could* and *must*, many of the learners would have already used them for their deontic function, which may have 'blocked' (N. Ellis, 2006a, 2006b, 2008) them from using them multi-functionally. The reason why the learners in the implicit group do not gain them at the same rate as *might* may be because they were not given explicit instruction intended to overcome the lack of salience of their epistemic function. Furthermore, it was also noticeable that more learners in the explicit group gained *must* than *could*. This may be due to *must* filling a functional gap for learners, i.e., being able to express

a higher degree of epistemic commitment in the present tense (note that *will* is restricted to the future tense). In contrast, as regards *could*, if learners already have *may* (and perhaps *might*) as forms for expressing a lower degree of epistemic commitment, *could* has low contingency both on account of it having a frequently-used deontic sense and because it does not fill a functional 'gap' for the learners[70].

Finally, the data for *would* (Figure 9.20) shows similar scores for both groups on both writing and speaking. In all cases, gains on this form, which was not focused on in the interventions, are low. By comparing the data for the other modal verbs with *would*, it is clear that both interventions led to change in the epistemic use of modal verbs, and especially in writing.

**Figure 9.20** *WOULD*: Post-test use by pre-test non-users


### 9.3.3 Example Learner

As discussed above, the ability to use one form for more than one function and the ability to use modal verbs for epistemic stance in speaking appear to be elements of a more advanced level of L2 English proficiency. This situation is exemplified by a learner in the Explicit group High level (EH14). In the pre-test, he used the 'easier' modals (see above) *may* (x2), *will* and *would* (x4) in his writing. Here are some examples:

[70] It was noted in class during the explicit intervention that some learners were quite surprised that *could* can be used as an epistemic marker with a very similar meaning to *may* and *might*.

Pre-Desc-W: *The man who is riding a horse next to the kid **may** be his father.*

Pre-Opin-W: *It means that the right of voting for eighteens **will** destroy this country.*

In the immediate post-test, this learner used *might* (x2) and *must* (x1) in his description, although he used no modal verbs in his opinion essay:

Post-Desc-W: ***Judging from** the green letters, this picture **might** describe a sort of shop, **perhaps** in a shopping market. From the cloths which the customers wear, it **must** be May or June, before summer season, **I guess**.*

These examples demonstrate his use of modal verbs together with various other epistemic forms. He maintained these gains in the delayed post-test, in which he used *may, could, would* and *must* in his descriptive writing, and *would* and *could* (x2) in his opinion essay:

Del-Desc-W: *We can see a lot of chairs. They **could** be for the guests.*

As regards speaking, this learner did not use any epistemic modals in the pre-test, but did use them in his immediate post-test description (*may, might, must*):

Post-Desc-S: ***I guess** this is quite expensive hotel because it's near the beach and the scenery is erm **may** erm **might** be good err from the room...*

In the delayed post-test he used *must* twice in his description and once for his opinion task:

Del-Desc-S: *erm we can see a beach and err it **must** be a resort...*

This participant is representative of learners with more advanced skills in using epistemic stance forms: he uses a full range of epistemic stance forms in both language modes. It appears that the explicit instruction had a positive effect in enabling this learner to further develop his use of modal verbs for epistemic stance. However, it is important to note that not *all* the learners in the High proficiency group who underwent the explicit intervention developed in this way (see Section 9.7).

### 9.3.4 Section Summary

The main findings regarding instructional effects on learners' epistemic use of modal verbs are as follows:

- Modal verbs are similar to evidential verbs in being far more commonly used in writing than speaking. This suggests that they also present processing difficulties for learners.
- The modal verbs which are acquired most easily appear to be *may* and *will.* In writing, in both the explicit and implicit groups, they were gained by a greater percentage of the pre-test non-users than the other modal verbs over the six-month research period.
- The explicit intervention led to a clear increase in the use of modal verbs in writing in the long-term, with a smaller increase in the case of speaking.
- The implicit group had similar long-term gains to the explicit group in the cases of *may, might* and *will* in writing. For the most part, other effects for the implicit group were not as strong as for the explicit group.

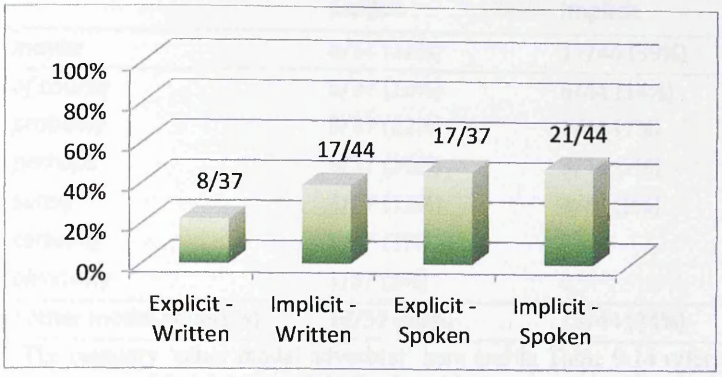
## 9.4 *MAYBE* and Other Modal Adverbs

The fourth section of this analysis focuses on the learners' use of epistemic modal adverbs. As in the first category, when *I think* was analysed separately from other cognitive verbs, in this section *maybe* is investigated separately from other modal adverbs because of its status as a primary marker of epistemic stance in spoken English (see Section 5.2.5).

### 9.4.1 Pre-test Use

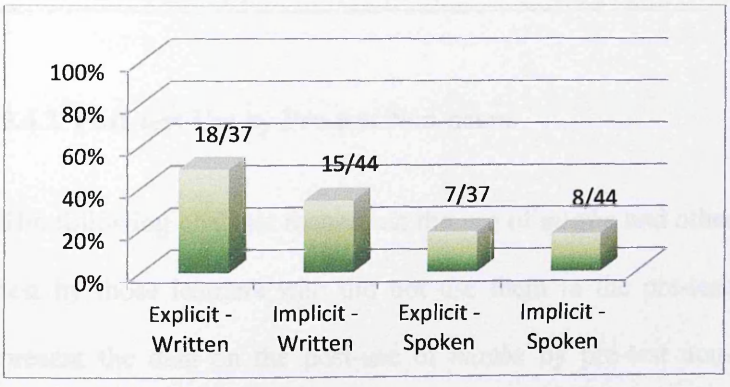
The percentage of learners in each group who used *maybe* in writing and speaking in the pre-test is shown in Figure 9.21. As this reveals, *maybe* was used by just under half of the learners (47%) in speaking, and less than one-third (31%) in writing. This again confirms the somewhat unusual status of *maybe* in L2 acquisition of English, as an epistemic form more commonly used in speaking (see also Section 7.3.2).

**Figure 9.21** *MAYBE*: Percentage of pre-test users




Learners' use of 'other adverbs[71]' can be seen in Figure 9.22, which includes the combined data for these adverbs: *probably, perhaps, of course, surely, possibly, certainly, obviously.* Whereas *maybe* was more common in speaking, 'other adverbs' were more common in writing.

**Figure 9.22** Modal adverbs (except *MAYBE*): Percentage of pre-test users




Full details of learners' pre-test use of modal adverbs in writing and speaking are presented in Tables 9.13 and 9.14 respectively. These tables indicate more variety in the use of epistemic adverbs in writing than in speaking. Once again it can be seen that learners have more difficulty accessing a greater range of epistemic forms in speaking.

[71] In this section, I use this expression to refer to learners' use of modal adverbs other than *maybe*.

**Table 9.13**: Modal adverbs[72]: Use in pre-test writing

| | Explicit | Implicit | Total |
|---|---|---|---|
| *maybe* | 8/37 (22%) | 17/44 (39%) | 25/81 (31%) |
| *of course* | 6/37 (16%) | 6/44 (14%) | 12/81 (16%) |
| *probably* | 8/37 (22%) | 3/44 (7%) | 11/81 (14%) |
| *perhaps* | 6/37 (16%) | 3/44 (7%) | 9/81 (11%) |
| *surely* | 4/37 (11%) | 4/44 (9%) | 8/81 (10%) |
| *certainly* | 1/37 (3%) | 0 | 1/81 (1%) |
| *obviously* | 1/37 (3%) | 0 | 1/81 (1%) |
| *other modal adverb(s) | 18/37 (49%) | 15/44 (34%) | 33/81(41%) |

* The category 'other modal adverb(s)' here and in Table 9.14 refers to the number of learners who used one or more of the above modal adverbs with the exception of *maybe.*

**Table 9.14** Modal adverbs: Use in pre-test speaking

| | Explicit | Implicit | Total |
|---|---|---|---|
| *maybe* | 17/37 (46%) | 21/44 (48%) | 38/81 (47%) |
| *of course* | 4/37 (11%) | 6/44 (14%) | 10/81 (12%) |
| *probably* | 3/37 (8%) | 0 | 3/81 (4%) |
| *surely* | 0 | 2/44 (5%) | 2/81 (2%) |
| *perhaps* | 0 | 0 | 0 |
| other modal adverb(s) | 7/37 (19%) | 8/44 (18%) | 15/81 (19%) |

### 9.4.2 Post-test Use by Pre-test Non-users

The following analysis focuses on the use of *maybe* and other epistemic adverbs in the post-test by those learners who did not use them in the pre-tests. Table 9.15 and Figure 9.23 present the data on the post-use of *maybe* by pre-test non-users. This data is interesting because it is rare in this study for long-term gains to be greater for speaking than writing, as is the case for *maybe.* However, this pattern fits with the fact that *maybe* is more commonly used by native speakers in speech than writing (Biber et al., 1999, p. 869; Section 2.4.3). Furthermore, the explicit group was taught not to overuse *maybe*, which might explain their

[72] The modal adverbs in Tables 9.13 and 9.14 only include those which were used by three or more different learners at some point in this study. However, the combined data reported in the bottom line of these tables includes *all* the modal adverbs that were used by learners.

lower uptake in speech than the implicit group. The long-term gains by the implicit group can probably be explained by general development.

**Table 9.15** *MAYBE*: Post-test use by pre-test non-users

| | Post-test | Delayed Post-test |
|---|---|---|
| Explicit Written | 24% (7/29) | 24% (7/29) |
| Implicit Written | 22% (6/27) | 19% (5/27) |
| Explicit Spoken | 15% (3/20) | 30% (6/20) |
| Implicit Spoken | 26% (6/23) | 57% (13/23) |

As regards learners' gains of other epistemic adverbs, for the most part this involved *perhaps* and/or *probably*. This was not surprising as these two adverbs, along with *maybe*, were given specific focus in the explicit intervention. Data on the post-test uptake of these two adverbs are presented in Table 9.16 and Figures 9.24 and 9.25. Uptake of these modal adverbs was in fact surprisingly low, especially in speaking. I had expected that learners would gain more adverbs in speaking because of their syntactic flexibility, i.e., unlike the modal and evidential verbs, not so much syntactic processing is required in order to put them into an utterance. However, gains for *perhaps* and *probably* were almost entirely found in writing.

**Figure 9.23** *MAYBE*: Post-test use by pre-test non-users

**Table 9.16** *PERHAPS* and *PROBABLY*: Post-test use by pre-test non-users

| | | *perhaps* | *probably* |
|---|---|---|---|
| Explicit Written | Post | 39% (12/31) | 48% (14/29) |
| | Delayed | 16% (5/31) | 38% (11/29) |
| Implicit Written | Post | 7% (3/41) | 12% (5/41) |
| | Delayed | 12% (5/41) | 5% (2/41) |
| Explicit Spoken | Post | 5% (2/37) | 15% (5/34) |
| | Delayed | 0% | 12% (4/34) |
| Implicit Spoken | Post | 2% (1/44) | 0% |
| | Delayed | 0% | 5% (2/44) |

**Figure 9.24** *PERHAPS*: Post-test use by pre-test non-users


**Figure 9.25** *PROBABLY*: Post-test use by pre-test non-users


What I stated above about modal adverbs in speech needs to be mitigated in the case of *perhaps* by the fact that the explicit group learners were taught that it is more common in writing. However, this does not apply for *probably*, because the learners were informed that it is the most common modal adverb in speaking (see Section 2.4.3). It can be seen that this

information appears to have led to a small number of explicit group learners using *probably* in spoken language in the post-tests. By contrast there was no long-term uptake of *perhaps* by the explicit group in speaking.

There is quite a large difference between these two adverbs as regards long-term uptake in writing. In the case of *perhaps*, strong immediate gains by the explicit group were mostly lost by the time of the delayed post-test. In fact, in the long-term, there is little difference in gains by the two groups. However, as regards *probably*, similarly strong immediate gains by the explicit group were not lost to the same degree, and there is a clear difference between the explicit and implicit groups in the delayed post-test data. This difference between the two adverbs could be due to the following: (1) as *perhaps* is a synonym of *maybe*, it does not extend learners' functional range; (2) *probably* provides a way of expressing a higher degree of epistemic strength than *maybe*, and therefore it has more functional salience. Both these issues relate to contingency, which is discussed in more detail in Section 9.6.

### 9.4.3 Example Learner

As with the previous sections I will focus on one learner in the explicit instruction group. This learner was in the Low group (EL2). In the pre-test his only use of an epistemic adverb was in his spoken description:

Pre-Desc-S: *...there are many hotel erm **maybe** here Singapore or Hawaii erm...*

In the immediate post-test he used *probably* and *likely* in his written description and he increased his use of *maybe* in the speaking tasks (description, x2; opinion, x1):

Post-Desc-W: ***It is probably true** that it is for the first time for the child to ride a horse.*
***Judging from** the family's clothes they are **likely** very rich.*

Post-Opin-S: *...people who walking with cigarette with hand and **maybe may** hit other people and in my junior high school I was hit by cigarette on hand...*

The written examples demonstrate that this learner is using several epistemic forms which were taught in the explicit intervention, including modal expressions. In the example taken from his spoken language, we can see some confusion over whether *maybe* or *may* is appropriate here. This difficulty in distinguishing how to use these two forms was seen in a number of participants' data, especially amongst lower proficiency learners.

In the delayed post-test, this learner's use of modal adverbs almost reverted back to his pre-test use.

Del-Desc-S: *and they wash **maybe** and the boy sitting on the stone is waiting for the parents **maybe** the behind boy father and his brother and...*

This learner exemplifies some lower proficiency learners in the explicit group who did not convert short-term gains to long-term gains.

### 9.4.4 Section Summary

The main findings regarding the instructional effects on learners' use of modal adverbs are:

- Explicit instruction was more effective than implicit instruction as regards immediate effects on learners' use of *perhaps* and *probably* in writing. However, long-term gains varied, with *probably* showing a clear advantage for the explicit group over the implicit group in the long-term, whilst this was not the case for *perhaps*.
- The differential effects of explicit instruction on modal adverbs may be due to issues of contingency (see Section 9.6).
- There was surprisingly little gain of modal adverbs by the explicit group in speaking.

## 9.5 Other Epistemic Expressions

This last section of analysis focuses on other ways used by learners to express epistemic stance. For the most part, the overall number of learners using other expressions was

generally low. In this section I present data on expressions which were focused on in the last of the explicit intervention classes and/or appeared in the intervention texts (see Section 6.5.6 for more details). The frequency of use of these expressions is presented in Tables 9.17 and 9.18 for the explicit and implicit group respectively. Following these tables I present findings related to specific expressions.

**Table 9.17** Other epistemic expressions: Use by the explicit group

| **Explicit group: n = 37** | **Writing** | | | **Speaking** | | |
|---|---|---|---|---|---|---|
| | **Pre** | **Post** | **Del** | **Pre** | **Post** | **Del** |
| *in my opinion* | 4 (11%) | 12 (32%) | 13 (35%) | 3 (8%) | 4 (11%) | 4 (11%) |
| *judging from* | 2 (5%) | 8 (22%) | 4 (11%) | 0 | 1 (3%) | 1 (3%) |
| *to judge from* | 0 | 0 | 0 | 0 | 0 | 0 |
| *I am sure that* | 1 (3%) | 9 (24%) | 3 (8%) | 0 | 0 | 0 |
| *it is (not) ADJ (that)* | 5 (14%) | 18 (49%) | 7 (19%) | 1 (3%) | 6 (16%) | 1 (3%) |
| *I do not doubt that / there is little doubt that* | 0 | 2 (5%) | 0 | 0 | 0 | 0 |
| *it appears quite likely that* | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 9.18** Other epistemic expressions: Use by the implicit group

| **Implicit group: n = 44** | **Writing** | | | **Speaking** | | |
|---|---|---|---|---|---|---|
| | **Pre** | **Post** | **Del** | **Pre** | **Post** | **Del** |
| *in my opinion* | 4 (9%) | 7 (16%) | 7 (16%) | 2 (5%) | 1 (2%) | 2 (5%) |
| *judging from* | 1 (2%) | 1 (2%) | 0 | 0 | 0 | 0 |
| *to judge from* | 0 | 0 | 0 | 0 | 0 | 0 |
| *I am sure that* | 5 (11%) | 2 (5%) | 5 (11%) | 0 | 0 | 0 |
| *it is (not) ADJ (that)* | 6 (14%) | 8 (18%) | 13 (30%) | 3 (7%) | 6 (14%) | 1 (2%) |
| *I do not doubt that / there is little doubt that* | 0 | 0 | 0 | 0 | 0 | 0 |
| *it appears quite likely that* | 0 | 0 | 0 | 0 | 0 | 0 |

*IN MY OPINION*

This expression was presented to the explicit group as an alternative to *I think*, especially for writing. Both groups made long-term gains for this expression but the gains for the explicit group were greater.

*JUDGING FROM / TO JUDGE FROM*

These forms were taught in the explicit intervention as useful epistemic phrases, typically used in more formal writing. The form *judging from* was gained by a small number of the explicit group learners for writing. There were no uses of *to judge from* in the learner data even though it occurred in *A Pale View* [*W*]. A possible explanation for these findings is that some learners may have come across *judging from* in their earlier English study and therefore the instruction strengthened their knowledge of this expression, whereas the latter expression may have been completely new to most learners.

*I AM SURE* (*THAT*)

The explicit group made short-term gains on this form in writing but most of the gains were lost by the time of the delayed post-test. The intervention did not appear to have any effect for the implicit group. It was not used at all in speaking by either group. This data is interesting because this expression was not included in the explicit instruction as far as teacher explanation was concerned. However, it did occur four times in *A Pale View,* which means that the explicit group learners' attention was brought to it through input enhancement, and this was enough to have a short-, but not long-term, effect on their use of it in writing.

*IT IS* (*NOT*) ADJECTIVE (*THAT*)

In the pre-test this productive pattern was used by the following numbers of learners: Explicit, writing (5); Explicit, speaking (1); Implicit, writing (6); Implicit, speaking (3). For the most part learners used *'it is true that... '*. In the post-test, there was a particularly large gain by the explicit group for writing (18), with a smaller gain by the implicit group (8). There was also a noticeable increase in its use on the speaking tasks with six students in each group using it. In the explicit group post-test data, the expressions *it is true that* and *it is possible that* were

most common. In the delayed post-test, the explicit group lost most of its gains for writing (7), whilst there was a surprising increase in its use in writing by the implicit group (13). Only one student in each group used it in their speaking in the delayed post-test. As with the pre-test, most occurrences of this pattern in the delayed post-test involved the expression *it is true that*. Once again, it would seem that where the intervention covered a form which many learners had already come across (this appears to have been likely for *it is true that* based on the data for pre-test use), the intervention built on this basis, and the implicit group (as with *look, seem,* and *may*) made surprising gains during the experimental period.

*I DO NOT DOUBT THAT / THERE IS LITTLE DOUBT THAT*

Finally, I will discuss two expressions which occurred in the texts and, in the case of *I do not doubt that*, which was also included in the revision quiz for the explicit group. These forms were only used by two students in the post-test writing, i.e., there was minimal uptake of these forms. This gives an example of forms which had presumably not been encountered by the learners prior to the interventions. Hence, there was no prior registration to build on, and as a result, not even the explicit intervention provided enough of a boost to activate these forms in learners' production.

This section has revealed variability in learners' uptake of other epistemic expressions. It would appear that, for the most part, as with other epistemic forms: (1) the explicit group gained more than the implicit group; (2) there were greater long-term gains for writing than speaking; and (3) prior knowledge of an expression, and the contingency of an expression, were key factors in determining whether a form was, or was not, gained by learners. All these issues will be discussed in the following section which summarizes the above findings on individual patterns of change as regards specific epistemic forms, and form categories.

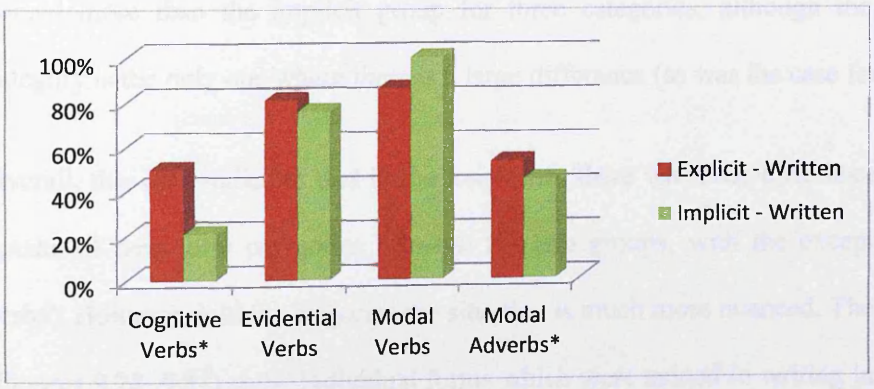
## 9.6 Summary and Discussion

In this section I give an overview (Section 9.6.1) of the findings regarding individual uptake of specific forms and form categories in the two instructional conditions. Following that, in Section 9.6.2), I discuss the finding for RQ2c regarding the interaction between type of instruction and learning of specific forms.

### 9.6.1 Overview of Long-term Uptake

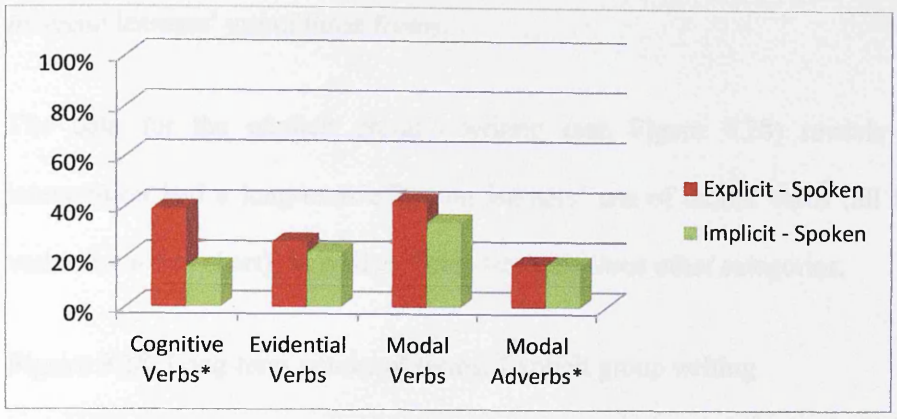
I first present an overview of uptake of each of the main categories of epistemic stance forms: cognitive verbs, evidential verbs, modal verbs, and modal adverbs. All the data in this section represents *long-term effects*. Therefore, the uptake scores are based on delayed post-test use by pre-test non-users. In this overview I exclude the data for *I think* and *maybe* because the intervention aimed to decrease learners' use of these forms, and to encourage them to diversify their range of epistemic expressions. The uptake percentages for the explicit and implicit groups in writing and speaking are presented in Figures 9.26 and 9.27, respectively.

**Figure 9.26** Long-term uptake of form categories: Writing




* In Figures 9.26 and 9.27, 'cognitive verbs' refers to 'cognitive verbs other than *think*', and 'modal adverbs' refers to 'modal adverbs other than *maybe*'.

**Figure 9.27** Long-term uptake of form categories: Speaking




As for written language, it is noticeable that in the case of evidential and modal verbs, the majority of pre-test non-users in both groups used these two form categories in the delayed post-test. In the case of modal adverbs, uptake was not as high as had been expected, although it was similar for both groups. 'Cognitive verbs' was the only category with a large difference in the long-term gain between the explicit and implicit groups; the difference here is mainly on account of the higher level of uptake of *I believe* by the explicit group.

The data for speaking unsurprisingly shows much lower levels of uptake. The explicit group gained more than the implicit group for three categories, although the 'cognitive verb' category is the only one where there is a large difference (as was the case for writing).

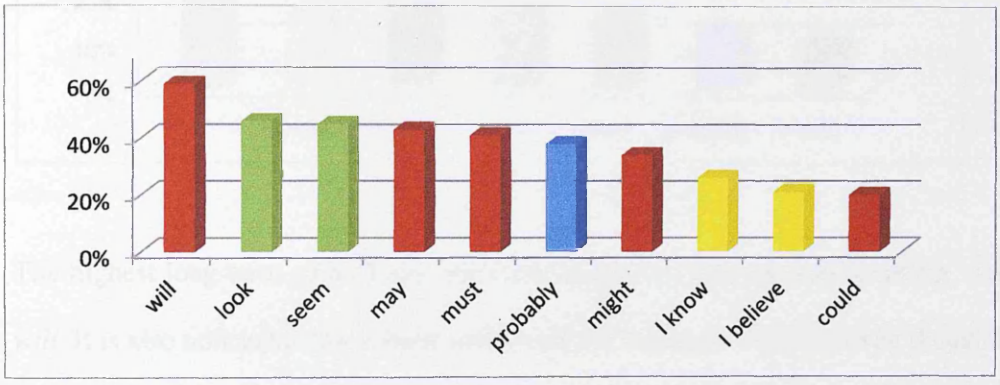
Overall, this data indicates that in the long-term, there was little difference in the pattern of uptake of new form categories between the two groups, with the exception of 'cognitive verbs'. However, within categories the situation is much more nuanced. The following graphs (Figures 9.28~9.31) show individual forms which were gained in writing in the long-term by more than 20% of pre-test non-users, or in speaking by more than 10%[73] of them. As with the

[73] These cut-off points are somewhat arbitrary, but it was felt that these levels represented change that was worth commenting on.

above analysis, *I think* and *maybe* are excluded here because the interventions did not aim to *increase* learners' use of those forms.

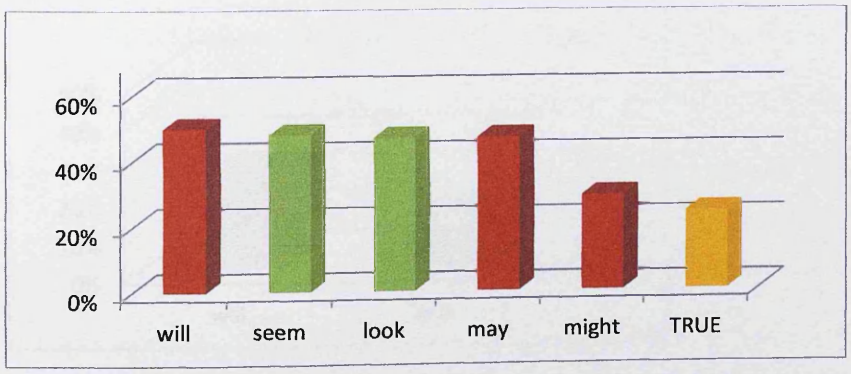
The data for the explicit group's writing (see Figure 9.28) reveals that the explicit intervention had a long-term effect on learners' use of modal verbs (all five taught modal verbs are in this chart), as well as forms from the three other categories.

**Figure 9.28** Long-term uptake of forms: Explicit group writing



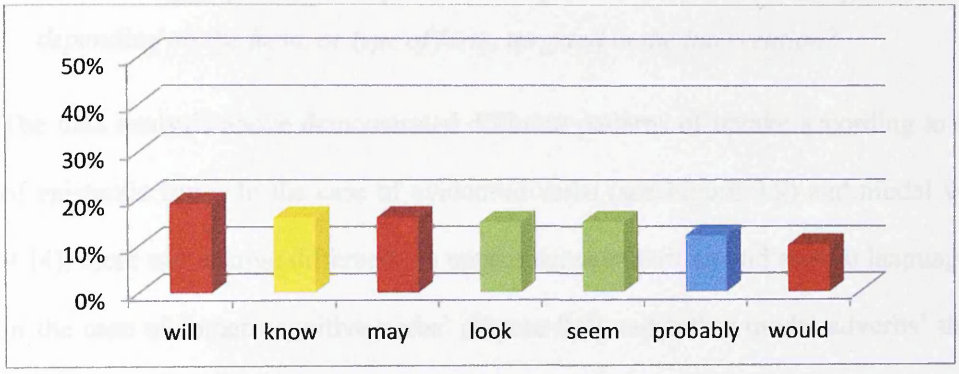

The comparable data for the implicit group in Figure 9.29 shows a smaller number of forms which made gain of 20% or more. However, the top four forms (*will, seem, look, may*) all had gains of around 50%, and these forms are the reason why the implicit group form category gains scores for modal and evidential verbs in writing are high (see Figure 9.26).

**Figure 9.29** Long-term uptake of forms: Implicit group writing



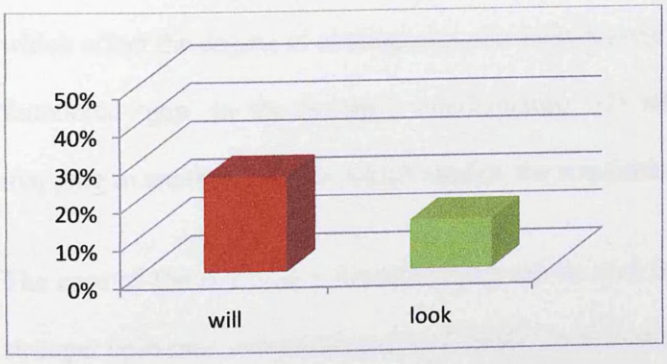
The differential long-term effects of the explicit instruction on writing and speaking can be clearly seen by comparing Figures 9.28 and 9.30.

**Figure 9.30** Long-term uptake of forms: Explicit group speaking




The highest long-term gain of any one form by pre-test non-users in speaking was 19% for *will*. It is also noticeable that *I know* and *would* are in this set of forms even though they were not part of the explicit instruction. However, the gains for the implicit group are even less impressive (see Figure 9.31). Only *will* and *look* made long-term gains of over 10%. Therefore, by comparing the data for the two groups it appears that the explicit intervention did have a small effect on learners' use of specific epistemic forms in speaking.

**Figure 9.31** Long-term uptake of forms: Implicit group speaking



### 9.6.2 Discussion

In this section I discuss the findings from the above analysis as they relate to RQ2c on the interaction between type of instruction and the learning of specific forms, and types of forms:

> *In what ways, if any, do explicit and implicit instruction have differential effects depending on the form, or type of form, targeted in the intervention?*

The data analysis above demonstrated different patterns of uptake according to the category of epistemic form. In the case of evidential verbs (see Figure 9.9) and modal verbs (Figure 9.14), there was a large difference in uptake between written and spoken language. However, in the case of 'other cognitive verbs' (Figure 9.3) and 'other modal adverbs' the difference was not as large. This probably relates to the syntactic flexibility of forms in the latter two categories, as compared to the more syntactically restricted nature of evidential and modal verbs. There was also variation in levels of uptake within categories. The greater gains on *may* than other modal verbs was evident, as well as a higher level of uptake of *I believe* as compared to *I guess* and *I suppose* in the cognitive verb category. On the other hand, in the case of evidential verbs, uptake levels for *look* and *seem* were remarkably similar.

The above findings provide strong support for the argument (N. Ellis, 2006a, 2006b, 2008) that one of the causes of difficulties as regards acquisition of L2 forms relates to the degree of contingency of form-function mappings. I discuss this issue here with regard to two issues which effect the degree of contingency of a form-function mapping: (1) whether a form fills a functional 'gap' in the learner's interlanguage; (2) whether a form already has a strong mapping to another function which hinders the acquisition of a new function for that form.

The case of forms filling a functional gap can be seen in the cases of *I believe* (it provides a stronger epistemic commitment than *I think*), *seem/look* (expresses an *impression* of an event, action, feeling etc.'), *must* (it is a modal verb which expresses a high degree of epistemic

commitment), and *probably* (it expresses stronger epistemic commitment than *maybe*). All of these forms showed higher gains by the explicit group than other forms (e.g., *I suppose/guess, could, perhaps*), which did not fill a functional gap because they were essentially synonyms for forms which most of the learners already knew (i.e., *I think, may, maybe*).

However, it was also noteworthy that of the forms mentioned above which showed greater gains by the explicit group, some were also gained by a substantial proportion of the implicit group for writing (*look, seem*) while the others (*I believe, must, probably*) were not. Two possible reasons for this are suggested: (1) the learners in the implicit group already had a greater level of knowledge of *look* and *seem* than the other forms, which meant that it only took an 'implicit nudge' for them to be activated (and become available for production in writing)[74]; (2) *seem* and *look* filled a more fundamental functional need (see above) whereas the other forms (*I believe, must, probably*) all offered a more nuanced way of expressing epistemic commitment than another form in the same category (e.g., *I think, may, maybe*) which they may have already had a command of, i.e., the functional 'gap' was not as salient in these cases.

The second issue concerns the difficulty for second language learners of using one form for more than one function, i.e., moving to *multifunctionality* (see Bardovi-Harlig, 2007). This can be seen most clearly from the findings for *could* and *must*. These are forms which Japanese EFL learners at the same level as those in this study use more frequently for other functions: *could* is often used to express 'ability'[75], whilst *must* is used deontically (Fordyce, 2007a). In this case, without explicit instruction it is very difficult for learners to become aware of the functions of these forms; and even with explicit instruction, long-term uptake

[74] Whilst this finding is suggested by the data, future research of a similar nature would ideally include a pre-test on knowledge of epistemic forms (see Section 10.3 for discussion of this issue).
[75] For example, of the 21 uses of *could* in the pre-test written data, 16 were non-epistemic and referred to ability, e.g., *I wish I could have...*

was low as compared to other forms (see Figures 9.17 and 9.19). The case of *could* is particularly interesting because it has low contingency on two counts: (1) it does not fill a functional 'gap' for learners who already know *may* or *might*; and (2) learners typically use it for another function ('ability'). These factors may well explain why *could* had one of the lowest levels of uptake among the main forms focused on in the explicit intervention.

Apart from levels of processing difficulty, and contingency, there are undoubtedly other factors at play. L1 influence is also likely to have had an effect although it is hard to provide clear examples without comparable data from learners' L1 use of epistemic stance (see Section 10.4). As regards input frequency, it is hard to find any direct relationship between uptake and the frequency with which forms occurred in the pedagogical corpus (see Section 6.5.5). For example, *probably* (five occurrences) and *certainly* (four) were not gained by nearly as many learners as *look*, which had four occurrences. Nevertheless, it would seem clear that input frequency is a key factor in L2 acquisition (e.g., N. Ellis, 2002), but in this study input frequencies were not high enough to be able to examine this empirically.

To sum up, it is clear that type of instruction is one factor among many (e.g., contingency, processability of forms, L1 influence, input frequency) which interact in determining the degree of difficulty of a specific form.

## 9.7 Individual Development

The final research question focusing on a specific variable was as follows (RQ2d):

> *To what extent do individual differences play a role as regards the differential effectiveness of the explicit and implicit interventions?*

In order to answer this question it is necessary to look at the effectiveness of the interventions on each individual learner. Whilst there is not enough space in this thesis to provide a detailed analysis of this issue, this section does provide an overview of how individual learners developed in their use of epistemic stance during the six-month experimental period. In order to measure development, it was necessary to score learners' gains as regards epistemic forms. I decided that the use of forms not used prior to the interventions would be an effective way at looking at this issue with a large sample of learners. Therefore, I allocated *one point* for each epistemic form used by the learner in the delayed post-test writing, which s/he had not used in the pre-test writing; and I allocated *two points* for each form used in the delayed post-test speaking, which s/he had not used in the pre-test speaking[76]. The results of this analysis are presented in Table 9.19. For reference, the table also shows the number of gains made by each learner in the immediate post-test as compared to the pre-test, although this data is not used in calculating each learner's score. It should also be emphasized that the scores used in Table 9.19 measure 'gains' rather than epistemic ability per se. For example, a learner who used many forms in the pre-test presumably has less space to gain; this issue is not taken into account in this table.

**Table 9.19:** Individual gains over the experimental period

| | | Post-test | | Delayed Post-test | | |
|---|---|---|---|---|---|---|
| **Rank** | **Learner** | **Writing** | **Speaking** | **Writing** | **Speaking** | **Gain score** |
| 1 | EM8 | 10 | 4 | 9 | 4 | **17** |
| 2 | EL5 | 9 | 0 | 14 | 1 | **16** |
| 3 | IH3* | 2 | 1 | 6 | 4 | **14** |
| 3 | EH6 | 9 | 6 | 8 | 3 | **14** |
| 3 | EH11 | 11 | 4 | 6 | 4 | **14** |
| 3 | EH13 | 10 | 3 | 8 | 3 | **14** |

[76] The decision to allocate 'double points' for gained scores in speaking simply reflects the greater difficulty of gaining forms in spoken than written language. It is a somewhat coarse measure of relative learning difficulty. However, the main purpose of this analysis is to provide the reader with an overview of individual gains by the learners in the two experimental groups. The 'gain scores' in the right-hand column of the table should not be considered as *precise* measurements of learning effects.

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | IM6 | 4 | 1 | 7 | 3 | **13** |
| 7 | EH8 | 8 | 3 | 7 | 3 | **13** |
| 9 | EM13* | 4 | 1 | 4 | 4 | **12** |
| 10 | EH9 | 4 | 1 | 5 | 3 | **11** |
| 11 | IM5 | 2 | 0 | 4 | 3 | **10** |
| 11 | IH8 | 0 | 1 | 2 | 4 | **10** |
| 11 | EH14* | 5 | 6 | 6 | 2 | **10** |
| 14 | IH2 | 5 | 1 | 5 | 2 | **9** |
| 14 | IH6 | 3 | 3 | 3 | 3 | **9** |
| 14 | EH1 | 3 | 2 | 3 | 3 | **9** |
| 14 | EH2 | 4 | 1 | 5 | 2 | **9** |
| 14 | EH4 | 10 | 8 | 5 | 2 | **9** |
| 14 | EH7 | 2 | 3 | 1 | 4 | **9** |
| 20 | IH1 | 2 | 2 | 4 | 2 | **8** |
| 20 | EL1* | 5 | 2 | 6 | 1 | **8** |
| 20 | EL7 | 6 | 2 | 6 | 1 | **8** |
| 20 | EM6 | 5 | 1 | 4 | 2 | **8** |
| 20 | EM10 | 5 | 2 | 6 | 1 | **8** |
| 20 | EM12* | 6 | 1 | 6 | 1 | **8** |
| 20 | EH10 | 4 | 7 | 4 | 2 | **8** |
| 27 | IL12 | 5 | 2 | 3 | 2 | **7** |
| 27 | IL13 | 3 | 0 | 7 | 0 | **7** |
| 27 | IM7 | 5 | 1 | 5 | 1 | **7** |
| 27 | IM11* | 4 | 2 | 5 | 1 | **7** |
| 27 | IH4 | 3 | 1 | 7 | 0 | **7** |
| 27 | IH7 | 2 | 2 | 3 | 2 | **7** |
| 27 | EL9 | 4 | 2 | 5 | 1 | **7** |
| 34 | IL11 | 2 | 1 | 2 | 2 | **6** |
| 34 | IL14 | 4 | 0 | 4 | 1 | **6** |
| 34 | IM1 | 3 | 0 | 4 | 1 | **6** |
| 34 | IM4 | 2 | 1 | 0 | 3 | **6** |
| 34 | IM9 | 2 | 3 | 2 | 2 | **6** |
| 34 | IM16 | 3 | 0 | 2 | 2 | **6** |
| 34 | IH11 | 1 | 2 | 2 | 2 | **6** |
| 34 | EL2* | 10 | 1 | 4 | 1 | **6** |
| 34 | EL10 | 4 | 2 | 2 | 2 | **6** |
| 34 | EM2 | 5 | 3 | 2 | 2 | **6** |
| 34 | EM3 | 4 | 2 | 2 | 2 | **6** |
| 34 | EM11 | 1 | 2 | 2 | 2 | **6** |
| 34 | EH3 | 9 | 0 | 4 | 1 | **6** |
| 34 | EH5 | 4 | 1 | 2 | 2 | **6** |
| 34 | EH12 | 5 | 1 | 4 | 1 | **6** |
| 49 | IL5 | 3 | 1 | 3 | 1 | **5** |
| 49 | IL9 | 2 | 0 | 3 | 1 | **5** |
| 49 | IM2 | 3 | 1 | 5 | 0 | **5** |
| 49 | IM8 | 2 | 2 | 1 | 2 | **5** |
| 49 | IH10* | 3 | 2 | 3 | 1 | **5** |
| 49 | IH12 | 2 | 1 | 1 | 2 | **5** |
| 49 | EL6 | 4 | 2 | 5 | 0 | **5** |

| | | | | | | |
|---|---|---|---|---|---|---|
| 49 | EM4 | 6 | 2 | 3 | 1 | **5** |
| 49 | EM7 | 6 | 2 | 5 | 0 | **5** |
| 58 | IL1 | 1 | 0 | 2 | 1 | **4** |
| 58 | IL2 | 2 | 1 | 2 | 1 | **4** |
| 58 | IL3 | 2 | 0 | 2 | 1 | **4** |
| 58 | IL7 | 0 | 4 | 0 | 2 | **4** |
| 58 | IL8 | 3 | 0 | 2 | 1 | **4** |
| 58 | IL10 | 2 | 2 | 4 | 0 | **4** |
| 58 | IL15 | 2 | 0 | 4 | 0 | **4** |
| 58 | EL4 | 0 | 2 | 0 | 2 | **4** |
| 58 | EM1* | 5 | 1 | 4 | 0 | **4** |
| 58 | EM5 | 3 | 3 | 2 | 1 | **4** |
| 58 | EM9 | 3 | 0 | 4 | 0 | **4** |
| 69 | IL6 | 1 | 0 | 3 | 0 | **3** |
| 69 | IM12 | 2 | 0 | 1 | 1 | **3** |
| 69 | IM13 | 3 | 0 | 3 | 0 | **3** |
| 69 | IM15 | 2 | 1 | 3 | 0 | **3** |
| 69 | IH13 | 7 | 0 | 1 | 1 | **3** |
| 74 | IM14 | 5 | 1 | 2 | 0 | **2** |
| 74 | IH5 | 4 | 1 | 2 | 0 | **2** |
| 74 | EL3 | 7 | 2 | 0 | 1 | **2** |
| 74 | EL8* | 1 | 3 | 2 | 0 | **2** |
| 78 | IM3 | 3 | 0 | 1 | 0 | **1** |
| 78 | IM10 | 1 | 0 | 1 | 0 | **1** |
| 78 | IH9 | 1 | 0 | 1 | 0 | **1** |
| 81 | IL4* | 1 | 0 | 0 | 0 | **0** |

*Note.* In this table, the explicit group students' data is shaded. Also, the following codes are used for participants: I = Implicit; E = Explicit; H = High; M = Mid; L = Low. The 'Gain Scores' in the right-hand column are calculated as follows (taking the Rank 1 learner, EM8, as an example): in the delayed post-test this learner used 9 epistemic forms in writing (= 9 points) which she had not used in her pre-test writing; she also used 4 epistemic forms in speaking (4 x 2 = 8 points) which she had not used in her pre-test speaking; the score for writing gains (9 points) is added to that for speaking gains (8 points) to give the Gain Score total of 17 points.

* The full production data for these students can be found in Appendix 5.

Overall, this table demonstrates the benefits of the explicit intervention over the implicit one: 20 out of the top 26 places are filled by Explicit group learners; in contrast, 18 out of the bottom 24 places are filled by Implicit group learners. These data shows clearly that, broadly speaking, the explicit intervention was more effective than the implicit intervention.

Nevertheless, it is important to point out exceptions. For example, two implicit group learners are in the top 10, while two explicit group learners are in the bottom 10. Furthermore, five explicit group learners did not gain any epistemic forms in their spoken language, and two

did not make any gains for writing. This shows that individual learners account for a portion of the variance in the effectiveness of instructional approaches.

It is also interesting to note that in the short-term the difference in effectiveness of the two interventions looked even greater. When similar scores were calculated for each student at the time of the immediate post-test, 19 of the top 21 learners were from the explicit group, whilst 24 of the bottom 26 learners are in the implicit group. Therefore, without collecting long-term data, the effectiveness of the explicit intervention would probably have been exaggerated.

Of course it would be very informative to know why some explicit group learners did not make many gains, or why some implicit group learners made above average gains. These questions cannot be answered here because it would have required extensive further data collection. However, it *has* been possible here to show that statistically significant overall effects can hide important individual variation, and therefore this is an issue which needs to be given greater attention in future research .

## 9.8 The Short- and Long-Term Effectiveness of Explicit and Implicit Instruction

The data analysis presented in this chapter, as well as Chapters 7 and 8, has offered answers to questions (RQ2a-2d) relating to specific variables involved in instructed SLA. At the same time, this analysis has provided a detailed picture of the short- and long-term effects of explicit and implicit instruction. In the following two sections I discuss the findings on these issues. In the first part (Section 9.8.1) I will focus on the 'less important' issue of immediate instructional effects, whilst in the second part (Section 9.8.2) I will discuss the main overall question guiding this study, which concerns the issue of whether focused interventions have meaningful long-term effects on learners' L2 language use.

### 9.8.1 Short-term Effects

The first part of the main research question guiding this thesis (RQ1a) was as follows:

> *To what extent, and in what ways, are explicit and implicit interventions on epistemic stance effective in the short-term?*

In nearly every analysis carried out on the data, it was clear that the strongest effect found in this study concerned *the short-term effects of the explicit instruction on learners' use of epistemic stance in writing.* Examples of this effect could be seen from the following data:

- Corpus analysis comparing the pre- and post-test written data (see Table 7.7) showed that the explicit intervention led to substantial change in the frequency of use of many targeted forms.
- The explicit group learners' frequency of use of *I think* dropped by more than 50% following the intervention (see Table 7.16).
- On average, the explicit group learners used six more epistemic *tokens* in their writing following the intervention (see Figure 7.11).
- On average, the explicit group learners used four more epistemic *types* in their writing following the intervention (see Table 7.20).
- Immediate gains were made on all epistemic form categories and almost all epistemic forms that were taught in the explicit intervention (see Sections 9.1~9.6).

At the other extreme, as regards immediate instructional effects, was the case of the effects of implicit instruction on learners' use of epistemic stance in speaking. In this case, no significant effects could be observed. In between these two extremes are the effects of explicit instruction on speaking, and implicit instruction on writing. As regards short-term effects, more gains were made by the former group, but there did appear to be some short-term gains made by the implicit group, which would imply that the implicit instruction did have a small short-term effect. Overall, as regards short-term effects, the following 'order of effectiveness' was observed:

Explicit-Writing > Explicit-Speaking > Implicit-Writing > Implicit-Speaking

The findings in this study agree with other studies (e.g., House, 1996; Rose & Ng, 2001; Takahashi, 2001; Vyatkina & Belz, 2006) on instructed SLA in interlanguage pragmatics which have found strong immediate effects for instruction which "directs attention to the target form" (Housen & Pierrard, 2005, p. 10). Furthermore, unlike several studies which did not find significant differences between explicit and implicit instruction (e.g., Tateyama, 2001; Martínez-Flor & Fukuya, 2005; Martínez-Flor, 2006; Alcón, 2005; Koike & Pearson, 2005), in this study the explicit intervention *clearly* had a stronger immediate effect. However, the implicit condition in those studies involved elements which were more likely to lead to learners noticing target forms (e.g., input enhancement, recasts, awareness-raising tasks) than my implicit condition. Therefore, the current study provides strong support for the view that the key element as regards the short-term effectiveness of classroom interventions on L2 pragmatics is *noticing* (Schmidt, 1990, 1995, 2001).

### 9.8.2 Long-term Effects

The second part of the main research question guiding this thesis (RQ1b) was as follows:

> *To what extent, and in what ways, are explicit and implicit interventions on epistemic stance effective in the long-term?*

The delayed post-test was an extremely important part of this study (see Section 6.3.3) because, as was pointed out by Jeon & Kaya (2006), instruction studies on L2 pragmatics have typically lacked a delayed post-test measure, and studies on morphosyntax which have included delayed post-tests have rarely used free production as outcome measures (Norris & Ortega, 2000). Therefore, there is a lack of information on the degree to which explicit and implicit interventions lead to long-term development in productive use of targeted forms.

In this study, the most consistently observed pattern involved *loss of gains* between the two post-tests (see below). However, because these gains were often *partial* there were various ways in which learners' language developed in the long-term. I list the main findings below:

Explicit Group: Writing

- Keyword analysis revealed long-term gains on the use of evidential verbs and modal verbs (see Tables 7.8 and 7.12).
- The proportional use of *I think* decreased from 36.9% to 17.2% (Table 7.16).
- On average, the explicit group learners used around four more epistemic *tokens* in their writing in the delayed post-test (Figure 7.11).
- On average, the explicit group learners used almost three more epistemic *types* in their writing in the delayed post-test (Table 7.20). A mixed-design ANOVA showed this gain to be highly significant (Section 7.4.1).
- Long-term gains were made on all epistemic form categories and various epistemic forms that were focused on in the intervention (Figures 9.26 and 9.28) including: *will, look, seem, may, must, probably, might, I believe, could.*

Explicit Group: Speaking

- Keyword analysis showed long-term gains (but smaller than in the case of writing) on the use of evidential verbs and modal verbs (see Tables 7.8 and 7.12).
- On average, the explicit group learners used one more epistemic *token* in their speaking in the delayed post-test (Figure 7.18).
- On average, the explicit group learners used 0.81 more epistemic *types* in their speaking in the delayed post-test (Table 7.20). A mixed-design ANOVA suggested that this was probably a significant change (Section 7.4.2).
- Small long-term gains were made on some epistemic forms that were focused on in the intervention including: *will, may, look, seem, probably* (Figure 9.30).

Implicit Group: Writing

- Keyword analysis showed long-term gains on the use of evidential verbs (see Table 7.10).

- On average, the implicit group learners used 1.5 more epistemic *tokens* in their writing in the delayed post-test (Figure 7.11).
- On average, the explicit group learners used 0.97 more epistemic *types* in their writing in the delayed post-test (Table 7.20). This was probably a significant change although not nearly as significant as in the case of the explicit group's writing (Section 7.4.1).
- Clear long-term gains were made on the use of all epistemic form categories except for cognitive verbs (Figure 9.26). As regards specific forms, the implicit group made gains on the following forms: *will, seem, look, may, might*[77], *(it is) true (that).*

Implicit Group: Speaking

- Keyword analysis only showed long-term gain on the use of *will* (see Table 7.10).
- The only possible long-term gains on specific forms were: *will* and *look* (Figure 9.31).

Looking at this data overall, the 'order-of-effectiveness' as regards long-term effects is as follows:

Explicit-Writing > Implicit-Writing > Explicit–Speaking > Implicit-Speaking

This order is the same as for short-term effects as regards the most effective (explicit instruction on writing) and least effective (implicit instruction on speaking) interactions. However, the two combinations in the middle have switched positions. In other words, whilst the explicit intervention was more effective than the implicit intervention overall, the implicit intervention appeared to have a greater effect on learners' writing than the explicit intervention had on speaking. This provides strong evidence that knowledge gained by learners in the explicit instruction was not easy to retrieve under the greater processing demands of speaking. Moreover, for certain forms (*seem, look, will, may*), the implicit intervention appears to have strengthened learners' knowledge of those forms to a level at which they can be retrieved for writing, whilst not for speaking.

[77] However, as reported in Section 7.3.1, the increase for *might* was due to idiosyncratic use by one learner.

What may well be happening here is that these are forms which the learners had already built an explicit representation of earlier in their learning history. The implicit intervention was then effective in strengthening these 'preexisting representations' (N. Ellis, 2002, p.301). In other words, implicit learning is effective when it follows the explicit registration of a new form-function mapping. A key idea here is that implicit instruction works best in combination with explicit instruction (Dörnyei, 2009; see Chapter 10).

The other key finding related to this research question is the consistent pattern of partial loss of gains, which was typically greater in the case of speaking than writing. The loss of gains is probably due to the degree of embeddedness of form-function mappings in the learners' language systems. In the case of forms which are gained and maintained in the delayed post-test, the form appears to have become effectively embedded. When forms are gained and lost, the learner's command of the form was not strengthened enough by the intervention in order to be easily accessible during communication. This contrast is complicated further for writing and speaking. In order to access form-function mappings under the tougher processing demands of speaking, their representation in the learner's L2 system needs to be much stronger than in the case of writing. This explains both why immediate gains for spoken language are smaller, and why the loss of gains was greater in the case of speaking.

## 9.9 Chapter Summary

This final chapter of analysis focused in detail on the degree to which learners did (or did not) start using epistemic forms after their respective intervention which they had not used beforehand (Sections 9.1~9.5). This analysis provided insights into factors which affect the relative learnability of different forms in explicit and implicit conditions (Section 9.6). This chapter also provided data (Section 9.7) on the effects of instruction on each of the 81

participants, and demonstrated that whilst learners in the explicit condition typically did better, it is also clear that there is considerable variation in instructional effects at the individual level. In Section 9.8 I discussed the overall findings regarding the main questions guiding this thesis. This showed that long-term effects of instruction do not precisely mirror short-term effects. Therefore, this study provided important insights into long-term instructional effects on an aspect of L2 pragmatics. In the final chapter which follows, I bring together the main findings from this study and discuss implications for future research.

# CHAPTER TEN

# CONCLUSION

## 10.0 Introduction

In this final chapter I begin by summarizing the main findings for the six research questions that guided this thesis and discuss the key issues relating to language acquisition and language instruction which are raised by these findings (Section 10.1). Following that, in Section 10.2, I discuss methodological issues related to this research and future instructed SLA research on L2 pragmatics. In the final two sections, I outline limitations of the current study (Section 10.3) and discuss possible avenues for future study (Section 10.4).

## 10.1 Main Findings and Implications

In this section I summarize the main findings for each research question and discuss the most important theoretical and pedagogical implications.

[RQ1a] *Immediate Instructional Effects*

> The short-term instructional effects were greater for the learners in the explicit condition, and the effects were greater on their written language than their spoken language. There was short-term development in learners' frequency and variety of epistemic form use. In some cases the instructional effects were very strong, particularly in the case of the explicit group's writing.

These findings provide powerful support for the importance of *noticing* in language learning. It is clear that explicit instruction can have an immediate and powerful effect on learners' use of epistemic stance. It is also clear that implicit instruction is much less reliable as regards short-term effects. N. Ellis (2002, p. 301) writes that "New associations are best learnt explicitly", and the evidence from this study strongly supports that view.

In the Japanese EFL learning context, arguments for a more explicit approach to language instruction can cause some anxiety among teachers about the idea of returning to a grammatically-oriented curriculum. In contexts such as this, some groundwork needs to be done to communicate the message to teachers that effective explicit instruction is not essentially about didactic teaching from the blackboard (although this may be one component of it). Instead, the value of placing lexis and grammar in meaningful contexts (as exemplified by this study) and teaching targeted forms with reference to real contexts of use, needs to be effectively explained.

[RQ1b] *Long-term Instructional Effects*

> Both types of instruction had long-term effects on the use of epistemic stance in writing, with larger gains for the explicit group than the implicit group. In speaking only the explicit group made gains. For the most part, long-term gains were smaller than immediate gains, i.e., partial loss of gains was common. Furthermore, this loss of gains was much greater for speaking than for writing.

This study has shown that both explicit and implicit processes have a role to play in language development: explicit instruction appears to be particularly important for forms which may not have been previously encountered, or which have low salience; implicit instruction is apparently effective for forms which have already been met and which have clear form-function mappings (e.g., the evidential verbs *look* and *seem*).

This research provides support for a *weak interface* view as regards the interaction between explicit and implicit knowledge (N. Ellis, 2005). A clear pedagogical implication of this research, which takes the issue of loss of gains into account, is that the ideal instructional situation would involve the teacher using implicit techniques to support explicit instruction. In Section 10.4, I discuss possibilities for future research focusing on the issue of *cooperation* between explicit and implicit learning mechanisms (Dörnyei, 2009).

[RQ2a] *Instructional Effects on Writing and Speaking*

The explicit intervention had positive long-term effects on learners' writing *and* speaking, although the effects on writing were stronger. The implicit intervention also had stronger effects on learners' writing than speaking, although these effects were much smaller than the parallel effects for explicit instruction.

It is helpful when considering these findings to follow some current thinking (e.g., Dörnyei, 2009) and shift the perspective on explicit-implicit knowledge from one which sees this relationship as dichotomous to one in which explicit and implicit knowledge exist on a cline of explicitness (or implicitness). In this view, as form-function mappings become strengthened, the learner's knowledge of them becomes *more* implicit, and they become more readily available for use in spoken language, when processing conditions do not allow access to explicit knowledge. On the other hand, when new forms have just been registered for the first time (e.g., following explicit instruction), knowledge of them is at the most explicit end of the continuum and it is unlikely that learners will access them in speaking although they may be able to do so in writing. This way of looking at explicit and implicit knowledge helps explain the findings in this study regarding the differential effects of instruction on writing and speaking.

These findings are relevant to classroom instruction in as far as they clearly demonstrate the different demands on learners' language resources of speaking and writing tasks, or for that matter, of speaking tasks which allow different lengths of planning time (e.g., Foster & Skehan, 1996; Ortega, 1999). Teachers would be assisted in their work if they could be provided with information on how different processing conditions affect learners' ability to produce language.

Type of instruction was a much stronger variable than proficiency as regards the degree to which learners benefited from the interventions. In other words, changes in the frequency and variety of epistemic form use were fairly consistent across the three proficiency groups but differed in degree according to whether they were in the explicit or implicit group. However, closer analysis of the data did identify a distinction between High and Mid/Low group learners in terms of which new forms they started using following instruction, or which 'old' forms they used less.

The main theoretical implication of these findings concerns the way in which learners appear to progress along a fairly consistent acquisitional order as regards the expression of epistemic stance. In this study, learners were presented with a range of options for developing their epistemic repertoire. However, for the most part (there were individual exceptions), learners gained forms which require less syntactic processing, have less word order restrictions, and have higher salience before those which require greater processing, which can only be placed in one position in a clause, and which are less salient. A pedagogical implication is that classes on epistemic stance could be graded into levels appropriate to students' proficiency levels (for example, the use of *must, might,* and *could* was probably too advanced for some of the Low group learners in this study). As noted by Spada and Tomita (2010) and Takahashi (2010) there is a surprising lack of research being carried out which looks at effects of instruction on different proficiency levels. Information from this type of research could prove very useful in the organization of textbook materials and curricula.

[RQ2c] *Instructional Effects on Different Target Forms*

For most target forms explicit instruction had greater effects than implicit instruction, and effects were stronger in the case of writing than speaking. However, there was some variation between forms. In particular, unambiguous form-function mappings (e.g., *look*

and *seem*) responded better to both types of instruction than forms with low contingency (e.g., *I suppose, could, perhaps*).

The low salience of many pragmalinguistic forms is probably the main reason why L2 learners find them difficult to acquire. The findings from this study suggest that the degree of contingency of form-function mappings plays a very important role in determining their salience. Furthermore, the variety of forms available to express epistemic stance means that many forms have low contingency, and the situation for English is made more difficult by having a polysemous modal verb system. In order to help L2 learners overcome these difficulties more consideration needs to be given to the salience of form-function mappings, as well as their apparent utility to learners, when textbooks and other teaching materials are being prepared.

[RQ2d] *Individual Variation*

Although differences in instructional effects between the explicit and implicit group were statistically significant, it was also apparent that some learners did not fit with the general trends. These findings demonstrate the complexity of accounting for individual differences within a group-based study.

From a theoretical viewpoint this individual variation does not change the fact that explicit instruction is typically more effective than implicit instruction. However, from a pedagogical point of view, the fact that a minority of learners do not follow the same developmental trends as the majority is an issue of huge importance. Furthermore, this variation has been found in previous studies on instruction and L2 pragmatics which have reported on both group and individual effects (e.g., Tateyama, 2001; Vyatkina & Belz, 2006). Future research on instructed SLA on L2 pragmatics would ideally collect data on individual differences (e.g., motivation, learning styles) in order to investigate *why* explicit instruction is not effective for all learners.

## 10.2 Methodological Implications

In this section I will briefly discuss three methodological issues which were central to this study. The first issue concerns *the delayed post-test*, which was an essential feature of this research. The delayed post-test made it possible to show how a portion of short-term gains is typically lost following an immediate post-test. Nevertheless, it could also be shown that explicit instruction does have a long-term effect on learners' use of epistemic stance, and that implicit instruction appears to have a long-term effect in the case of certain forms used in writing. Studies of this nature on instruction and L2 pragmatics remain rare. I echo Takahashi (2010) in arguing that all instructional studies need to have a delayed outcome measure in order to attain a more accurate picture of instructional effects. Moreover, the longitudinal dimension of instructed SLA research could be further developed by collecting response data at more regular intervals following instruction. This has been referred to as *time-series designs* (see Mellow, Reeder & Forster, 1996; Ortega & Iberri-Shea, 2005), and one study which exemplifies this approach is Bardovi-Harlig (2000) on L2 acquisition of tense and aspect.

I believe that this study makes a strong methodological contribution to research in instructed SLA by incorporating *corpus linguistic techniques* into the analysis of learners' written and spoken language. This study has shown how corpus linguistics can be integrated with other approaches in order to achieve thorough and triangulated analysis of learner production data. As well as accelerating some parts of the data analysis, corpus analysis can also identify patterns of language use that are hard to detect with the naked eye (this was demonstrated by the findings for *be* and *that* (Section 7.2.3)).

The third methodological point concerns the use of *like-for-like speaking and writing tasks*. This enabled me to control the mode-of-communication variable in order to make a

robust comparison of learners' use of epistemic stance in two different processing conditions. Whilst I can understand objections that the 'speech' is not authentic communication, in this case the ends justify the means because the clear differences in language use between writing and speaking clearly show that the speaking/writing variable needs to be given more attention in research. Above all, meta-analyses of instructed SLA should not put written and spoken free outcome measures in the same category (as has typically been the case, e.g., Norris & Ortega, 2001; Spada & Tomita, 2010) because they clearly represent different levels of language knowledge in the case of L2 learners.

## 10.3 Limitations of the Current Study

In this section I will address limitations of this study. The first one concerns the absence of a true control group. It would certainly have been beneficial to have had a true control group which carried out the writing and speaking tasks at the same time as the explicit and implicit groups, but which did not have a pedagogical intervention related to epistemic stance. This was not possible simply because it was impractical at the time I conducted this research to find a comparable group of students with a similar range of proficiency levels as those in the current study, who could carry out all the data collection processes. I could have created three groups instead of two from within the classes but that would have led to shorter instruction time on the target features for the experimental groups and I believe it would have been unethical with intact classes to have a group of students who did not get taught the same content as other groups. The fact remains, however, that some findings (e.g., the causes of the developmental patterns of the implicit group) would be easier to explain if they were compared with a group that had not undergone any related instruction.

The one thing which I would certainly do differently in a repeat of this study would be to collect data on *knowledge* of epistemic stance forms prior to the interventions by using a discrete item test. It would have been useful to have been able to compare learners' use of epistemic forms in each of the tests with an inventory of which forms they knew at the time of the pre-test. In order to avoid the possibility that this test might prime the learners at the beginning of the intervention, such a test should be carried out several weeks before the pre-test, and items focused on epistemic forms should be mixed in with questions on various others L2 aspects in order to avoid learners' attention being drawn to the target features. For example, based on the findings of this research, I would have been very interested to know more about the participants' knowledge of the evidential verbs (*looks* and *seem*) prior to the intervention.

The third limitation relates to the issue of task equivalence. With hindsight, I believe that I relied too much on intuition in deciding on the tasks for this study. I did improve the tasks based on findings from the pilot study, and I was able (through post-hoc analysis) to establish an acceptable level of task equivalence as concerns participants' frequency and variety of epistemic stance form use on the different tasks (see Section 6.3.4). However, I could have established greater task equivalence if I had carried out more piloting of tasks prior to the main study in order to establish this equivalence *prior* to carrying out the data collections.

A further limitation concerns the gender bias in the learners who participated in this study (55 females and 26 males). The data in this study could be reanalysed taking the gender variable into consideration in order to investigate whether different types of instruction may have differential effects on male and female learners. Ideally, future research on instructed SLA would include balanced sampling of male and female learners. However, one problem with this in conducting research in university settings is the propensity for more females to study

foreign languages than males. Therefore, research with intact classes is likely to have a gender-bias.

## 10.4 Future Directions

Considering the range of variables focused on in this study, there are various ways in which issues uncovered in this research could be further investigated. Here I describe three ways in which this research can be enhanced and built upon. The first one involves comparing the learners' use of epistemic stance with a corpus of essays and speeches on the same or similar tasks produced by a comparable group of native speakers[78]. It will be particularly informative to investigate similarities and differences in the use of epistemic stance forms in spoken and written language by the native speakers as the greater processing constraints of spoken language are not likely to play such a major role in the case of native speakers.

This study has highlighted contingency as a key aspect contributing to the different degrees of salience of English epistemic forms. Undoubtedly other elements also play a role in determining the level of difficulty of each form and therefore I would like to investigate these elements in greater detail. This would include looking at L1 influence by comparing learners' use of epistemic stance in spoken and written Japanese with the forms they use in English on the same tasks. A thorough analysis of the causes of difficulty of specific forms would make it possible to improve the quality of pedagogical materials used for explicit instruction on epistemic stance.

The third future direction relates to three findings of this study: (1) explicit instruction is more effective than implicit instruction; (2) there is typically a partial loss of immediate gains between immediate and delayed post-tests; (3) implicit processes do appear to have some

[78] At the time of writing I have such a corpus of written and spoken data collected from students at a British university but the spoken component still needs to be analyzed.

effect on learning, particularly in the case of forms with clear form-function mappings. I believe that future research on instructed SLA should investigate the interaction between explicit and implicit learning. One suggestion is to investigate the relative effects of different ways (e.g., an input flood; practice; output tasks) of following up an explicit intervention in order to avoid partial loss of gains and possibly to build on immediate gains. Such research would investigate how implicit learning mechanisms can most effectively be utilized to build on explicit knowledge; as Dörnyei (2009, p. 272) writes, "the real challenge is to maximize the co-operation of explicit and implicit learning".

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