

CHILDREN'S METAPRAGMATIC KNOWLEDGE AND INTENSITY OF SECOND
LANGUAGE AS A MEDIUM OF INSTRUCTION IN THE INTERMEDIATE YEARS OF A
FRENCH IMMERSION PROGRAM

by

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Diploma in Applied Linguistics, The University of British Columbia, 1995

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE STUDIES

(Department of Language and Literacy Education)

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

July 2000

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Date July 17, 2000

Abstract

Compared to grammatical knowledge of language (what to use), the ability to use language appropriately depending on a context (how to use) is termed linguistic pragmatic knowledge. Throughout the elementary school years children developmentally not only acquire pragmatic knowledge but also increase their explicit grasp of pragmatic knowledge. This is termed metapragmatic knowledge. It includes the ability to infer meanings that are not expressed literally. In nonliteral uses of language, the speaker means something different from what is said. Among such nonliteral uses of language are indirect requests and irony.

As children's metapragmatic knowledge has a positive relationship with their literate proficiency, on which success in school depends, children can benefit from the development of their metapragmatic knowledge in their academic achievement. The study of bilingualism has shown that bilingualism has a positive effect on children's metalinguistic development. Can metapragmatic knowledge be enhanced by increasing exposure to a second language (L2)?

Bilingual pupils were given two tasks in which the children's levels of metapragmatic knowledge were investigated. The measure of metapragmatic knowledge consisted of two assessments: (a) understanding of indirect requests, and (b) understanding of irony. Participants listened to eight short stories in which brief interactions were presented in a multimedia, computer-based format. After each story, participants were asked a set of questions to probe subjects' attributions of the speaker's communicative intent and hearer's interpretation.

L2 intensity was positively associated with metapragmatic knowledge measured by comprehension of requests. Conversely, the association between L2 intensity and metapragmatic knowledge measured by comprehension of irony was not necessarily positive. Those who scored higher had positive relationship between L2 intensity and their metapragmatic knowledge whereas those who scored lower had negative relationship between L2 intensity and their metapragmatic knowledge.

In summary, L2 intensity is not always positively associated with any type of metapragmatic knowledge. This suggests that a larger amount of exposure to L2 is not necessarily beneficial to children's development of metapragmatic knowledge. Therefore, it is important to consider the levels of children's metapragmatic knowledge when planning an increase of exposure to L2 instruction.

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Acknowledgements

Back in 1994, when I came to Vancouver for the first time and started my diploma program at UBC, I never even dreamed the following things: that I would celebrate Year 2000 in Canada, and that I would write a doctoral dissertation. I am indebted to a great many people for making these two happen.

Special thanks go to my supervisor, Ken Reeder, who has been to me a teacher, an advisor, a colleague, a co-author as well as a friend, a father, a counselor, a lawyer, and even a chauffeur at one time. I have benefited, both in my academic and private lives, from his warm and continuous advice and support. Had I not seen him in 1994, I would not have been able to live in Vancouver for as many as six years, let alone to write this dissertation.

I owe a special debt of gratitude to the other two of my committee members, in alphabetical order, Lee Gunderson and Marion Porath. Lee taught me how rigorous research should be and inspired me to be critical on methodology. The size of his effect on my attitude toward research is so significant as to be detected with even low power and a single subject. Marion helped me by commenting on this dissertation from a developmental psychologist's point of view, which we applied linguists do not always have. The ideas that I discussed with her have found their way into this dissertation.

Apart from these committee members, I must record my gratitude to two psychometricians who inspired me to be greatly interested in research methodology, in alphabetical order, the late Bob Conry and Nand Kishor. Bob introduced me to fun side of psychometric issues through his talk full of wit. Nand showed me a serious side of psychometric issues through his clear and rigorous thinking, and changed my entire view of research methodology.

I am also grateful to Shoichi Matsumura, my friend and colleague, who shared the same view toward research with me, and to Claire Stones, my friend and first research assistant, who helped me at the various stages of data collection and analysis. I would like to thank Hiroaki Endo who literally broadened my horizon and helped me realize how wonderful a life can be.

There are many others to whom I am indebted for their support: Minoji Akimoto, Rick Berwick, Monique Bournot-Trites, Gina Guilatco, George Hann, Atsuichiro Hashimoto, Akira Hirukawa, Bernice Jay, Ikuyo Kaneko, Hideyo Kawagoe, Jutta Kitching, Cora Li, Valerie Lloyd, Keith McPherson, Donald Smith, Maho Takeda, Norimitsu Tosu, Edward Wong, Masanobu Yamaguchi, Fumino Yamazaki, and last but not least, the students who participated in this study and the teachers at the school who provided me with great assistance.

Finally, I wish to thank my wonderful family, Tomoko and Tom, who have been supporting me since 1986 and 1995 respectively. This dissertation would not be completed without their patience and moral support. More particularly I am most grateful to Tomoko for the love and support in every aspect of my life. I could not have come this far without her.

Chapter 1

Children's Metapragmatic Knowledge and Bilingual Education

1.1 Introduction

The primary aims of this study are to examine the developmental aspects of children's metapragmatic knowledge and to examine the relationship between the intensity of children's exposure to a second language (L2) as an instructional language at school and the development of children's metapragmatic knowledge. The intensity in the study is defined in terms of differential amounts of time allocated to instruction delivered in L2.

Before children enter elementary school, they have already made a striking development in their linguistic capacity (Brown, 1973; Ingram, 1989; Wells, 1986). Children's utterances become closer to those of adults within a short period during the preschool years and children master most aspects of spoken language and oral comprehension by the time they enter elementary school (Dale, 1976; McNeill, 1970). It is imprecise to say, however, that the elementary school years do not contribute to children's language development. The developmental process does not stop after children become of school age, but rather language development continues throughout childhood (Strozer, 1994).

One aspect of language development that has drawn attention in this regard is children's pragmatic development. Children learn to know not only *what* to use but *how* to use language appropriately and effectively in a variety of social situations. Compared to grammatical knowledge of language (what to use), the ability to use language appropriately depending on a context¹ (how to use) is termed linguistic pragmatic knowledge. To learn to say *please* and *thank you* is an example of the acquisition of pragmatic knowledge. Although even preschoolers know, less consciously, how to use language appropriately, throughout the elementary school years children developmentally acquire more abstract pragmatic knowledge and increase their explicit knowledge about pragmatic knowledge. This is termed metapragmatic knowledge and can be defined as *the metalinguistic knowledge used to describe reflexively the meaning and the conditions of linguistic signs relative to their communicative functions*.

1.2 Metapragmatic Knowledge of Nonliteral Uses of Language

Metapragmatic knowledge includes the ability to infer meanings that are not expressed literally. Grice (1975, 1978) argues that conversations are governed by a general principle of cooperation. In order to be cooperative, speakers are supposed to observe four maxims: quantity, quality, relevance, and manner. When it is noticed that the sentence meaning violates a maxim, and yet there is no reason to be found for the speaker to be uncooperative, it is recognized that the speaker means something different from what is said.

¹ The term *context* roughly means a circumstance in which language is used by users (Mey, 1993). In general, it is difficult to make a definition of a term to the extent that everyone will be satisfied with it. In reality, it is virtually impossible to make a clear definition because boundaries of linguistically defined categories are fuzzy (Taylor, 1989). This dissertation takes this position to avoid fruitless discussions that might result from inconsistency of a definition among researchers. Therefore, all the definitions given in the present study are working ones, which are roughly defined with their boundaries left fuzzy.

Among such nonliteral uses of language in which the ability to infer meanings that are not expressed literally is necessary are indirect request and irony. To understand and respond to requests appropriately, hearers must infer the speakers' intent and meaning from the linguistic form and content of an utterance (Grice 1975; Searle, 1975b, 1979). In irony, where the relation between what is said and what is meant is surprisingly divergent, it is important to recognize the gap and to detect nonliteral intent (Winner, 1988). How do children in the middle school years acquire and develop the ability to comprehend nonliteral uses of language? One of the aims of this study is to examine the developmental aspects of children's metapragmatic knowledge of two aspects of pragmatic use of language: indirect request and irony.

1.3 Metapragmatic Knowledge and Second Language Learning

Metapragmatic knowledge is by definition a kind of metalinguistic knowledge, which is often called metalinguistic awareness² as well. Children's metalinguistic knowledge has been examined in terms of its relationship to children's literate proficiency (Bowey & Patel, 1988; Evans, Taylor, & Blum, 1979; Reeder & Shapiro, 1997; Tunmer & Bowey, 1984). As children's metapragmatic knowledge has a positive relationship with their literate proficiency (Reeder & Shapiro, 1997), on which success in school depends (Wells, 1985), children can benefit from the development of their metapragmatic knowledge in their academic achievement. Is there any way to enhance the development of children's metapragmatic knowledge?

Bilingual education may be one possible answer to this question. The study of bilingualism has shown that bilingualism may have a positive effect on children's metalinguistic development (Diaz, 1985; Palij & Homel, 1987). Cummins' Interdependence Hypothesis (Cummins, 1978; Cummins & Swain, 1986) postulates a common underlying proficiency in strong bilinguals, which involves "cognitively demanding communicative tasks" (Cummins & Swain, 1986, p. 82). Given the definition of metapragmatic knowledge, it could well be the case that metapragmatic knowledge forms one aspect of bilingual speakers' common underlying proficiency. As such, can metapragmatic knowledge be enhanced by increasing exposure to L2? The other aim of this study is to investigate the relationship between the intensity of children's exposure to L2 and children's metapragmatic knowledge.

1.4 Organization of the Thesis

Chapter 2 defines what metapragmatic knowledge is, addresses the relevance of the development of pragmatic and metapragmatic knowledge to academic achievement, and considers the relationship between metalinguistic development in general and bilingualism. Chapter 3 justifies the present study and formulates its research questions. Chapter 4 presents in detail the description of the method and the procedures used in the present study. Chapter 5 presents the results of the quantitative part of the analysis in which children's understanding of nonliteral use of language was assessed. This assessment involved the scores from children's comprehension of request and irony and the degree of sophistication in their attribution responses. Chapter 6 presents the results of the qualitative part of the analysis in which children's attributions in understanding of nonliteral use of language was described. Chapter 7 summarizes

² *Metalinguistic awareness* can be defined "as the ability to think about and reflect upon the nature and functions of language" (Pratt & Grieve, 1984, p. 2).

the findings of the present study and discusses its limitations. The chapter also presents implications that the present study has for both education and future studies.

Chapter 2

Approaches to Metapragmatic Knowledge and Bilingualism

2.1 *Pragmatic and Metapragmatic Development in the Elementary School Years*

This section addresses what pragmatics, developmental pragmatics, and metapragmatic knowledge are, and surveys fields of developmental pragmatics and reviews how these have been approached by some research traditions, with special reference to children's metapragmatic knowledge.

2.1.1 *Pragmatics, Developmental Pragmatics, and Metapragmatic Knowledge*

If there are distinctions between *competence*, the user's abstract knowledge about language and rules, and *performance*, the user's actual language use (Chomsky, 1965), or *linguistic competence*, the knowledge of and ability to use the language system, and *communicative competence*, the knowledge of and ability to use all semiotic systems, including the language systems, as a member of a community (Hymes, 1972), it should be noted that the concept of *communicative competence* includes that of *linguistic competence*, which in turn includes that of *competence* in Chomsky's sense.³ Traditionally a special emphasis has been placed on the study of *competence* in many of the human disciplines that are related with the study of language.

The study of the remaining area of *linguistic competence* other than *competence* that had been made little of is what pragmatics concerns. The past thirty years have seen an interest in pragmatics increasingly growing. Pragmatics seems roughly understood as the study of the use of language in contexts. Although it is not the aim of this section to discuss how to define the term pragmatics, its definition should be refined more clearly (Levinson, 1983; Mey, 1993). In this study, pragmatics is defined by reformulating Silverstein's definition as *the study of the meaning and the conditions of linguistic signs relative to their communicative functions* (Silverstein, 1976). Defined in this way, pragmatics can reflect two different theoretical standpoints: the *component view* and the *perspective view* (Mey, 1993).

According to the component view, pragmatics is viewed as a separate module of linguistics proper as are phonology, morphology, syntax, and semantics. Together, all these modules serve as five major components of linguistics. In contrast, according to the perspective view, pragmatics is viewed as an additional aspect that links linguistic signs to communicative functions, and pragmatics is therefore situated in the other four modules of linguistics that deal with linguistic signs. This definition of pragmatics also accounts for the fact that there is an overlap among such areas as pragmatics, sociolinguistics, discourse analysis, and other related disciplines which have focused on human language use.⁴

³ The relationships among *competence*, *performance*, *linguistic competence*, and *communicative competence* are often misunderstood. The most common mistake is that the relationship between *linguistic competence* and *communicative competence* is treated as disjunctive, and the latter is treated as existing only within the language system.

⁴ The boundaries among these areas are difficult to define and, in fact, the lines are not necessary to draw.

The study of language development is usually referred to as the study of child language.⁵ It covers children's linguistic competence, as part of communicative competence, from the developmental perspective. Accordingly, developmental pragmatics can, then, be defined as *pragmatics in the study of child language which deals with children's linguistic competence as part of communicative competence*.

Language is sometimes used reflexively to talk about or describe another language (e.g., an explanation in English about French), or more often, the same language reflexively (e.g., an explanation in English about English). The language being described is the *object-language*, and the language describing it is the *metalanguage* (Lyons, 1977). Given that the term metalinguistic is used as an adjective form of the term metalanguage, metapragmatic knowledge can be defined as *the metalinguistic knowledge used to describe reflexively the meaning and the conditions of linguistic signs relative to their communicative functions*.

2.1.2 Pragmatic Development in the Elementary School Years

Children's pragmatic development in the elementary school years has been explored from several different perspectives. Among them are the studies of understanding of felicity conditions of promises (Astington, 1988; Bernicot & Laval, 1996), of the rules to use the French epistemic modal verb *croire* ('think', 'believe') (Hickmann, Champaud, & Bassano, 1993), and the use of deictic terms (Lloyd, 1991; Webb & Abrahamson, 1976). However, many studies have drawn considerable attention to whether children recognize the difference between what is said and what is meant, and if they do, how they understand the difference. Several of the significant findings and prominent approaches will be briefly sketched here with an emphasis on children's metapragmatic knowledge.

2.1.2.1 Speech Act Theory

In the research on pragmatics interests have been aroused in large part in language use in relation to function and context. In particular, philosophers have been concerned to specify the conditions under which language is used not only to *say* things, but to *do* things (Austin, 1975). According to this view, when something is uttered, three kinds of acts are performed at the same time: locutionary act, illocutionary act, and perlocutionary act. A *locutionary act* is to say something with a given sense and reference. An *illocutionary act* is an act with a conventional force (termed *illocutionary force*), such as asking a question, making a promise, ordering, and warning. A *perlocutionary act* is to bring about or achieve, by saying something, a certain effect (usually called *perlocutionary effect*), such as convincing and persuading. The study of language use from this aspect is called *speech acts theory* (Austin, 1975; Searle, 1969, 1975b).

If someone says *Shoot me!*, according to Austin (1975), the three acts may be performed at different levels. As a locutionary act, the speaker meant by 'shoot' shoot and referred by 'me' the speaker. As an illocutionary act, the speaker performs an act in which the hearer is asked (ordered, urged, and so on) to shoot the speaker. If the hearer shoots the speaker after hearing the

⁵ It is sometimes called language acquisition in linguists' sense (Ingram, 1989). However, this seems a narrower concept and corresponds to linguistics that deals with only competence in Chomsky's sense. Thus, language acquisition in linguists' sense is *the study of child language which deals with children's competence in Chomsky's sense from the developmental perspective*.

utterance, this act is considered as a perlocutionary act. Even if the hearer gets scared and walks away without shooting the speaker, this consequence is also considered as a perlocutionary act.

There are some situations in which the utterance has more than one illocutionary force. If the speaker utters the sentence *Can you open the door?*, for example, they may perform only one illocutionary act (question) when they want to check the hearer's ability to open the door, whereas the speaker may perform one illocutionary act indirectly (request) in performing another directly (question) when they want the hearer to open the door. The cases with more than one illocutionary force are called *indirect speech acts*, and an indirectly performed illocutionary act (request in this case) is called a *primary* illocutionary act and a directly performed one (question) is called a *secondary* illocutionary act (Searle, 1975b). In other words, primary illocutionary acts are not literal, and secondary illocutionary acts are literal.

2.1.2.2 Indirect Requests

One of the main streams of research dealing with children's pragmatic development stems from the study of indirect speech acts. Much of this work is concerned with children's comprehension of indirect requests compared to direct requests. Direct requests are imperatives and include the expected agent, action, and/or object in the surface structure. Indirect requests include two categories: indirect questions and hints. Indirect questions embed imperatives, but take the same form as yes-no questions in the surface structure, which are questions and not requests. Hints are often stated in declarative form and usually do not contain the expected agent, action, and/or object together in an explicit way. Rather, they may include some clues to the expected action (Ledbetter & Dent, 1988). Direct requests are considered the most transparent, and indirect questions are less transparent. Hints are the least transparent since they may not contain enough information to decide which action is expected (e.g., Clark, 1979; Ervin-Tripp, 1977; Ervin-Tripp & Gordon, 1986).

With regard to children's pragmatic development in the preschool years, Garvey (1975) found by investigating spontaneous speech that both 3-year-olds and 5-year-olds produce and acknowledge direct requests for action. Although they produce far fewer indirect requests, two-thirds of successful indirect requests are produced by 5-year-olds. Ledbetter and Dent (1988) also showed that 5-year-olds comprehend all request forms more often than 3-year-olds in their experimental study in which children manipulate dolls in response to verbal questions in structured play interactions. Carrell's (1981) experimental study showed that generally children aged 4 to 7 years understand a variety of indirect request types, but that there is a developmental pattern in children's comprehension of indirect requests. The 7-year-olds reach the correct response rate of 75% in 19 of 20 requests, whereas the 4-year-olds reach the same rate only in 7 of 20 requests, with the 6- and 5-year-olds falling somewhere in the middle (13 of 20 requests and 11 of 20 requests, respectively). However, this finding should be carefully interpreted since the types of requests used in the study vary from direct requests to indirect questions to hints.

In another experimental study of comprehension of directives, Bernicot and Legros (1987) found apparently consistent results, showing that the comprehension of both direct and indirect directives develops with age from age 3 to age 6, and that the comprehension of direct directives emerges earlier and easier than indirect directives. This study is difficult to evaluate, however, for two reasons. First, they classified questions like *Could you stop playing the drum?* as direct directives, whereas this type of question is usually categorized as an indirect request. Secondly, they examined the comprehension of directives only through the speaker's response to

the hearer's nonperformance of the directives. They assumed that children comprehended the directives if they chose 'very angry' or 'unhappy' as the speaker's response when the hearer did not perform the action requested. However, a close examination of the study reveals that their assumption is not legitimate. If the female hearer 'has taken the spade' and the male speaker says "I can't make a castle with my hands", and she 'looks at another child who is making sand castles near her' (p. 353). In this case, for children to say that the speaker is 'very angry' or 'unhappy' "because she does not want to give him the spade" (p. 354) is not necessarily strong evidence for children's comprehension of indirect requests. Children did not make any direct mention of whether the speaker's utterance was indeed an indirect request.

While the study of children's pragmatic knowledge of requests usually concerns the children's production of requests, the study of children's metapragmatic knowledge of requests has focused on the children's ability to judge the appropriateness of requests and to attribute intentions to the speaker or the hearer. Baroni and Axia (1989) conducted a study with Italian children aged 5- and 7-years in order to evaluate their ability to attribute polite and impolite requests to the speaker, and to evaluate their metapragmatic knowledge. The study showed that 7-year-olds are superior to 5-year-olds both in the attribution task and in representing metapragmatic knowledge. In a study of metapragmatic knowledge of children aged 5-8 years (Wilkinson, Wilkinson, Spinelli, & Chiang, 1984), it was found that, with age, children are more likely to produce indirect requests in order to obtain academic information. When judging the appropriateness of various requests, older children depend more on indirectness whereas younger children depend more on politeness indicated by the presence or absence of the word *please*. In the same study, it is shown that indirectness varies among indirect requests. For example, the question "Do you know how to do this one?" can be an effective request, whereas the more extreme indirect request "I can't do this one" may be unrecognized as a request for help. This finding suggests the distinction between indirect questions and hints and the further investigation of them are needed.

Ervin-Tripp and Gordon (1986) state that, at around the age of 8 years, a change occurs in children's taking the intention of other speakers into consideration when using language pragmatically, including the use of indirect requests. Children's use of language thus becomes close to that of adults. Children's ability to attribute intentions to the speaker, however, is still limited (Ervin-Tripp, 1977). Garton and Pratt (1990) examined the metapragmatic knowledge of children aged 8-, 10-, and 12-years in their study of judging direct and indirect requests. In the study, children rated various types of requests from three dimensions: politeness, effectiveness, and likelihood. The study found that children in this age period were able to take the three dimensions into account separately. Despite the claim, however, that children's metapragmatic knowledge increases between 8 and 12 years of age, the authors did not find main effects for age and grade and, therefore, it is still not known whether children's metapragmatic knowledge increases developmentally during this age period.

Abbeduto, Nuccio, Al-Mabuk, Rotto, and Maas (1992) investigated children's ability to infer and use a speaker's goal to comprehend questions in a role-playing task with children aged 6, 7, 9, and 11 years and adults. This study, however, is difficult to evaluate as such since what is meant by the speaker's interpersonal goal is not clearly defined. Rather, what was actually found is the semantic development of children contrary to the study's aims. The study showed that only

11-year-olds and adults have the knowledge of logical relationship of a class⁶ and its members (Lyons, 1977), and that they can respond to questions according to this knowledge. Although the authors did not realize this, the study happened to show a significant finding that 11-year-olds have the ability to categorize the request *Do you have - ?* as a *pre-request*⁷ (Levinson, 1983) and to anticipate a real request coming soon, as adults do.⁸

2.1.2.3 Irony

Another body of research in children's pragmatic development lies in the study of children's understanding of nonliteral meanings of language. The speaker often says one thing but means another. In such a case, the speaker's utterance carries two meanings: sentence meaning and speaker meaning (Levinson, 1983; Mey, 1993). *Sentence meaning* is the literal meaning of the expressions used, whereas *speaker meaning* is the conveyed meaning that the speaker intends by using the expressions (Levinson, 1983). When language is used in the way that speaker meaning is different from sentence meaning, it is called figurative language, or figures of speech, which includes metaphor (and other metaphorical language use such as metonymy and synecdoche), idioms and irony. Of these nonliteral language uses, metaphor and idioms have been well investigated as children's semantic development, rather than as their pragmatic development (Gibbs, 1987; Winner, 1988). This is mainly because interest has been placed in the deviation between sentence meaning and speaker meaning rather than in the speaker's intention to deviate them, which is the center of interest in the study of irony. Since the ability to understand the speaker's intention is considered to be one aspect of children's pragmatic development, this section will focus on children's understanding of irony.

It is very difficult to define irony precisely, and as Barbe (1995) points out, it may be better to avoid defining it. Since giving a clear definition of irony is not the aim of this study, irony can be roughly defined here as a type of figurative language where the speaker meaning clashes with sentence meaning and, quite often, the relation between them is one of opposition (Gibbs, 1994; Winner, 1988). Also it seems unnecessary to demarcate irony here. For example, sarcasm is just one form of irony⁹ and the use of jokes is not incompatible with irony. In this study, any ironical expression or statement will be included under the category of irony.

The ability to understand irony is said to be usually seen in children after the age of 6 or 7 (Winner, 1988) or age 7 or 8 (Pease, Gleason, & Pan, 1993), yet not all research findings are consistent with regard to when and how the ability develops in children. Compared to the studies of children's comprehension of indirect requests, children's understanding of irony has not been investigated thoroughly. However, this area is of special interest from the viewpoint of

⁶ A *class* is a collection of entities of any kind (Lyons, 1977).

⁷ A *pre-request* is used to allow the speaker "to check out whether a request is likely to succeed, and if not to avoid one in order to avoid its subsequent dispreferred response, namely a rejection" (Levinson, 1983, p. 357). At a bakery, for example, *Do you have chocolate croissants?* will be a *pre-request* for a real request *I would like four of them*.

⁸ However, this ability does not always have something to do with the speaker's real intention. Whether the speaker's request is a *pre-request* or a real one, adults often use this ability (Mey, 1993).

⁹ Winner (1988) differentiates sarcasm from irony, saying that the latter "is sarcastic if it is bitter and if its victim is an actual person rather than just an imagined *type* of person" (p. 29).

metapragmatic knowledge since virtually all the studies that investigate the understanding of irony deal with children's and adults' metapragmatic knowledge. The subjects are usually overhearers¹⁰, and asked to show their understanding of irony by demonstrating their metapragmatic knowledge.

Ackerman (1983) studied how children aged 6 and 8 years and adults use contextual and intonational cues to understand irony, and found that, compared to adults, 6-year-olds make little use of both cues whereas 8-year-olds can make good use of the intonational cue but little use of the contextual cue. The study claimed that even 6-year-olds understand ironic utterances occasionally, and this understanding increases with age. However, in this study, the speaker's intention was not investigated and, therefore, it is difficult to know whether children in the study really understood ironical utterances. Ackerman (1986) also claimed in his three experiments with 7- and 10-year-olds and adults that even 7-year-olds showed irony comprehension in at least some circumstances, and that this understanding develops with age. However, this study again failed to show whether children understood the speaker's intention in ironical utterances.

It is very important to investigate children's understanding of the speaker's intention in the study of irony. Even if the speaker says a proposition *P* when the speaker's belief is NOT *P* and, thus, speaker meaning is in opposition to sentence meaning, the speaker's utterance *P* is not necessarily ironical. On the one hand, if the speaker's intention is to make the addressee¹¹ believe NOT *P*, the speaker's utterance *P* is ironical. On the other hand, if the speaker's intention is to make the addressee believe *P*, the speaker's utterance is deceptive. Capelli, Nakagawa, and Madden (1990) studied how contextual and the intonational cues are used in understanding irony with three groups: third graders (8-9 year olds), sixth graders (11-12 year olds), and adults. The study found that older children are better at understanding irony than younger children, and that both groups understand irony when the intonational cue is available whereas they fail to do so when only the contextual cue is available. Children's attribution of the speaker's intention was well investigated by using not only yes-no questions but probing questions in this study. Yet it should be noted that five stories out of eight used in the study include expressions such as "Oooh", "Gosh", "Yeah", "Gee", and "Oh", that lead to the final ironic utterance. A further study is needed to investigate whether these expressions promote children's understanding of irony and, therefore, whether they can be another cue for comprehension of irony.

In contrast, Demorest, Meyer, Phelps, Gardner, and Winner (1984) found, by investigating understanding of deceptive and sarcastic utterance of children aged 6-, 9-, and 13-year-olds and adults, that only after age 9 do children recognize the deviation between sentence meaning and speaker meaning. However, even if children aged 9 and 13 recognize the difference between the two meanings, they fail to understand irony even with appropriate sarcastic intonation. When they notice that the speaker says *P* in spite of his or her real belief NOT *P*, they tend to assume that the speaker's intention is that of deception where the speaker wants the

¹⁰ This point is of particular interest since subjects are often treated as if they were the hearer in the stories used in experiments regardless of the setting.

¹¹ The term *addressee* introduced here means the person whom the speaker intends to convey speaker meaning of the ironical utterance to. It is true that the speaker sometimes tries to convey speaker meaning only to the overhearer and not to the hearer. In this case, the addressee is the overhearer. When the speaker wants to convey speaker meaning to the hearer, the addressee is the hearer.

hearer to believe *P*, rather than that of irony where the speaker wants the hearer to believe NOT *P*.

2.1.2.4 *Perlocutionary Acts in Indirect Requests and Ironical Utterances*

The studies of speech act theory have been mainly concerned with illocutionary acts, especially with verbs that have illocutionary force. Such verbs are called *illocutionary verbs* or *performative verbs*. This is not surprising in that Austin's (1975) primary concern was illocutionary acts, and what he attempted was to establish the category of illocutionary acts and to classify illocutionary verbs. The notion of the other two acts, locutionary acts and perlocutionary acts, was introduced to contrast illocutionary acts with the other two acts. While both locutionary acts and perlocutionary acts are not of great interest to speech acts theorists, locutionary acts are about the sense and reference and, accordingly, have been extensively studied in semantics. On the contrary, perlocutionary acts have rarely been a main concern for speech acts theorists and semanticists. Why have perlocutionary acts not been a main concern for them?

As Clark (1996) argues, language use is a form of joint action by an ensemble of participants who are speakers and hearers, or writers and readers. Therefore, the study of language use has to consider the roles played not only by the speaker but also by the hearer. However, there has been a bias toward the language use by the speaker, that is, a bias toward studying what is meant in an utterance from the speaker's point of view rather than how the hearer responds to the utterance after he or she hears it and understands it from the hearer's point of view. Even when the hearer is taken into consideration, this bias exists. The hearer is assumed to play a passive role to understand what is meant by the speaker, not an active role to interpret it in his or her own way. Such bias appears to exist even among the speech act theorists. There are some speech act theorists who looked at the hearer as playing relatively active role to understand the speaker's intention (e.g., Bernicot & Legros, 1987; Dore, 1977; Ervin-Tripp & Gordon, 1986; Ledbetter & Dent, 1988; Reeder, 1996; Reeder & Shapiro, 1997). Yet they assumed the hearer to play an active role in understanding what is meant by the speaker, but not in how the hearer responds to it after he or she understands it. In other words, what they were interested in was mainly at the level of illocutionary acts, and not at the level of perlocutionary acts. It is true that the speaker performs a perlocutionary act when uttering something in the sense that the utterance creates certain effects on the hearer. However, as the example of *Shoot me!* showed, what kinds of perlocutionary effects occur depends on the hearer. In other words, to study perlocutionary acts, the hearer should be taken into consideration as an active participant who not only understands what is meant by the speaker but also responds to it from the hearer's point of view. However, because of the speaker-oriented and illocution-oriented bias, not much attention has paid to the hearer as an active participant of a joint action and, accordingly, to perlocutionary acts.

Similarly, in the studies of children's understanding of nonliteral meanings such as indirect requests and irony, main concern has been lying in children's, or children's understanding of the hearer's, understanding of what is meant by the speaker. It may not be a problem not to include perlocutionary acts in a study as long as it is concerned with children's understanding of nonliteral meanings in terms of what is meant by the speaker. As Clark (1996) notes, perlocutionary acts are not part of understanding itself. When hearing someone say *Shoot me!*, whether the hearer results in shooting the speaker or not is independent of the hearer's

understanding of what is meant by the speaker. This is the traditional sense of *understanding* in the literature, which may have come from the speaker-oriented bias. However, based on the notion that language use is a joint action, it is important to take the hearer's role into consideration in order to depict children's pragmatic knowledge more thoroughly.

For example, in ironical utterances one of the main purposes of the speaker in producing such utterances is to bring about some consequent effects on the hearer. If the hearer understands what is meant by the speaker in an ironical utterance and yet bears no consequent effects because the hearer simply does not believe it, the ironical utterance is understood but unsuccessful. The traditional sense of understanding of what is meant does not make a distinction between ironical utterances that are understood but unsuccessful and those that are understood and successful. The notion of understanding in this sense corresponds to *recognizing* in Clark's (1996) terminology. Whether an ironical utterance is understood is a matter of recognition of what is meant, and is independent of the consequence caused by the utterance. Clark proposes another level of a joint action in which the hearer *considers* the speaker's meaning. Whether an ironical utterance is successful depends on how the hearer considers it. In other words, the kind of perlocutionary effects may be decided by how a hearer considers an utterance. Thus, it will lead to a better understanding of children's pragmatic knowledge about language use to take perlocutionary acts into account.

2.1.3 *Summary of the Section*

This section addressed what pragmatics, developmental pragmatics, and metapragmatic knowledge are, and surveyed fields of developmental pragmatics and reviewed how these have been approached by some research traditions, with special reference to children's metapragmatic knowledge.

2.2 *Metapragmatic Knowledge and Bilingual Education*

This section addresses the relevance of the development of pragmatic and metapragmatic knowledge to academic achievement and considers the relationship between metalinguistic development in general and bilingualism.

2.2.1 *Pragmatic Development and Academic Achievement*

The study of pragmatic development is of great importance in its own right as in linguistics. However, pragmatics plays a crucial role in other disciplines that study language in relation to human beings who use it, such as anthropology, psychology, sociology, and education. What implications do pragmatic development have in education? In what sense can children benefit from the consequence of this development in their academic achievement? In this section, the relevance of pragmatic development to children's success in school will be discussed.

Children of school age need to perform various functions of language in the school settings. Tough (1976) claims that there are seven specific functions of oral language necessary for success in school: self-maintaining, directing, reporting, towards logical reasoning, predicting, projecting, and imagining. These functions are all concerned with pragmatics, and pragmatic knowledge is necessary for children to use them appropriately and effectively. The development of oral language skill is, therefore, essential to success in learning at school (King, 1984). Pragmatic knowledge also has been shown to be important for providing access to necessary learning experiences at school (Donahue, 1985). When children want to obtain

information and cooperative behavior from peers and teachers, appropriate and effective requesting is required, which is correlated with reading and math achievement (Wilkinson, Milosky, & Genishi, 1986). Appropriate turn-taking is important because '*teacher questioning*'- '*student responding*' is the most typical interaction of elementary classroom discourse (Brophy & Good, 1986; Cazden, 1988). Children's appropriate pragmatic behavior gives more positive impressions to teachers, and teacher's impressions, in turn, affect children's classroom behavior that may determine the extent to which they obtain effective learning experiences (Becker, Place, Tenzer, & Frueh, 1991).

In addition to children's development in oral language, their development in literacy has been of great concern in educational theory and research. The relation between children's metalinguistic awareness and literacy has been examined. This includes the relation between phonological awareness and reading proficiency (Gibb & Randall, 1988; Tunmer & Bowey, 1984), between morphological awareness (or word awareness) and reading achievement (Evans, Taylor, & Blum, 1979), and between syntactic awareness (or form awareness) and reading comprehension (Bowey & Patel, 1988). However, pragmatic and metapragmatic knowledge that children acquire as their pragmatic awareness increases has not drawn much attention in this regard. This is not surprising given that, in the studies about the relation between children's metalinguistic awareness and literate proficiency, the main concern has been children's literate proficiency in terms of structural aspects of language (Reeder & Shapiro, 1997).

Olson (1977) points out that printed text is not just a written version of spoken language. The former is more context-independent and elaborated than the latter. Printed text can appear in two forms: narrative discourse and expository discourse. Expository discourse is more context-independent than narrative discourse is. Snow (1983) argues that the distinction between language being contextualized and decontextualized is more pertinent in the school settings than the distinction between spoken and written languages. In general, spoken language is more contextualized (or context-dependent) and written language is more decontextualized (or context-independent). Similarly, narrative discourse is more contextualized (or context-dependent) and expository discourse is more decontextualized (or context-independent). Expository texts are more difficult to understand than narrative texts (Spiro & Taylor, 1987), and narrative texts can be read faster and are easier to comprehend than expository texts (Graesser & Goodman, 1985). This may be because the more decontextualized language becomes, the fewer extralinguistic cues become available from context and, thus, the more difficult it is to understand language.

Since the study of pragmatics is often said to be the study of language in context, it might seem plausible that pragmatics plays no role where language is decontextualized. However, the opposite is true. Reeder and Shapiro (1997) found that there are significant correlations between sophistication of pragmatic explanations and both overall quality and some aspects of the quantity of written expression by 8-year-olds. With regard to literate proficiency, children need to understand indirect speech acts, comprehend nonliteral meaning, know the rules of discourse, and so on, even without sufficient extralinguistic cues from context. Pragmatic and metapragmatic knowledge become more and more important as language becomes more decontextualized.

2.2.2 *Metalinguistic Development and Bilingualism*

Since the tasks at school are mainly decontextualized, success in school depends on the acquisition of literacy (Wells, 1985). Reading and writing themselves are context-independent

(and thus linguistic-dependent) tasks and require of children highly sophisticated pragmatic and metapragmatic knowledge. Metapragmatic knowledge is by definition a kind of metalinguistic knowledge, and the study of bilingualism has shown that bilingualism may have a positive effect on children's metalinguistic development (Diaz, 1985; Palij & Homel, 1987). This section reviews the relationship between bilingualism and children's metalinguistic development.

2.2.2.1 Bilingualism and Cognitive Development

From the nineteenth century to the 1960s, bilingualism was regarded as having a harmful effect on cognitive development (Ausubel, Sullivan, & Ives, 1980; Darcy, 1953). Bilingualism was said to hamper children's development of intelligence, and to lead children to psychological confusion (Laurie, 1890; Saer, 1923; Smith, 1923). The findings of such studies opposed bilingualism by showing that bilingual children scored lower on measures of verbal intelligence than monolingual children, although there was no difference between the two groups on measures of nonverbal intelligence.

Peal and Lambert's (1962) study is often considered to be a turning point in how bilingualism is viewed in the sense that, after their study, bilingualism became recognized as having a cognitive advantage (Palij & Homel, 1987). By studying 10-year-olds from French schools in Montreal, Canada, Peal and Lambert (1962) found that the bilingual group scored higher than the monolingual group on 15 out of 18 measures of intelligence whereas there was no difference between the two groups on the other 3 measures. The bilingual group scored higher than the monolingual group on measures of both verbal and nonverbal intelligence. This finding contradicted the results of previous research that bilingual children were considered to be cognitively inferior to monolingual children. More recent research on bilingualism has shown that there is an opposing view that bilingualism has a positive effect on children's cognitive development (Bialystok, 1988; Day & Shapson, 1996; Palij & Homel, 1987).

The former view has not held up since these early studies failed to implement adequate methodological controls, whereas the latter view appears generally supported because the study by Peal and Lambert (1962) and subsequent studies attempted to use controlled, experimental research designs (Bialystok, 1988; Palij & Homel, 1987). However, this latter view cannot go without criticism. First of all, adequate methodological controls only have meant that the bilinguals and the monolinguals to be used as the control group are matched on such variables as socioeconomic status, sex, and age. However, selection according to these criteria does not guarantee that the variables on children's family and other backgrounds such as student motivation and parental attitude are controlled (Carey, 1991; Diaz, 1985). Whether or not a study uses such methodological controls, the methodology using the comparison between the bilinguals and the monolinguals itself is problematic (Carey, 1991; Diaz, 1985; Reynolds, 1991). Second, whether advantageous or disadvantageous, the alleged cognitive consequences of bilingualism have been generally studied by referring to its impact on "intelligence", usually measured by I.Q. However, intelligence itself is "a controversial concept" (Romaine, 1995, p.107). How intelligence can be defined and measured is still a disputable point (Baker, 1993). Third, apart from intelligence, what was meant by "cognitive development" varies from study to study. However, it is far from clear what is meant by "cognitive development" when current researchers conclude that bilingualism has a positive effect on children's cognitive development. The present paper addresses this third problem and surveys some methodologies that were used to measure "cognitive development".

2.2.2.2 *What is Cognitive Development?*

Although many studies on bilingualism refer to cognitive development, they appear to take the meaning of the term “cognition” for granted. What is cognition? Flavell, Miller, and Miller (1993) list as higher-mental-processes types of psychological entities that are included in the traditional image of cognition. Those are “knowledge, consciousness, intelligence, thinking, imagining, creating, generating plans and strategies, reasoning, inferring, problem solving, conceptualizing, classifying and relating, symbolizing, and perhaps fantasizing and dreaming” (Flavell, Miller, & Miller, 1993, p. 2). However, as Flavell *et al.* admit, it is extremely difficult to define the term cognition in any precise and satisfying way. Flavell *et al.* go on to state the difficulty of defining the term cognition:

Once embarked on this course of broadening and restructuring the domain beyond the classical *higher mental processes*, it is very difficult to decide where to stop. One is finally led to ask, what psychological processes *cannot* be described as “cognitive” in some nontrivial sense, or do *not* implicate “cognition” to a significant degree? The answer is that mental processes habitually intrude themselves into virtually *all* human psychological processes and activities, and consequently there is no really principled, nonarbitrary place to stop. (p. 2)

If “cognition” refers to any human psychological processes and activities, “cognitive development” will mean the development of any human psychological processes and activities. As a consequence, questions will be raised about the currently-held view that bilingualism has positive effects on children’s cognitive development. Does bilingualism have positive effects on children’s development in any human psychological processes and activities? If not, in which psychological entities does bilingualism have positive effects on children’s development?

2.2.2.3 *Measuring Cognitive Development*

Peal and Lambert’s (1962) study is often considered to be a turning point in how bilingualism was viewed in the sense that, after their study, bilingualism became recognized as having a cognitive advantage (Palij & Homel, 1987). However, it is hard to support their findings as they claimed due to the incorrect labeling of the two groups in the study, the contradictory matching procedure for the two groups, and a blind faith in so-called intelligence tests. What Peal and Lambert really found was that, by comparing two groups in the same distribution of bilinguals rather than in the two different distributions of bilinguals and monolinguals (Reynolds, 1991), the one group at the higher end was superior to the other group at the lower end in terms of not only L2 proficiency but also first language (L1) proficiency, socioeconomic class, school grades, and so-called intelligence tests in which the test-taker’s acquired language proficiency plays an important role (Miller, 1987; Oller, 1997).

The claim by Peal and Lambert (1962) of bilingual children’s cognitive advantages, however, initiated other studies which attempted to replicate it using controlled, experimental research designs (Palij & Homel, 1987). In one such study, Ianco-Worrall (1972) examined children’s attention to the meaning of words or to sound of words, and awareness of the arbitrariness between the sound and the meaning of words. The experimental group consisted of bilingual Afrikaans - English children aged 4 to 9 years and the two monolingual control groups consisted of children who spoke Afrikaans only and those who spoke English only. In this study, bilingualism is defined as “dual acquisition of language in a one-person home environment” (p.

1391). Thus, the results of this study cannot be generalized to the bilingual children whose parents speak the same language nor to those who have a single parent. In the first experiment of her study Ianco-Worrall claimed to find that during the period between 4 to 6 years of age bilingual children were more sensitive to the meaning of the words whereas monolingual children were more sensitive to the sound of the words. After age 7, both bilingual and monolingual children were claimed to be sensitive to the meaning of the words. However, it is hard to believe the author's claim for two reasons.

First, Ianco-Worrall (1972) maintained that "can" was phonetically related to "cap" whereas "hat" was semantically related to "cap" when posing such a question as "I have three words: *cap*, *can* and *hat*. Which is more like *cap*, *can* or *hat*?" (p. 1394). The reason on which the author was based to say that "can" and "cap" were phonetically related to each other was that "the two words shared the same sound in word-initial position" (p. 1394). Apart from the fact that the two words share the same sound in word-middle position as well in this example, the reason given is not strong enough to say that two words are phonetically related to each other. Is even a word like "kick", for example, phonetically related to "cap" because they share the same sound in word-initial position? Or, is "can" phonetically more related to "cap" than a word like "kip" is? Is "gap" phonetically less related to "cap" than "can" is because "gap" does not share the same sound in word-initial position with "cap"? How about "cab"?, and so on. Even if a subject chooses "hat" instead of "can" for the question, it may be that the subject's choice is based on the semantic relationship, but it may not necessarily be that it is not based on the phonetic relationship. What the author measured in this experiment was not necessarily what she planned to measure. This measurement, thus, led to invalid inferences about children's preference between phonetic and semantic relationships among words since such inferences made on the basis of this test is not appropriate nor meaningful (Schumacher & McMillan, 1993). To increase test validity, the author should have established content-related evidence¹².

Second, when analyzing the data, Ianco-Worrall (1972) used Wilcoxon signed-ranks test for paired replicates to test the difference between semantic and phonetic preference. However, the Wilcoxon signed-ranks test is designed for paired observations or two repeated-measure treatments (Glass & Hopkins, 1996; Gravetter & Wallnau, 1996; Witte, 1993), and not for two scores that are complementary to each other. In this experiment, if a subject scored X in semantic choice, the subject's score in phonetic choice (X') would be $X' = 24 - X$ since the total of 24 questions were presented. Thus the choice of Wilcoxon signed-ranks test is inappropriate for this analysis. Even more inappropriate is that the author used a similar analysis to test the difference in semantic choices between bilinguals and monolinguals. Although she did not specify exactly which test was used for the groups tested in English, in the analyses in which she found a statistical significance, the numbers of monolinguals and bilinguals were not equal. If she used a similar analysis to Wilcoxon signed-ranks test, how did she make up pairs from the subjects of unequal numbers? She did not give any explanation for this. For the groups tested in Afrikaans, where the numbers of the monolinguals and the bilinguals were equal and, therefore, the use of the Wilcoxon signed-ranks test was relevant, the author did not find any statistical significance between the two groups. After this first analysis, she decided to do another analysis by classifying

¹² Content-related evidence is "the extent to which the content of a test is judged to be representative of some appropriate universe or domain of content." (Schumacher & McMillan, 1993, p. 224)

each subject into three categories: semantic, phonetic and neither. If at least 66% of a subject's choices were semantic or phonetic, the subject was classified in either the semantic or phonetic category accordingly, and the subject was classified into the neither category otherwise. Some people may question this criterion of classification itself. Some agree with this criterion, but others disagree with it and might propose another criterion like 51%, 75%, and so on. However, since this problem is a matter of degree, it will not be criticized here. Rather, the much bigger problem lies in that the author used a binomial test to investigate the difference of proportion between semantic category and phonetic category. The author's choice of this test is inappropriate since binomial tests should be used for two proportions p and q when the value of q is determined from p by the subtraction $q = 1 - p$ (Glass & Hopkins, 1996; Gravetter & Wallnau, 1996). Obviously, the sum of the proportions of the semantic category and phonetic category in this experiment would not be 1 because there was a third category. Only in this second analysis based on an inappropriate choice of the test of analysis did the author find a significant difference in the proportions of the two categories between the monolinguals and the bilinguals tested both in English and Afrikaans.

In sum, despite of the Ianco-Worrall (1972)'s claim that "bilinguals, brought up in a one-person, one-language home environment, reach a stage in semantic development, as measured by our test, some 2-3 years earlier than their unilingual peers" (p. 1398), the manner in which she derived this conclusion is not convincing. Thus, her claim cannot be supported.

In the second experiment of the study by Ianco-Worrall (1972), the author attempted to examine children's awareness of interchangeability of names. In a part of this second experiment, she used three pairs of names: *dog* and *cow*, *chair* and *jam*, *book* and *water*. The subject was asked two questions: "Could you call a dog 'cow' and a cow 'dog'?" and "Suppose you were making up names for things, could you then call a cow 'dog' and a dog 'cow'?" (p. 1394) When analyzing the answers, the author made up four categories according to the combination of answers to the two questions, *no-no*, *no-yes*, *yes-yes*, and *yes-no*. She classified the combined response into one of the four categories only when the type of the combined responses was consistent across the three pairs of words. If the subject's combined responses were not consistent, it was classified as *inconsistent*, a fifth category. This criterion may be questioned. First, the relationships within a pair of words and between pairs of words were not clear. Second, from the three groups of the English monolinguals, the Afrikaans monolinguals, and the bilinguals, minimally 18% and maximally 76% of the subjects were excluded from the analysis by classifying them into the *inconsistent* category. The author's choice of the test of analysis is again inappropriate. She used the Cochran Q in order to investigate the difference between the proportion of the bilinguals and the monolinguals only for the *no-yes* category. However, the Cochran Q is designed for dichotomous data (Winer, Brown, & Michels, 1991) and not for data consisting of five categories. In addition, unlike in the first experiment of this study, the author compared the three groups of the English monolinguals, the Afrikaans monolinguals, and the bilinguals with each other at the same time, and the two monolingual groups did not appear to have the same distribution on these data. This is a serious threat to the reliability of the measurement used in this part of the experiment. Thus, in sum, the author's claim that bilingual children know that objects and their names were separable earlier than monolingual children do is also questionable.

In conclusion, Ianco-Worrall (1972) attempted to investigate bilingual children's cognitive development in terms of thought processes, and failed to find any difference between

bilingual children and monolingual children. It is therefore unknown from this study whether bilingualism has a positive effect on children's cognitive development.

Ben-Zeev (1977) investigated the cognitive development of bilingual Hebrew and English children aged 5 years to 8 years in terms of cognitive strategies that bilinguals might have due to mutual interference between their two languages. The author's 'bilinguals' were measured by a 15-item translation test in which the subject translated sentences from one language to the other. The potential bilingual subject "who failed to translate more than two sentences or whose translations were forced and literal" (p. 1011), they were excluded from the bilingual category in this study. On the other hand, if the potential monolingual subject "showed understanding of any part of the sentences in the second language, or if he spoke another foreign language" (p. 1011) were excluded from the monolingual category in this study. The bilinguals were matched with the monolinguals on the prorated Wechsler Intelligence Scale for Children (WISC) from the four WISC subtests administered: Similarities, Digit Span, Picture Completion, and Picture Arrangement. The author made up four groups: a Hebrew-English bilingual group tested in the United States, an English monolingual group tested in the United States, a Hebrew-English bilingual group tested in Israel, and a Hebrew monolingual group tested in Israel.

Ben-Zeev (1977) claimed that bilinguals are cognitively more developed in terms of reorganizing their perception of nonsense stimuli. She administered the Verbal Transformations Test, in which the subject was required to report what nonsense words repeated continually by a tape loop appeared to say, and the Symbol Substitution Test, in which the subject was required to substitute one meaningful word for another. However, caution is needed in interpreting results. In the former test, two nonsense words that are phonologically possible in both languages were used as the nonsense stimuli. In the latter test, the subject was, for example, required to substitute 'I' in 'I am warm' with 'macaroni' to produce a new sentence 'Macaroni am warm' (Ben-Zeev, 1977, p. 1012). Both tests concerned only the subject's metalinguistic awareness and, therefore, the conclusion could be drawn only about bilingual children's metalinguistically reorganizing their perception of the verbal nonsense stimuli.

The author herself attempted to investigate whether bilingual children's readiness for reorganization could be extended beyond language structure. She used the Matrix Transposition and Naming of Dimensions Test and the Ravens Progressive Matrices Test. In both the subject was asked to transpose the matrix with the varying numbers of cylinders and describe it. The author found no group differences between the bilinguals and the monolinguals on either test except in the description part of the Matrix Transposition and Naming of Dimensions Test in which the bilinguals' scores were significantly higher. Although the author used this exception as the supportive evidence that the bilinguals' readiness for reorganization can also appear in the perceptions of structures other than linguistic one, this result might be due to this description part of the test requiring the subjects' linguistic ability.

In sum, Ben-Zeev (1977) attempted to investigate bilingual children's cognitive development in terms of reorganization of their perception in response to both linguistic and nonlinguistic structures, only to find her bilinguals were better at metalinguistically reorganizing their perception of the verbal nonsense stimuli. However, even this result should be interpreted with caution. Since the Verbal Transformation Test and the Symbol Substitution Test in this study are not standardized tests with established reliability. This fact can be methodologically bivalent. On the one hand, the use of such tests is advantageous in that the author was able to measure more directly the variables that she was interested in than standardized tests would

(Schumacher & McMillan, 1993). In the Verbal Transformational Test, for example, the author invented two nonsense stimuli so that she might fit them in her study of bilingualism in English and Hebrew. These two stimuli may not be useful in the research on bilingualism in some other languages. On the other hand, the use of such tests is disadvantageous in that it resulted in relatively low reliability. First of all, the degrees of nonsense of the two stimuli were not the same. They should not have listed side by side in the sense that one of the stimuli "tress" did exist in Middle English and, therefore, the stimulus is not necessarily a nonsense word, although it might be a nonsense to Ben-Zeev (1977)'s five- to eight-year-old subjects. To increase reliability, the author should have chosen another stimulus that has not existed in English. Second, it is unknown what the result would have been like if the author of this study had used some other nonsense stimuli. Low reliability leads to low validity (Schumacher & McMillan, 1993). Thus, it is necessary to validate from other studies that the Ben-Zeev (1977)'s finding is valid.

Diaz (1985) reviewed research in the field of bilingualism and cognitive development and pointed out three methodological gaps that "seriously limit statements regarding the positive influence of bilingualism on children's cognitive development" (p. 1377). First, most studies used comparisons between bilingual and monolingual children. However, even if some variables such as age, socioeconomic status are statistically controlled, "the matching procedure never guarantees that the two groups are equivalent in *all* relevant variables" (p. 1377). This between group comparison method has been also criticized by other researchers (Carey, 1991; Palij & Homel, 1987; Reynolds, 1991). Second, most studies focused on balanced bilinguals who have "native-like control of two languages" (Bloomfield, 1933, p. 56)¹³, not on nonbalanced bilinguals "who have disparate abilities in the two languages" (Diaz, 1985, p. 1377). However, there should be many students who are bilingual to some degrees but are not completely balanced bilinguals, and the levels of bilingualism should be taken into consideration. Third, most studies investigated the relationship between bilingualism and cognitive development, but not the cause-effect relations between them. Thus, it is unknown whether bilingualism has effects, if any, on children's cognitive development or cognitively advanced children can become bilingual more easily. In conclusion, taking into account methodological problems that previous research had, Diaz (1985) stated that "the most consistent finding is that bilingual children show an unusually high objective awareness of language (metalinguistic awareness)" (p. 1387). It is not surprising, therefore, that more recent research in the relationship between bilingualism and cognitive development has been concerned with bilingual children and their metalinguistic awareness.

Bialystok (1986) examined bilingual and monolingual children aged 5, 7, and 9 years on their ability to judge the grammaticality of sentences and to correct syntactic errors. She conducted the experiment twice with different subjects. In the first experiment, the bilingual children aged 5, 7, and 9 years were fluent both in English, which was the instructional language at school, and in another language which they used at home with their families. In the second experiment, bilingual children aged 7 and 9 years were native speakers of English who enrolled in a French immersion program in which they are instructed exclusively in French. Children were asked to judge four types of sentences: grammatical (*G*) and meaningful (*M*), ungrammatical (*g*) and meaningful (*M*), grammatical (*G*) and meaningless (*m*), and ungrammatical (*g*) and

¹³ Romaine (1995) points out that there are some variations among the definitions of balanced bilinguals in the literature.

meaningless (*m*). Children were also asked to correct only syntactic errors in the sentences that were ungrammatical and meaningless, and to leave the semantic anomalies as they were. These tasks assessed children's analysis of linguistic knowledge and control of linguistic processing. Analysis of linguistic knowledge is "the skill component responsible for making explicit those representations that had previously been implicit or intuitive" (p. 499) and is needed for the correction task. Control of linguistic processing is "the child's ability intentionally to consider the aspects of language relevant to the solution of a problem" (p. 499) and is needed for the judgment tasks. Bialystok (1986) claimed that, although in general advancement in age was significant for the development of analysis of linguistic knowledge, the effect of bilingualism was significant for the development of control of linguistic processing. However, the results of her study should be interpreted cautiously.

Table 2.2.1 is the combination of TABLE 1 (p. 503) and TABLE 4 (p. 506) from Bialystok (1986) that indicates the data in her Judgment tasks in the two experiments. Children were asked to judge grammaticality of 24 sentences equally representing four judgment types: *GM* (grammatical and meaningful), *gM* (ungrammatical and meaningful), *Gm* (grammatical and meaningless), and *gm* (ungrammatical and meaningless). The lack of data for 5-year-old bilinguals in the second experiment is because there was no French program in the junior kindergarten that the author chose.

Table 2.2.1. *Summary Table of Bialystok's (1986) Two Experiments*

Mean judgment scores out of 6 by age										
Age	Experiment 1 (n=119)					Experiment 2 (n=128)				
	Judgment type				Mean	Judgment type				Mean
	GM	gM	Gm	gm		GM	gM	Gm	gm	
Monolingual:										
5	3.62	2.31	2.15	3.73	2.92	4.42	2.04	1.04	5.11	3.15
7	4.80	1.87	1.17	4.73	3.14	5.44	2.11	1.72	4.44	3.42
9	5.22	2.61	2.06	5.06	3.73	5.69	3.55	2.48	5.03	4.19
Mean	4.55	2.26	1.79	4.50		5.18	2.66	1.78	4.92	
Bilingual:										
5	4.56	1.78	2.67	3.67	3.17					
7	4.50	1.88	2.44	4.38	3.30	5.54	2.00	2.71	3.92	3.54
9	5.30	1.70	2.15	4.80	3.48	5.65	4.16	4.51	4.19	4.63
Mean	4.78	1.79	2.42	4.28		5.60	3.12	3.02	4.40	

First of all, the author did not specify where she selected her samples. In the first experiment, she only mentioned that the subjects were 119 children from two different schools which "were in urban working-class neighborhoods containing large immigrant population" (p. 500). In the second experiment, she said that the subjects were "128 children in a suburban middle-class school . . . [that] contained a French immersion program beginning in senior kindergarten" (p. 505). Second, in the first experiment, the author only mentioned that approximately half of the subjects of each age in each of these schools were bilinguals in English and their mother tongue that varied to the extent that there were 12 language groups. Although she listed those language groups, she did not specify how many subjects there were per language group. Regarding the second experiment, the author did not even give the number of subjects for

each language (monolingual or bilingual), let alone the number of subjects in each age group. For these two reasons, it is unknown to what extent the results of the study can be generalized, and whether the statistical methods the author used are adequate.

There is another problem with this study by Bialystok (1986). The summary table above suggests that the data from her two experiments are different. Although the difference may not be significant, the trends in the two data look different. The author explained the design and procedures of the second experiment as "identical" (p. 505) to those used in the first experiment. Thus, the difference between the data of the two experiments comes from the difference between the two samples used in the experiments. The question remains whether the samples came from the same population. Since the author did not give the information about the samples in detail as seen above, there is nothing to say about the populations. Obviously, the author selected the subjects by *nonprobability sampling* (also called *convenience* or *availability sampling*), which "involves using whatever subjects are available to the researcher" (Schumacher & McMillan, 1993, p. 160). This sampling has a limitation in that the generalizability of the research findings is restricted (Schumacher & McMillan, 1993). Therefore, on the one hand, if the samples of the two experiments came from a larger population, the generalizability of the results of the study is high. At the same time, however, the reliability and, therefore, the validity of this study is low since different results came from the same population through the same procedures. If the samples came from different populations, on the other hand, the reliability and the validity of this study may be higher, but the generalizability of the results of the study is restricted since the author tested different populations through the same procedures and got different results. The generalizability of the results of each experiment would be limited to the characteristics of the subjects in each experiment. Nonetheless, the author combined the results of the two experiments and compared monolingual children and bilingual children in general in terms of their metalinguistic awareness.

Bialystok (1988) investigated the effect of the levels of bilingualism in terms of language proficiency¹⁴, control of processing, and analysis of knowledge. She conducted two experiments with different designs. In the first experiment, she used a between-group design. The subjects were monolingual English-speaking children, partially French-English bilingual children who enrolled in a French immersion program, and balanced French-English bilingual children who enrolled in a French school. All children were in grade 1. The author gave the subjects three tasks. In the first task, *Arbitrariness of language*, the author attempted to examine children's awareness of interchangeability of names by adapting the similar task used in Ianco-Worrall (1972). Bialystok used two pairs of concepts: sun and moon, and dog and cat. After being persuaded to believe that they could call the sun 'the moon' and the moon 'the sun', the subject was asked two questions: "Now suppose that happened and everybody decided to call the sun 'the moon' and the moon 'the sun'. What would you call the thing in the sky when you go to bed at night? [1 point for *sun*] What would the sky look like when you're going to bed? [1 point for *dark*]" (p. 563). Similar questions were asked for the second pair: "Imagine that the names of cats and dogs were changed around. [Child is shown a picture of a cat.] What would this animal's name be? [1 point for *dog*] What sound would it make? [1 point for *meow*]" (p. 562). In the second task, *Concept of word*, the subject was asked to judge if each item from a list of 10

¹⁴ Bialystok (1988) administered "the Peabody Picture Vocabulary Test (PPVT) as a rough measure of relative language proficiency" (P. 562).

words and phrases is a word, and to define a word by answering the questions “What is a word?” “How can you tell if something is a word?” (p. 562) In the third task, *Syntactic corrections*, the child was asked to correct 12 sentences, presented to them orally, each of which contained a grammatical error. The author claimed to find that the partially and balanced bilinguals scored higher than the monolinguals in the sun/moon pair of the *Arbitrariness of language* task, that the balanced bilinguals were better at defining a word in the *Concept of word* task than the monolinguals, and that the balanced bilinguals outperformed the partially bilinguals and the monolinguals in the *Syntax corrections* task.

A cautious interpretation of the results is in order. On the one hand, it is not clear whether the subjects understood well the rationale of the *Arbitrariness of language* task. Did they know that the researcher was only concerned about such nouns as *sun* and *moon*, and *dog* and *cat*? For example, if a subject thinks that, since the names of things are interchangeable, the modifiers or the predicates associated with such names are also interchangeable, and he or she answers *bright* or *bark* to the second question of each pair, should he or she get 0 point for the question? Such a subject who would answer the combination of *sun-bright* or *dog-bark* would have given the same score with another subject who, failing to understand the rationale of the task, would answer the combination of *moon-dark* or *cat-meow*. On the other hand, there is a problem with the test of analysis that the author used in this experiment. When she found a significant difference among the scores of the three groups, she used planned orthogonal comparisons (POC) to show how the scores differ. This POC method is usually used with balanced designs, and “contrasts are rarely purely orthogonal with unbalanced designs” (Glass & Hopkins, 1996, p. 459). However, in the first experiment of the study by Bialystok (1988), the number of subjects were 20 for the monolinguals, 20 for the partially bilinguals, and 17 for the balanced bilinguals. In an unbalanced design, two comparisons are orthogonal if $\sum_j c_{ij}c_{ij}'/n_j = 0$ (where c = contrast coefficients) (Glass & Hopkins, 1996, p. 459) Thus, considering the numbers of the subjects in the first experiment by Bialystok (1988), only the following coefficients shown in Table 2.2.2 can define a complete orthogonal set of comparisons since there are only two mutually orthogonal comparison in a set possible with three groups (Winer, Brown, & Michels, 1991).

Table 2.2.2. *Possible Patterns of Contrast Coefficients in the First Experiment in Bialystok (1988)*

Pattern	Contrast coefficients		
	Monolingual	Partially bilingual	Balanced bilingual
1	1	-1	0
2	- 1/2	- 1/2	1

In other words, in the first experiment of Bialystok (1988), the author should have examined either the difference between the monolinguals and the partially bilinguals or the difference between the balanced bilinguals and the combination of the monolinguals and the partially bilinguals. Then, how did she know, in the analysis of the *Concept of word* task for example, that there was a significant difference among the group, “with the fully bilingual group scoring better than the monolingual group ($p < .05$) and the partially bilingual group differing reliably from either of the these”? (Bialystok, 1988, p. 563) Or did she use a different multiple comparison

method for this analysis and not report it? If so, the author should have reported it clearly. Otherwise, she should not have used the POC method in such an unbalanced design.¹⁵

In the second experiment, Bialystok (1988) used a within-subject design. The subjects were a new group of grade-1 children who were bilingual in English and Italian to varying degrees, and they were assigned to either a high-bilingual group or a low-bilingual group based on Italian proficiency measured by IPPVT, a translation of the PPVT in Italian. The author omitted the cat/dog version of the *Arbitrariness of language* task and the Syntactic corrections task from the tasks used in the first experiment. She added, instead, the grammaticality judgment task used in Bialystok (1986) that reviewed above to the two tasks: the sun/moon version of the *Arbitrariness of language* test and the *Concept of word* task. In the second experiment, Bialystok (1988) found that the high bilingual group outperformed the low bilingual group in all the three tasks. The author concluded that the higher the level of bilingualism, the more advantageous the level of effects bilingualism had on children's development of metalinguistic awareness.

2.2.2.4 Bilingualism and Metalinguistic Development¹⁶

In summary, the belief up to the 1960's that bilingualism had only negative effects on children's "cognitive development", as measured by I.Q., has been challenged. It is now believed that bilingualism has a positive effect on children's "cognitive development" (Bialystok, 1988; Day & Shapson, 1996; Palij & Homel, 1987). As discussed in the second section, the area to which the term "cognitive development" refers is broad and vague. However, as seen in the previous section, the study of bilingualism has only shown that bilingualism has a positive effect on children's metalinguistic awareness, which is a kind of "cognitive development". And yet such an effect may not be significant and may not be applicable to some bilingual children. Palij and Homel (1987) pertinently summarized the research in bilingualism and cognitive development:

What can we conclude about the relationship between bilingualism and cognitive development? This much seems to be clear: Bilingualism does not seem to have any major detrimental cognitive consequences in and of itself. There is evidence for the assertion that bilingualism may have some beneficial cognitive consequences in the form of enhanced language awareness and greater flexibility in its usage. Nonetheless, the magnitude of such benefits should not be overemphasized until we have more detailed information on its nature. (Palij & Homel, 1987, p. 146)

Cummins (1987) introduced the term "metalinguistic development", by which he meant "both the development of children's awareness of certain properties of language and their ability to analyze linguistic input, i.e., to make the language forms the objects of focal attention and to look at language rather than through it to the intended meaning" (p. 57). With Cummins' terminology,

¹⁵ According to N. Kishor (personal communication, October 24, 1997), if the difference among *ns* is within two points, the POC method in an unbalanced design might not be a big problem.

¹⁶ In general, "metalinguistics concerns the linguistic activity bearing on language (i.e. language about language) for the linguist, and cognitive activity bearing on language (cognition about language) for the psychologist." (Gombert, 1993, p. 572) Thus, psychologists might try to link the term *metalinguistic development* to metacognitive development. However, the present study takes the linguist's view and, therefore, the term metalinguistic is used as an adjective form of the term metalanguage (Lyons, 1977).

the relationship between bilingualism and “cognitive development” can be restated more precisely as that bilingualism may have a positive effect on children’s metalinguistic development.

Since “metalinguistic development” is in the relationship of hyponymy¹⁷ with “cognitive development”, that is, the former is a kind of the latter, “metalinguistic development” implies “cognitive development”. However, due to the “unilateral implication” (Lyons, 1977, p. 292) of hyponymy, it is not true that “cognitive development” implies “metalinguistic development”. “Cognitive development” denotes more concepts, “virtually *all* human psychological processes and activities” (Flavell, Miller, & Miller, 1993, p. 2), as seen in the second section. Thus, when hearing the term “cognitive development”, some may think of any development of “knowledge, consciousness, intelligence, thinking, imagining, creating, generating plans and strategies, reasoning, inferring, problem solving, conceptualizing, classifying and relating, symbolizing, and perhaps fantasizing and dreaming” (Flavell, Miller, & Miller, 1993, p. 2), for example. Others may think that the term “cognitive development” refers to the development of all the aspects in cognition. In sum, it is misleading to say that bilingualism has a positive effect on children’s “cognitive development”. It should be kept in mind that the research in bilingualism has only shown that bilingualism may have a positive effect on children’s metalinguistic development, and that the size of such a positive effect is far from clear. The study of the relation between bilingualism and cognitive development requires further research to examine to what extent bilingualism is advantageous on children’s metalinguistic development, and to investigate if bilingualism has some effects on other aspects of cognitive development than metalinguistic development.

2.2.3 *Summary of the Section*

This section addressed the relevance of the development of pragmatic and metapragmatic knowledge to academic achievement and considered the relationship between metalinguistic development in general and bilingualism.

¹⁷ *Hyponymy* is “the relation which holds between a more specific, or subordinate, lexeme and a more general, or superordinate, lexeme” (Lyons, 1977, p. 291).

Chapter 3

Bilingual Children's Metapragmatic Knowledge: Research Questions

The primary aims of this study were to examine the developmental aspects of children's metapragmatic knowledge of two aspects of pragmatic use of language: indirect request and irony and to examine the relationship between the intensity of children's exposure to L2 and the development of children's metapragmatic knowledge. This chapter justifies the study and formulates the research questions.

3.1 *Rationale for the Study*

Although children's understanding of indirect requests has been studied by comparing their understanding of direct request, not much attention has been paid to how children detect the difference between an indirect question and a question when they have the same grammatical form. In other words, how do children understand different functions of language when forms of language are the same as well as when they are different? One part of this study assessing metapragmatic knowledge investigated children's understanding of a request according to the type of request. In the field of irony studies, emphasis has been placed on how children misunderstand irony, rather than the way children attribute the speaker's communicative intent and the hearer's interpretation when they do or do not understand irony. Many studies have dealt with the case in which the hearer misses the point and, therefore, does not recognize the speaker's intention (Ackerman, 1981b, 1983; Demorest, Meyer, Phelps, Gardner, & Winner, 1984; Demorest, Silberstein, Gardner, & Winner, 1983; Gibbs, 1986; Winner, Windmueller, Rosenblatt, Bosco, & Best, 1987). In such a case, the irony misfires. How do children understand apparently false utterances when the speaker's intent and the hearer's belief are consistent as well as when they are inconsistent? The other part of this study assessing metapragmatic knowledge investigated children's understanding of irony according to the extent to which the speaker's belief is consistent with the hearer's.

As reviewed in chapter two, if bilingualism has a positive effect on children's metalinguistic development, it is worth investigating the relationship between children's metapragmatic knowledge and bilingualism. Cummins (1978) proposed the developmental interdependence hypothesis in strong bilinguals. Cummins and Swain (1986) stated this interdependence hypothesis formally in the following: "*To the extent that instruction in L_x [Language X] is effective in promoting proficiency in L_x, transfer of this proficiency to L_y [Language Y] will occur provided there is adequate exposure to L_y (either in school or environment) and adequate motivation to learn L_y*" (p. 87). According to this hypothesis, the academic skills in L1 and L2 are manifestations of a common underlying proficiency. Thus, even if children are educated in L2, for example, children's common underlying proficiency will be enhanced in the way that it can promote children's L2 proficiency at no cost to the development of L1 proficiency. The common underlying proficiency involves "cognitively demanding communicative tasks" (Cummins & Swain, 1986, p. 82). Given the definition of metapragmatic knowledge, it could well be the case that metapragmatic knowledge forms one aspect of bilingual speakers' common underlying proficiency.

Although the study of bilingualism has shown that bilingualism has a positive effect on children's metalinguistic awareness, such an effect may not be significant and may not be applicable to some bilingual children. Lambert (1975) introduced the distinction between

additive bilingualism and subtractive bilingualism. *Additive bilingualism* is achieved by children whose L1 is the majority language and in no danger of replacement by L2, whereas *subtractive bilingualism* results from the situation in which children's L1 is a minority language and is being replaced by L2, which is the majority language (Cummins, 1984). If bilingualism has a positive effect, if any, on children's metapragmatic knowledge, it is very likely to occur under additive bilingualism. Canadian French immersion programs provided to Anglophone Canadian children, which have been successful in Canada (Edwards, 1994; Romaine, 1995), are a good example of additive bilingualism (Swain & Lapkin, 1991). Can metapragmatic knowledge be enhanced by increasing exposure to L2 under additive bilingualism? This study examined the relationship between the intensity of children's exposure to L2 in a French immersion program provided to Anglophone Canadian children and the enhancement of children's metapragmatic knowledge.

The two primary aims, to examine the developmental aspects of children's metapragmatic knowledge and to examine the relationship between the intensity of children's exposure to L2 and the enhancement of children's metapragmatic knowledge, were followed by a secondary research question. How do children acquire and develop metapragmatic knowledge with age? In the field of developmental pragmatics, children's development of pragmatic and metapragmatic knowledge has been studied by cross-sectional analyses. However, it would be preferred to follow the same participants as they get older for a study of developmental pragmatics so that individual differences among the participants may be easier to control (Pedhazur, 1997). By adopting a longitudinal design, this study addressed the developmental aspects of children's metapragmatic knowledge with the same participants.

The study forms part of an ongoing, larger study, "L'Ecole Jules Quesnel 80% Intermediate French Provision Study", funded by UBC and Vancouver School Board (VSB). It assesses the effect of maintaining French language instruction at an 80% level and English at 20% of core academic instruction through the intermediate school years (grades 4-7) compared to the traditional 50% French, 50% English program model. The scope of the assessment includes French and English literate proficiencies (reading and writing), French oral proficiency, mathematics achievement, students' self assessments of their French and English proficiency, and students' attitudes toward using the two languages. Children's metapragmatic knowledge that the study examined will be tested in the larger study against Cummins' Interdependence Hypothesis (Cummins, 1978; Cummins & Swain, 1986). More specifically, the larger study investigates if metapragmatic knowledge can be a common underlying proficiency which functions as an explanatory mechanism to enhance L1 and L2 proficiencies.

3.2 Research Questions

Research questions to be addressed in this study are:

1. Do levels of children's understanding of a request vary according to the type of request?
2. Do levels of children's understanding of irony vary according to the extent to which the speaker's belief is consistent with the hearer's?
3. Does children's metapragmatic knowledge vary according to the intensity of children's exposure to a second language?
4. Does children's metapragmatic knowledge develop with age?

Chapter 4 Method

This chapter presents in detail the description of the method and the procedures used in the present study.

4.1 *Participants*

A longitudinal, two-cohort quasi-experimental design was used in the study. The participants were 78 pupils (42 fifth graders and 36 sixth graders at the outset from a French Immersion program in an elementary school in a predominantly English-speaking area of Vancouver, Canada. They were from "a predominantly middle- to upper middle- socioeconomic class community characterized by higher than average income and parental educational levels" (Reeder, Buntain, & Takakuwa, 1999, p. 54). Elementary French Immersion programs in this school district have traditionally taught all academic areas in L2 (French) as a language of instruction from grades K-3. English Language Arts is then introduced as a subject at grade 4 and is taught until grade 7. Mathematics has also been taught in English. This is the traditional 50% French model in which about the half of the curriculum is delivered in French and the other half in English. The school participating in the study decided to boost the 50% proportion of French to approximately 80% of the academic core subject time from grades 4-7. This was done by teaching Mathematics in French. This is the 80% French model. The larger study, "L'Ecole Jules Quesnel 80% Intermediate French Provision Study", of which the present study forms one part, assesses the effect of maintaining French language instruction at an 80% level and English at 20% of core academic instruction through the intermediate school years (grades 4-7) compared to the traditional 50% French and 50% English program model.

The younger group followed the 80% French, 20% English language program, while the older group followed the 50% French, 50% English program. The younger group are the students who had received 80% of the curriculum in French and 20% in English since September 1995 when they entered grade 4. They were in Grade 5 in 1996-1997. The older group were in Grade 6 in 1996-1997. The younger group of students were tracked for a three year period and the older group for a two year period to the end of their elementary school experience. While the larger study has been following the two cohorts from September 1995, the present study follows the cohorts from when they were in Grade 5 and 6, respectively (see Table 4.6.1). In the present study, the younger group, who followed the 80% French, 20% English language program, will be referred to as the 80% group, and the older group, who followed the 50% French, 50% English program, will be referred to as the 50 % group.

4.2 *Materials*

The measure of metapragmatic knowledge consisted of two assessments: (a) children's understanding of direct and indirect requests, and (b) children's understanding of irony. In each, four brief audio-recorded stories involving an interaction between two people were presented with pictures. This material was developed by using Macintosh's HyperCard program. Each story had four versions. In assessment (a), each story ended with a final remark indicating that it was (1) a direct request, (2) an indirect question, (3) a question, or (4) a hint. In assessment (b), each story ended with a final remark indicating that it was (1) sincere, (2) ironical but misfiring, (3) deceptive, or (4) ironical. In each assessment, four stories with the four versions each were

created (see Appendices A and B¹⁸). This material had been successfully piloted with adult native English speakers. The assessments were conducted in the participants' L1 so that the assessments would not directly reflect the participants' L2 proficiency.

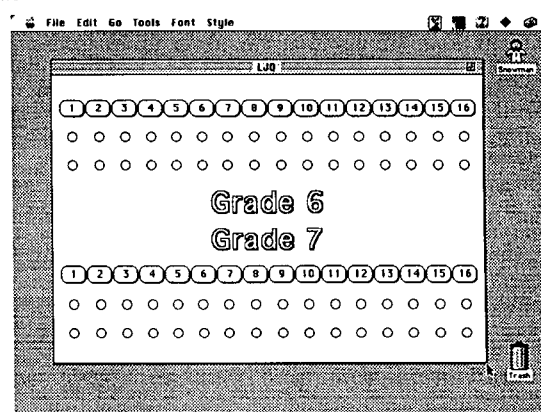
4.3 Procedure

Participants were individually tested in a quiet room at the school. Sitting in front of a Macintosh desktop computer, they were asked to click one of 32 buttons on the HyperCard stack (see Figure 4.3.1). The 32 buttons consisted of two sets of 16 buttons. The two sets were the same except that the order of stories in one set is in reverse to the other. Identical 32 buttons were available for both 80% group and 50% group at the beginning. The buttons were made so that each participant listened to no more than one version from each story. After all the 32 buttons were selected, another 16 buttons were introduced for each group so that all the participants might be accommodated. These 16 buttons were created by choosing 8 buttons from each of the original two sets of 16 buttons. The participant tested on and after the 33rd of each group were asked to click one of these additional 16 buttons in total.

According to the versions and their order specified by a button, participants listened to eight short stories (four versions from the irony part followed by four versions from the request part). After each story, participants were asked a set of questions during a brief clinical interview to probe participants' attributions of the speaker's communicative intent and hearer's interpretation, and participants' understanding of the source of their attributions. A session with a participant took about 20 to 30 minutes.

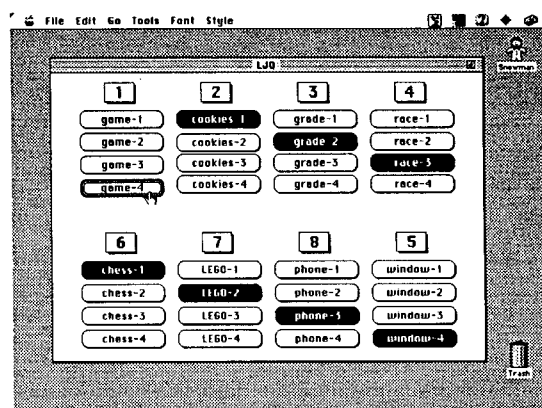
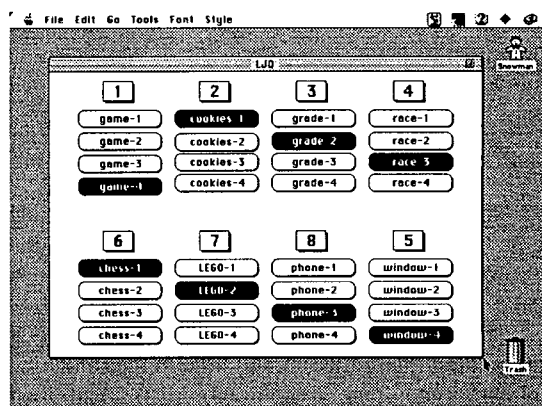
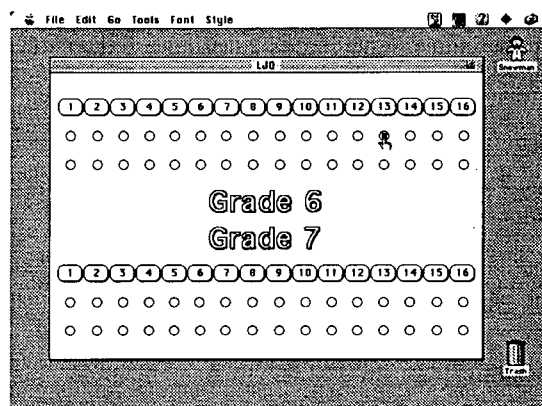
Figure 4.3.1. Task Administration with Sample Story ("Ironical" in the Irony Assessment)

1. A participant is sitting in front of a computer.

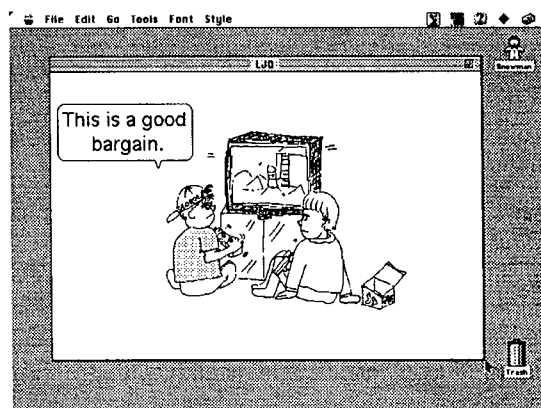
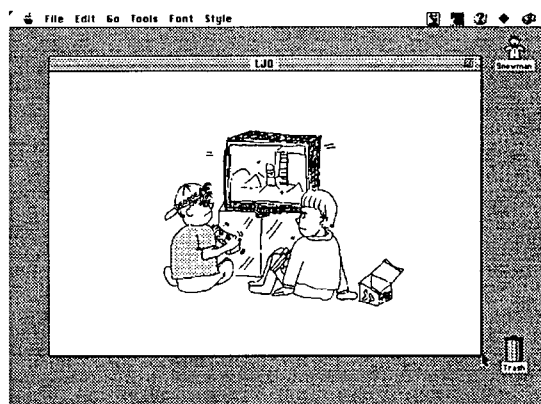
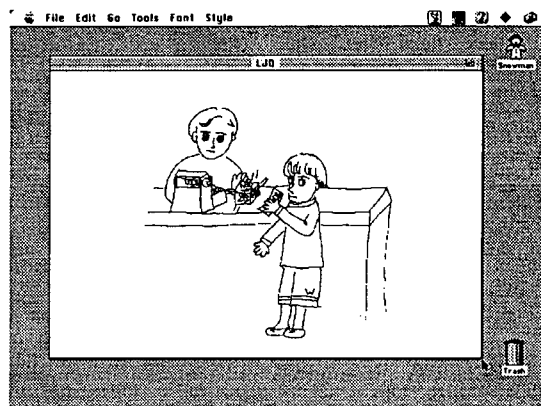


¹⁸ To date, there has been no agreed transcription convention proposed. Each researcher may interpret marking of stress and intonation in their own way. To avoid this misinterpretation, transcriptions of the stimulus items will not be provided. Instead, the original HyperCard stack used in the present study will be available upon request.

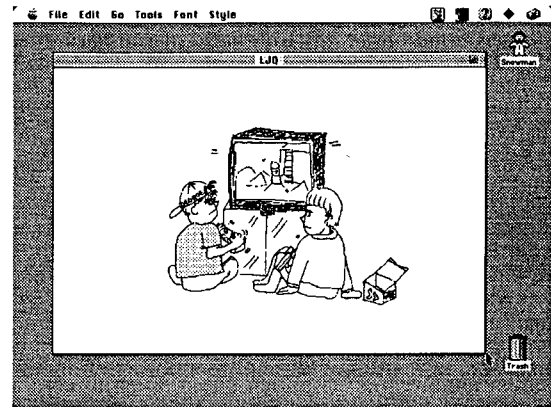
2. The participant is asked to choose one out of 32 buttons that is still available, and clicks it.
3. According to the button chosen, the HyperCard stack shows which eight versions of the stories the participant will hear by blackening them. The numbers in rectangles indicate in what order those versions are to be played. These versions and numbers are programmed in advance.
4. The participant clicks the first version, in this case, version four of the story *game*.



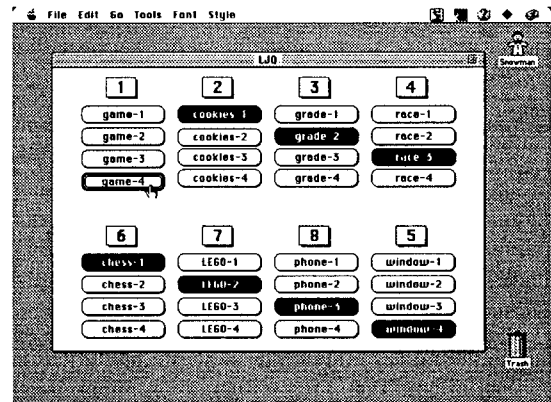
5. The narration begins: *William likes playing video games. One day, William bought an expensive video game. He bought it at the regular price at the toy store. William invited George home.*
6. The scene changes seamlessly, and the narration continues: *They played the game together. William found it very boring. William regretted buying the game. George found the game very boring, too. George knew that the game was bought at the regular price. George said to William,*
7. The final utterance is inserted in script, and simultaneously uttered verbally: *"This is a good bargain."* (with sarcastic intonation)



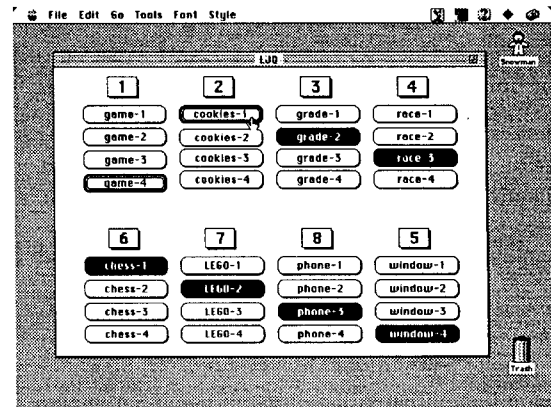
8. The narration stops and the script goes off. While looking at this scene, the participant is asked several questions in an interview.



9. Once the interview is completed, the participant is asked to click a hidden button to go back to this card.



10. The participant clicks the next version, in this case, the version one of the story *cookies*. This procedure is repeated until all the eight versions are played.



A total of eleven questions per version of the stories were asked during the brief clinical interview. The first question (Question 1) and the last question (Question 11) were asked only to make sure that the participant's attention was not diverted from the task. To answer Question 1, the participant had only to explain a story very briefly. As long as the explained plot was consistent with the story, the interview went on. To answer Question 11, the participant had only to say what they would do if they were the hearer in the story. As long as the response was relevant to the situation described in the story, it was assumed that the participant's attention was not diverted.

4.4 Scoring

By adapting the procedures used in Demorest *et al.* (1984), three alternative questions (Questions 2, 4, and 6) were formulated to determine children's understanding of each story (see Table 4.4.1).

Table 4.4.1. *Categories and Forms of Questions*

Request	Irony
<Grammatical form> Did <i>S</i> order <i>H</i> to do <i>X</i> ?	<Hearer's belief> Did <i>H</i> believe <i>P</i> or NOT <i>P</i> ?
<Grammatical form> Did <i>S</i> ask if <i>H</i> could do <i>X</i> ?	<Speaker's belief> Did <i>S</i> believe <i>P</i> or NOT <i>P</i> ?
<Speaker's intent> Did <i>S</i> want <i>H</i> to do <i>X</i> ?	<Speaker's intent> Did <i>S</i> want <i>H</i> to believe <i>P</i> or NOT <i>P</i> ?

The combinations of responses and their corresponding interpretations are summarized in Table 4.4.2 and Table 4.4.3.

Table 4.4.2. *Request Types and Combination of Responses*

Grammatical form	Grammatical form	Speaker's intent	Request Types
<i>S</i> ordered <i>H</i> to do <i>X</i>	<i>S</i> asked if <i>H</i> could do <i>X</i>	<i>S</i> wanted <i>H</i> to do <i>X</i>	
Yes	No	Yes	Direct Request
No	Yes	Yes	Indirect Question
No	Yes	No	Question
No	No	Yes	Hint

Table 4.4.3. *Utterance Types and Combination of Responses*

Hearer's belief	Speaker's belief	Speaker's intent	Utterance Types
<i>H</i> believed	<i>S</i> believed	<i>S</i> wanted <i>H</i> to believe	
<i>P</i>	<i>P</i>	<i>P</i>	Sincere
<i>P</i>	NOT <i>P</i>	NOT <i>P</i>	Ironical but misfiring
NOT <i>P</i>	NOT <i>P</i>	<i>P</i>	Deceptive
NOT <i>P</i>	NOT <i>P</i>	NOT <i>P</i>	Ironical

For each question, 1 point was given to the participant who chose the more appropriate answer. The participant who gave the opposite answer got 0 point (Table 4.4.4).

Table 4.4.4. *Sample Questions and Responses ("Ironical")*

Questions	Sample Responses	
	Pupil A	Pupil B
<Hearer's belief>		
Did William think that the purchase was good or bad?	✓"Bad"	✓"Bad"
<Speaker's belief>		
Did George think that the purchase was good or bad?	✓"Bad"	✓"Bad"
<Speaker's intent>		
Did George want William to think that the purchase was good or bad?	✓"Bad"	"Good"

Each of the three critical questions was followed by a question "How do you know that?" (Questions 3 and 5) or "How can you tell that?" (Question 7) that assessed the kind of attribution basis the participants employed to answer the critical questions. Participants' answers to these attribution basis questions were rated for sophistication. Although a multiple point scale could have been used for this rating (e.g., Reeder & Shapiro, 1997), a dichotomous rating was employed. The reason for this is twofold. On the one hand, most of the answers provided by the participants were too short to be reliably rated on a multiple point scale. On the other, it was very difficult to determine if some kind of attribution source is more sophisticated than another. It was uncertain whether a contextual clue in the story ("Well, he also found it kind of boring."), for example, is more sophisticated than an intonational clue ("Because he said sarcastically that it was a good bargain."). Thus, the participants' answers were rated dichotomously in the way that they were scored 0 if uninformative ("Because he said so.") and scored 1 otherwise. This rating was done by two raters, the author and a research assistant hired by the author.

With the three alternative questions (Questions 2, 4, and 6) followed by another three attribution questions (Questions 3, 5, and 7) for each request type or utterance type, the participant could get a maximum of 6 points per story in their metapragmatic knowledge assessments. Those scores were summed across the types.

4.5 Coding

To examine perlocutionary acts in requests and ironical utterances, another alternative question (Question 8) was asked (see Table 4.5.1). As Austin (1975) noted, perlocutionary effects may be intended or unintended. The kinds of perlocutionary effects that occur depend on the hearer. The perlocutionary effects that the speaker expected to occur may not necessarily be the same as the ones that occur in reality to the hearer. To make a distinction between the two types of perlocutionary effects, the former are sometimes referred to as perlocutionary objectives (Hickey, 1992), perlocutionary purpose (Davis, 1979), or expected perlocutionary effect (Dore, 1977). This question is based on the perlocutionary objectives. That is, this question is used to examine the perlocutionary effects that the speaker expected to occur on the hearer.

Table 4.5.1. *Forms of Questions for the Examination of Perlocutionary Effects*

Request	Irony
Do you think <i>H</i> will do <i>X</i> ?	Do you think <i>H</i> is glad to hear <i>S</i> 's comment?

In requests, perlocutionary objectives are straightforward. By saying something, the speaker intends to get the hearer to do *X*. Perlocutionary objectives in ironical utterances are to

cause offence (Leech, 1983) to some extent and, therefore, a different form of question such as *Do you think H gets offended to hear S's comment?* could have been used. However, because the word *offended* would have provided the participants with a clue that some utterances are ironical, such a form was avoided. Thus, the state of not being happy was used as an approximation to that of being offended.

This alternative question for perlocutionary effects (Question 8) was immediately followed by another probe question (Question 9) "Why do you think *H* will (or will not) do *X*?" in the request assessment and "Why do you think *H* is glad (or not glad)?" in the irony assessment. This question assessed the kind of attribution basis the participants employed to answer the alternative question for perlocutionary effects. These two questions regarding perlocutionary effects were not rated because perlocutionary acts are not part of understanding itself (Clark, 1996). Perlocutionary effects can take various forms and which form to take depends on how the hearer considers them. Therefore, whether the hearer grants the perlocutionary objectives by the speaker is not the kind of thing that is subject to rating. Accordingly participants' answers to Question 8 were only summarized descriptively, and those to Question 9 were coded. This coding was done by two coders, the author and the research assistant hired by the author.

To examine the speaker intention, another probe question (Question 10) was asked. This question was "What was *S* trying to say?" in the request assessment and "Why do you think *S* made the comment to *H*?" in the irony assessment. This question assessed the kind of attribution basis the participants employed to infer the speaker intention. Participants' answers to Question 10 were also coded by two coders, the author and the research assistant hired by the author.

4.6 Design

This study employs a three-year longitudinal, two-cohort quasi-experimental design so that between-group comparisons and within-group comparisons may be possible in each assessment of metapragmatic knowledge. For the between-group comparisons, one year must elapse to permit same-grade comparisons. This research design is summarized in Table 4.6.1.

Table 4.6.1. *Research Design and Sampling Schedule*

	Grade 5								Grade 6								Grade 7							
	(a) Request				(b) Irony				(a) Request				(b) Irony				(a) Request				(b) Irony			
	Version				Version				Version				Version				Version				Version			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
80% group Grade 5, 1996-1997 n=42	Data collected in May-June 1997 YEAR I								Data collected in May-June 1998 YEAR II								Data collected in May-June 1999 YEAR III							
50% group Grade 6, 1996-1997 n=36	N/A								Data collected in May-June 1997 YEAR I								Data collected in May-June 1998 YEAR II							

4.7 Summary of the Chapter

This chapter presented in detail the description of the method and the procedures used in the present study.

Chapter 5

Children's Comprehension of Nonliteral Use of Language

This chapter presents the results of the quantitative part of the analysis in which children's understanding of nonliteral use of language was assessed. This assessment involved the scores from children's comprehension of request and irony and the degree of sophistication in their attribution responses. Participants were asked to listen to a short story, and then, during a brief clinical interview, asked to respond to three alternative questions (see Table 4.4.1) each of which was followed by a further question to probe their attributions. The participants' responses were rated dichotomously for sophistication by two raters (Section 4.4). The percentages of agreement between the raters ranged from 86% to 94% through the questions, with disagreements resolved by discussion.

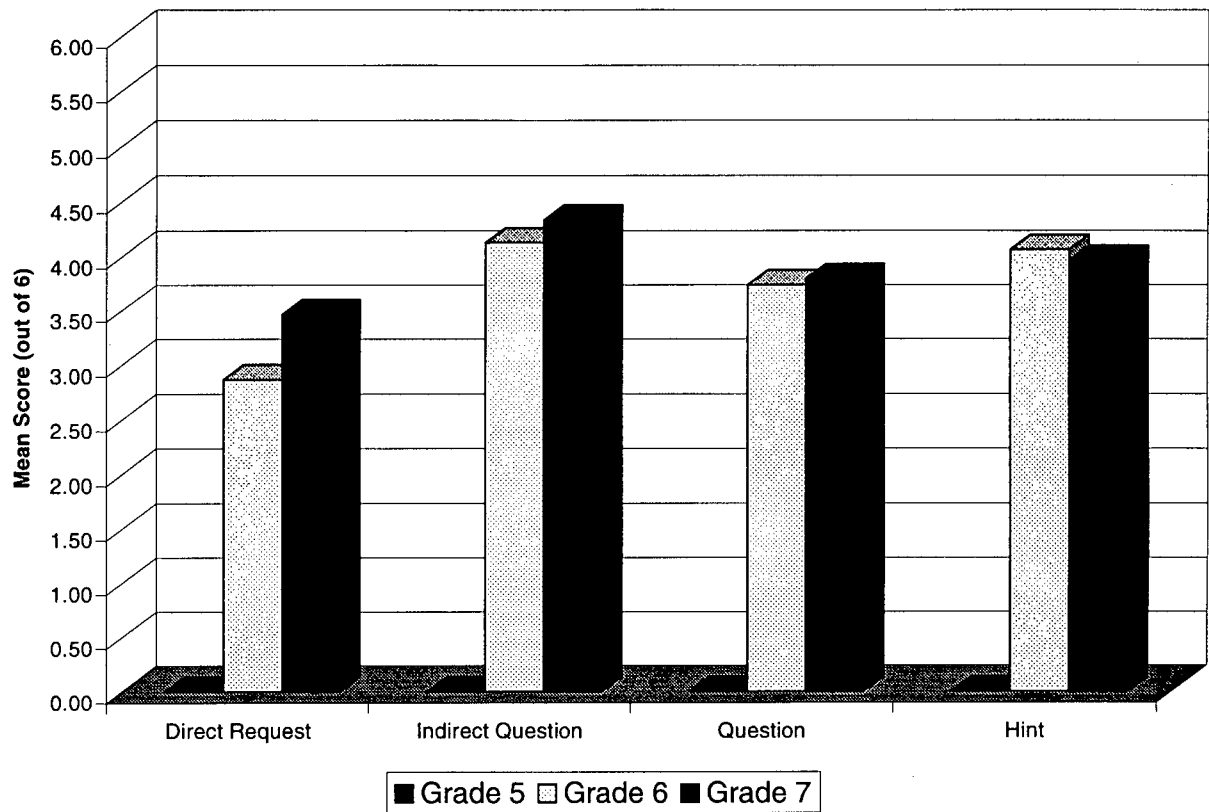
5.1 Results for the Comprehension of Requests

The participants responded to the three alternative questions per story. The questions were, "Did *S* order *H* to do *X*?", "Did *S* ask if *H* could do *X*?", and "Did *S* want *H* to do *X*?" (see Table 4.4.1). The participants' responses to the three questions were scored according to the scheme shown in Table 4.4.2. For each question, 1 point was given to the participant who chose the more appropriate answer. The participant who gave the opposite answer scored 0. The participants' responses to the attribution probe questions were rated in terms of sophistication. The participants' responses were scored 0 if uninformative ("Because he said so.") and scored 1 otherwise (see Section 4.4). Thus, with the three alternative questions and another three attribution probe questions for each request type, the participant could get a maximum of 6 points per story. The results for the 50% group are summarized in Table 5.1.1. They are also graphically represented in Figure 5.1.1 so that they may be easier to grasp.

Table 5.1.1. *Summary of Comprehension Scores by Request Type (50% group)*

50%		Direct Request	Indirect Question	Question	Hint
<i>N</i>					
Grade 6		31			
	<i>M</i>	2.87	4.13	3.74	4.06
	<i>SD</i>	1.16	1.10	1.27	1.34
Grade 7		30			
	<i>M</i>	3.47	4.33	3.80	3.97
	<i>SD</i>	1.52	1.04	1.56	1.33

Figure 5.1.1. Comprehension Scores by Request Type (50% group)



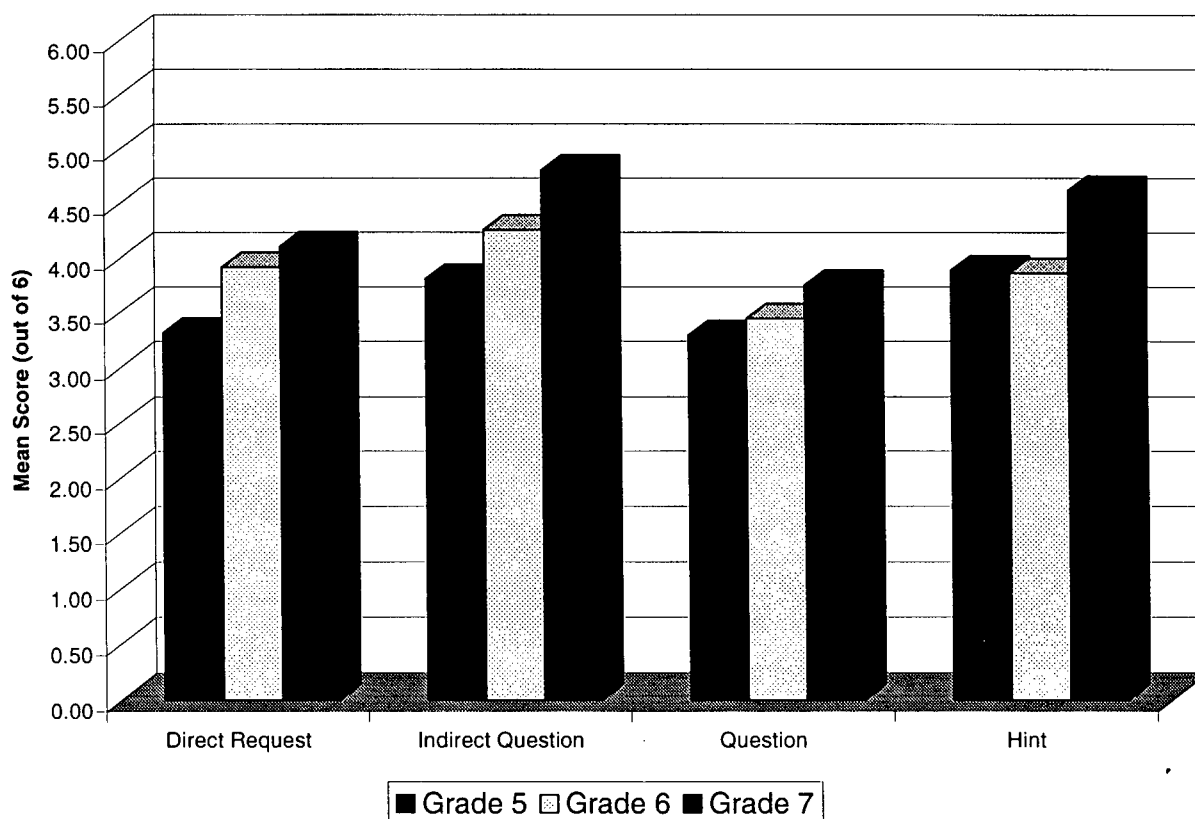
In grade 6, the 50% group comprehended Indirect Questions best, followed by Hints and Questions. Direct Requests were the most difficult to comprehend. In grade 7, the 50% group comprehended Indirect Questions best, followed by Hints and Questions. Although Direct Questions were still the most difficult to comprehend, the 50% group's comprehension scores improved. In sum, for the 50% group, Indirect Questions were the easiest to comprehend, followed by Hints and, then, Questions. Direct Requests were the most difficult to comprehend. Developmentally the 50% group's comprehension improved on Direct Requests and Indirect Questions but not much on Questions. Their comprehension did not improve on Hints.

The results for the 80% group are summarized in Table 5.1.2. They are also graphically represented in Figure 5.1.2 so that they may be easier to grasp.

Table 5.1.2. Summary of Comprehension Scores by Request Type (80% group)

80%			Direct Request	Indirect Question	Question	Hint
		<i>N</i>				
Grade 5		38				
	<i>M</i>		3.32	3.82	3.29	3.89
	<i>SD</i>		1.32	1.17	1.19	1.05
Grade 6		38				
	<i>M</i>		3.92	4.26	3.45	3.87
	<i>SD</i>		1.64	1.04	1.50	1.34
Grade 7		37				
	<i>M</i>		4.11	4.81	3.76	4.62
	<i>SD</i>		1.39	1.04	1.10	1.10

Figure 5.1.2. Comprehension Scores by Request Type (80% group)



In grade 5, the 80% group comprehended Indirect Questions and Hints better than Direct Requests and Questions. In grade 6, the 80% group comprehended Indirect Questions best, followed by Direct Requests and Hints. Questions were the most difficult to comprehend. In grade 7, the 80% group comprehended Indirect Questions best, followed by Hints and Direct

Requests. Questions were still the most difficult to comprehend. In sum, the 80% groups' comprehension became developmentally better in general. The only exception to this was that their comprehension of Hints did not improve from grade 5 to grade 6. In addition, although the comprehension scores of Hints were marginally higher than those of Indirect Questions in grade 5, it is fair to say that overall the 80% group's comprehension was the best at Indirect Questions. Questions were always the most difficult to comprehend. The other two types fell somewhere between Indirect Questions and Questions in terms of the degree of difficulty to comprehend.

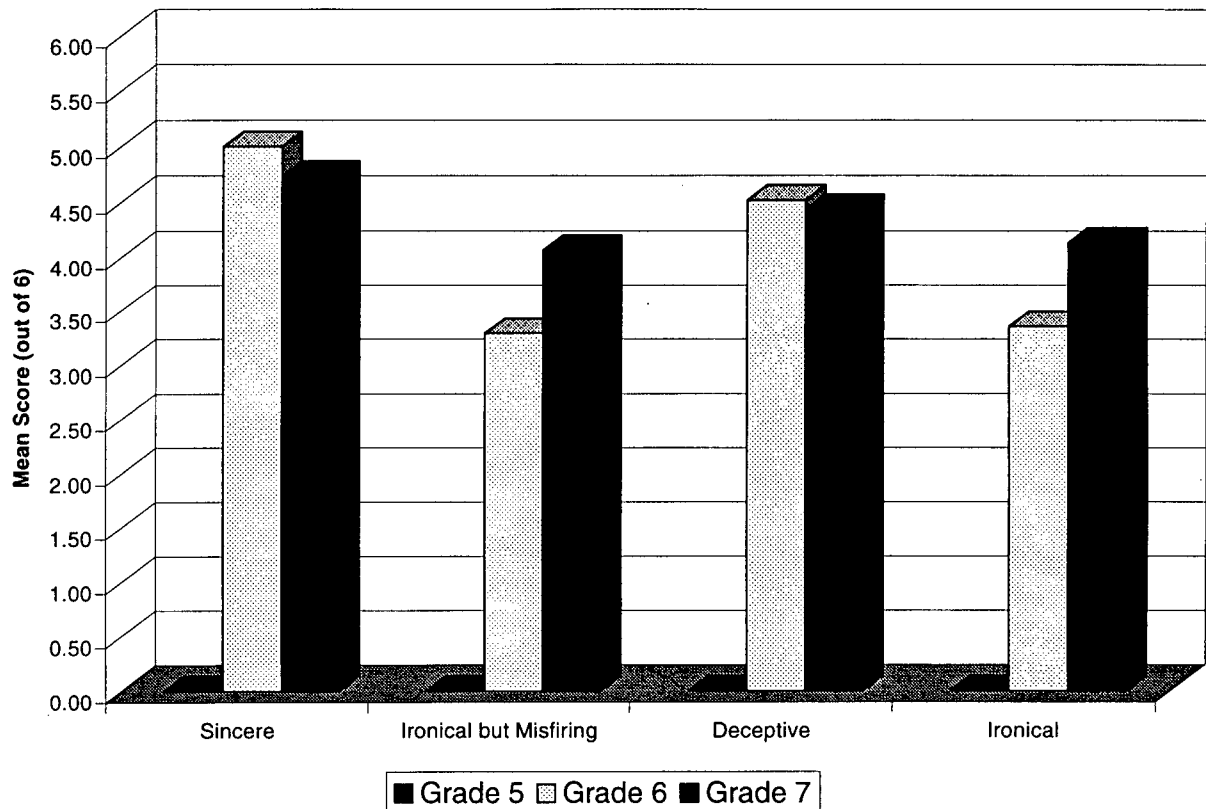
5.2 Results for the Comprehension of Irony

The participants responded to the three alternative questions per story. The questions were, "Did *H* believe *P* or NOT *P*?", "Did *S* believe *P* or NOT *P*?", and "Did *S* want *H* to believe *P* or NOT *P*?" (see Table 4.4.1). The participants' responses to the three questions were scored according to the scheme shown in Table 4.4.3. For each question, 1 point was given to the participant who chose the more appropriate answer. The participant who gave the opposite answer got 0 point. The participants' responses to the attribution probe questions were rated in terms of sophistication. The participants' responses were scored 0 if uninformative ("Because he said so.") and scored 1 otherwise (see Section 4.4). Thus, with the three alternative questions and another three attribution probe questions for each request type, the participant could get a maximum of 6 points per story. The results for the 50% group are summarized in Table 5.2.1. They are also graphically represented in Figure 5.2.1 so that they may be easier to grasp.

Table 5.2.1. *Summary of Irony Comprehension Scores by Utterance Type (50% group)*

50%			Sincere	Ironical but Misfiring	Deceptive	Ironical
		<i>N</i>				
Grade 6		31				
	<i>M</i>		5.00	3.29	4.52	3.35
	<i>SD</i>		0.92	1.22	1.16	1.51
		30				
Grade 7						
	<i>M</i>		4.73	4.07	4.43	4.13
	<i>SD</i>		1.00	1.21	1.17	1.12

Figure 5.2.1. Irony Comprehension Scores by Utterance Type (50% group)



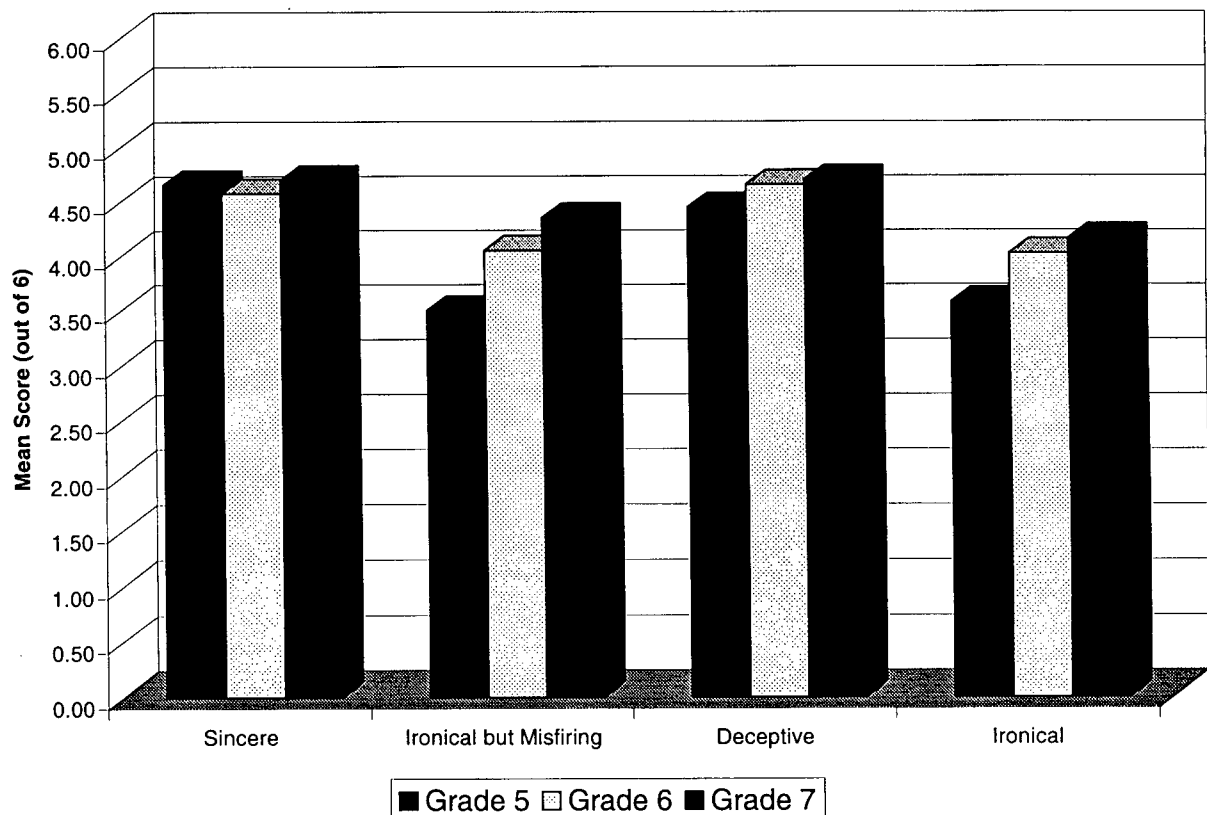
In grade 6, the 50% group comprehended Sincere utterances best, followed by Deceptive utterances. Compared to these two types, Ironical but Misfiring utterances and Ironical utterances were more difficult to comprehend. In grade 7, the 50% group comprehended Sincere utterances best, followed by Deceptive utterances. However, from the developmental point of view, the difference between these two types and the other two types, Ironical but Misfiring utterances and Ironical utterances, became smaller. For the 50% group's comprehension slightly went down on Sincere utterances and Deceptive utterances whereas it became better on Ironical but Misfiring utterances and Ironical utterances.

The results for the 80% group are summarized in Table 5.2.2. They are also graphically represented in Figure 5.2.2 so that they may be easier to grasp.

Table 5.2.2. Summary of Irony Comprehension Scores by Utterance Type (80% group)

80%			Sincere	Ironical but Misfiring	Deceptive	Ironical
		<i>N</i>				
Grade 5		38				
	<i>M</i>		4.66	3.50	4.45	3.58
	<i>SD</i>		0.93	1.12	1.04	1.39
Grade 6		38				
	<i>M</i>		4.58	4.05	4.66	4.03
	<i>SD</i>		0.88	1.32	0.95	0.90
Grade 7		37				
	<i>M</i>		4.70	4.35	4.70	4.16
	<i>SD</i>		0.83	1.32	0.98	1.05

Figure 5.2.2. Irony Comprehension Scores by Utterance Type (80% group)



In grade 5, the 80% group comprehended Sincere utterances best, followed by Deceptive utterances. Compared to these two types, Ironical but Misfiring utterances and Ironical utterances were more difficult to comprehend. In grade 6, the 80% group comprehended Deceptive utterances best, followed by Sincere utterances. Ironical but Misfiring utterances and Ironical

utterances were more difficult to comprehend, but they did not differ from the other two types in terms of comprehension scores as much as they did in the previous year. In grade 7, the 80% group comprehended Sincere utterances as well as Deceptive utterances, better than the other two types. However, the differences among the types became even smaller. From the developmental point of view, the 80% group's comprehension did not improve much on Sincere utterances and Deceptive utterances, but improved on Ironical but Misfiring utterances and Ironical utterances. However, the difference between grades 5 and 6 was larger than that between grades 6 and 7.

5.3 Results of the Relationship between L2 Intensity and Comprehension of Request

To examine the relationship between L2 intensity and comprehension of requests, a total score of request comprehension was calculated by summing the scores across the request types. The descriptive summary of the total scores is presented in Table 5.3.1.

Table 5.3.1. *Summary of Total Request Comprehension Scores*

		50% Group	80% Group
Grade 5	<i>N</i>		38
	<i>M</i>	N/A	14.32
	<i>SD</i>		2.90
Grade 6	<i>N</i>	31	38
	<i>M</i>	14.81	15.50
	<i>SD</i>	3.32	3.12
Grade 7	<i>N</i>	30	37
	<i>M</i>	15.57	17.30
	<i>SD</i>	3.20	2.79

As a quasi-experimental design, the present study employed two intact groups. It is true that the comparison of the two groups in the present study was much less problematic than that in the literature because the groups were selected from a single school and relatively homogeneous (Reeder *et al.*, 1999). Many studies have employed much more heterogeneous groups for between-group comparison such as a French Immersion program and an English regular program in which adjusting for the initial group differences is virtually impossible (Carey, 1991; Reynolds, 1991). However, the two groups in the present study were still nonequivalent in the sense that bias will always result from the lack of randomization. Thus, without trying to reduce such bias, any between-group analysis would confound the intensity effect with any initial group difference.

In such circumstances, a matching procedure by which two or more groups are matched on some variables has been preferred in the literature. However, a matching procedure reduces the initial differences of the groups only if matched subjects are randomly assigned to treatment and control groups (Glass & Hopkins, 1996). Using a matching procedure alone does not reduce the initial differences but rather creates further problems because the selected variables on which to match subjects are not necessarily appropriate or important (Borg & Gall, 1989; Rosenthal & Rosnow, 1991). Instead, statistical control by means of analysis of covariance was chosen to

reduce bias resulting from lack of randomization, although it was acknowledged that analysis of covariance would not strictly equate the non-equivalent groups either.

Analysis of covariance with the grade 6 scores as a covariate was planned to examine the relationship between L2 intensity and comprehension of requests. Grade 5 scores would have been more useful because the intensity difference began when the participants began grade 4. However, grade 5 scores were not available for the both groups. It should be emphasized that analyses of covariance will not equate any groups (Pedhazur, 1997). Therefore, caution is called for when interpreting the result of the following analysis. The only interpretation possible is that the relationship was examined between the grade 7 scores, from which the grade 6 scores were partialled out, and the L2 intensity. For all the statistical analyses, SPSS for Windows 8.0.2 was used.

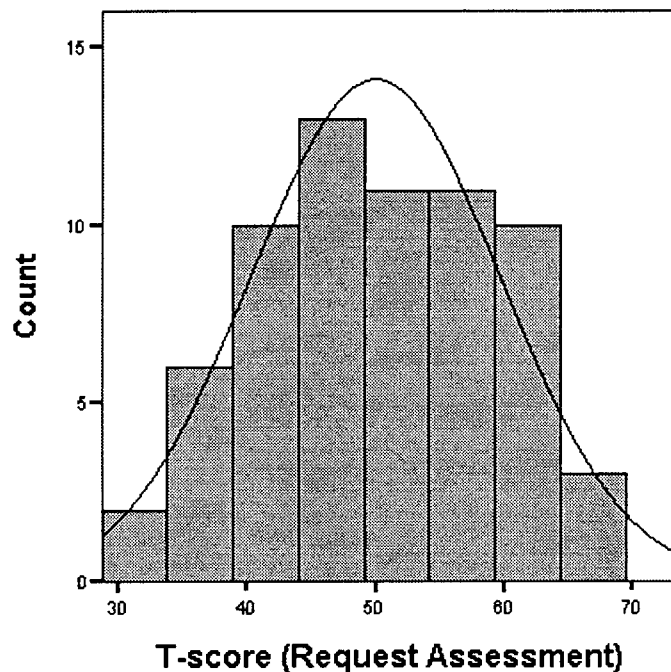
The total scores are in effect proportions because the maximum score a participant could obtain was 24. Transformation is recommended for proportions for a statistical analysis because the unit of measurement changes over the scale (Cohen & Cohen, 1983). For example, a 3 point difference, which is 12.5% difference in this case, between 20 (83.3%) and 23 (95.8%) is more important than that between 10 (41.7%) and 13 (54.2%) because the former is a 75% increase toward the maximum whereas the latter is a 21.4% increase toward the maximum. Transformation may be avoided when units of measurement themselves are meaningful such as IQ scores and transformation of the scores make the result less interpretable. However, in the present study, the units of measurement are arbitrary and, therefore, any transformation will not make the results less interpretable than the original scores. Furthermore, it is desirable that the dependent variable is normally distributed because otherwise estimation will be biased (e.g., Stone & Hollenbeck, 1989). Thus, the safest choice is "to use transformations of variables to improve normality unless there is some compelling reason not to" (Tabachnick & Fidell, 1996, p. 70).

To solve these problems, the original scores were transformed into normalized *T*-scores which have a mean of 50 and standard deviation of 10. Transformation to normalized *T*-scores can be done by "first converting the original scores to percentiles, then converting each percentile to the *T*-score corresponding to that percentile in a normal distribution" (Glass & Hopkins, 1996, p. 94). The descriptive summary of the transformed scores is summarized in Table 5.3.2. The distribution of the grade 7 scores is graphed in Figure 5.3.1.

Table 5.3.2. *Summary of Total Request Comprehension Scores in Normalized T-scores*

		50% Group	80% Group	Overall
Grade 6	<i>N</i>	31	38	69
	<i>M</i>	48.93	50.87	50.00
	<i>SD</i>	9.99	9.15	9.59
Grade 7	<i>N</i>	30	37	67
	<i>M</i>	47.38	52.16	50.02
	<i>SD</i>	9.98	8.74	9.62

Figure 5.3.1. Frequency Histogram of Grade 7 Request Comprehension Normalized T-Scores



Intercorrelations between the variables are summarized in Table 5.3.3. For the intensity group variable, dummy-variable coding was used by assigning 1 to each participant of the 80% group and 0 to each participant of the 50% group. Internal consistency coefficients for the total scores were also presented in terms of Cronbach's alpha (Cronbach, 1951). However, due to the transformation, it was not possible to obtain the coefficients for the normalized *T*-scores. Instead, the coefficients were calculated based on raw scores. Thus, caution is called on to interpret these coefficients.

Table 5.3.3. Intercorrelations between Intensity Group and Total Request Comprehension Scores

	Intensity Group	Total Scores (Grade 6)	Total Scores (Grade 7)
<i>M</i>	0.55	50.15	50.02
<i>SD</i>	0.50	9.66	9.62
<i>Internal Consistency</i>		.64	.61
Intensity Group	--		
Total Scores (Grade 6)	.09	--	
Total Scores (Grade 7)	.25	.20	--

Note. $N = 67$ for each variable. 2 cases were missing due to listwise deletion. Internal consistency was expressed in terms of Cronbach's alpha, and was calculated based on raw scores.

In analyses of covariance, it is critical that the assumption of homogeneity of regression should be met (e.g., Cohen & Cohen, 1983; Pedhazur, 1997). That is, regression lines should be

parallel across the groups. Heterogeneity of regression suggests interaction between the covariate(s) and the independent variable(s) and, therefore, makes it invalid to examine the effect of the independent variable(s) on the dependent variable from which the effect of the covariate(s) is partialled out.

To check this assumption of homogeneity of regression, it was examined whether the regression lines for the two groups cross each other. The relationship between the grade 6 scores and the grade 7 scores was plotted in Figure 5.3.2 with the two groups together, and in Figure 5.3.3 by group with regression line. Intercorrelations between the scores by group are summarized in Table 5.3.4.

Figure 5.3.2. Relationship between Request Comprehension Scores

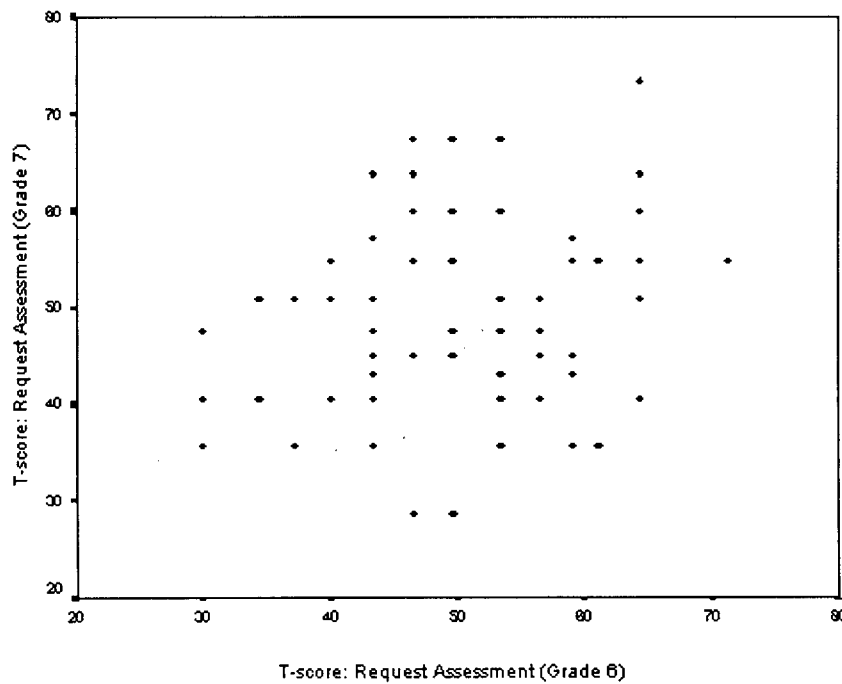


Figure 5.3.3. Relationship between Request Comprehension Scores with Regression Line by Group

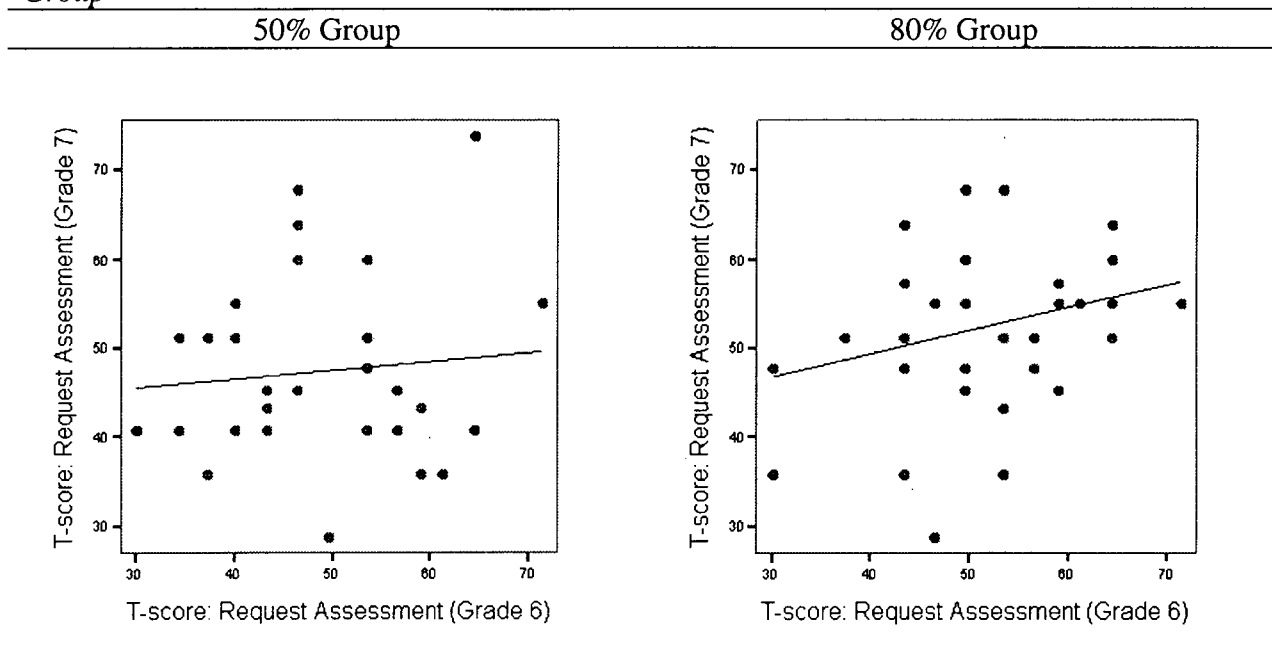


Table 5.3.4. Intercorrelations between Total Request Comprehension Scores by Group

	50% Group		80% Group	
	Total Scores (Grade 6)	Total Scores (Grade 7)	Total Scores (Grade 6)	Total Scores (Grade 7)
<i>N</i>	30	30	37	37
<i>M</i>	49.22	47.38	50.90	52.16
<i>SD</i>	10.03	9.98	9.27	8.74
Total Scores (Grade 6)	--	--	--	--
Total Scores (Grade 7)	.10	--	.28	--

Note. 2 cases were missing due to listwise deletion.

The regression equation was obtained for each group. The regression equation for the 50% groups was:

$$\text{(Equation 5.3.1) Grade 7 scores estimate} = .10 * \text{Grade 6 scores} + 42.56$$

and the regression equation for the 80% group was:

$$\text{(Equation 5.3.2) Grade 7 scores estimate} = .26 * \text{Grade 6 scores} + 38.97$$

The two regression lines would cross each other if the grade 6 score was 22.29. The minimum score of the grade 6 score was 30 and, therefore, the possible intersection was out of range (see Figure 5.3.2 and Figure 5.3.3). Thus, it was concluded that the assumption of homogeneity of regression was met.

Sequential multiple regression analysis was conducted with the grade 6 scores as the covariate. Thus, the grade 6 scores were entered in the equation first, then the intensity group was entered. A scatter plot and a histogram of residuals provided by SPSS indicated that the residuals were normally, independently distributed. It was also indicated that homoscedasticity, that is, the

condition in which the scatter of the residuals is constant over the range of the predicted values of the dependent variable (Cohen & Cohen, 1983), was satisfied among the residuals. Thus, it was fair to say that the assumptions for linear regression analysis were not seriously violated. The results are summarized in Table 5.3.5 and Table 5.3.6.

Table 5.3.5. *Summary of Changes in R^2*

Variables in the equation	R^2	ΔR^2
Total Scores (Grade 6)	.04	.04
Total Scores (Grade 6), Intensity Group	.09	.05

Note. $N = 67$. R^2 = Squared multiple R . ΔR^2 = Increment in R^2 .

Table 5.3.6. *Multiple Regression Analysis for Request Comprehension Scores*

	B	β	r^2	sr	sr^2	pr	pr^2
Total Scores (Grade 6)	0.18	.18	.04	.18	.03	.19	.03
Intensity Group	4.47	.23	.06	.23	.05	.24	.06

Note. $N = 67$. $R^2 = .09$. B = Regression coefficient. β = Standardized regression coefficient. sr = Semipartial (or part) correlation coefficient. pr = Partial correlation coefficient.

The Multiple R is the measure of association between a dependent variable and two or more independent variables. The squared multiple R is the proportion of the dependent variable's variance accounted for by the optimally weighted independent variables (Cohen & Cohen, 1983). Regression coefficient, B , represents the rate of change in units of the dependent variable per unit of an independent variable when other independent variables are held constant. Standardized regression coefficient, β , is a regression coefficient that can be used when all the variables are expressed as standard z-scores. Semipartial correlation (or part correlation), sr , is the correlation between an independent variable, from which other independent variables have been partialled out, and the dependent variable. Partial correlation, pr , is the correlation between an independent variable and the dependent variable from both of which other independent variables have been partialled out.

After the covariate differences were removed, the intensity group difference accounted for about 6% of the adjusted variance of the comprehension of requests at grade 7. The higher intensity group was associated with an increase in the scores of comprehension of requests. The portion of the variance accounted for by the intensity variable did not increase much even after the dependent variable was adjusted for the covariate. This was because the portion of the variance accounted for by the covariate was small. From this, one might suggest the covariate be dropped and the dependent variable be simply regressed on the independent variable. However, as Cohen and Cohen (1983) stated, it would not be correct to do so when interest lies in the covariate-adjusted variable, which is conceptually a quite different variable from the dependent variable.

5.4 Results of the Relationship between L2 Intensity and Comprehension of Irony

To examine the relationship between L2 intensity and comprehension of irony, a total score of irony comprehension was calculated by summing the scores across the utterance types. The descriptive summary of the total scores is presented in Table 5.4.1.

Table 5.4.1. *Summary of Total Irony Comprehension Scores*

		50% Group	80% Group
Grade 5	<i>N</i>		38
	<i>M</i>	N/A	16.18
	<i>SD</i>		2.37
Grade 6	<i>N</i>	31	38
	<i>M</i>	16.16	17.32
	<i>SD</i>	2.14	2.12
Grade 7	<i>N</i>	30	37
	<i>M</i>	17.37	17.92
	<i>SD</i>	3.15	2.75

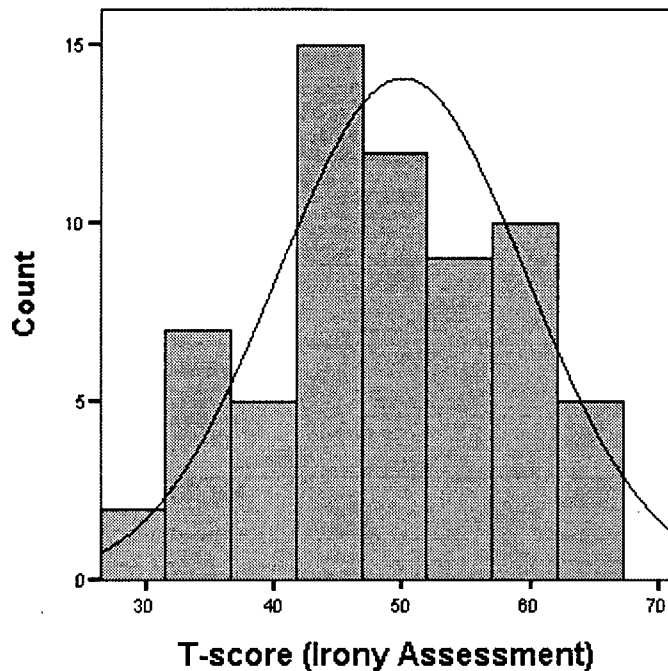
Analysis of covariance with the grade 6 scores as a covariate was planned to examine the relationship between L2 intensity and comprehension of irony. Caution called for in the previous section on the analysis of comprehension of requests will also hold for this section. Therefore, the only interpretation possible would be that the relationship was examined between the grade 7 scores, from which the grade 6 scores were partialled out, and L2 intensity.

As in the previous section, the original scores were transformed into normalized *T*-scores. The descriptive summary of the transformed scores is summarized in Table 5.4.2. The distribution of the grade 7 scores is graphed in Figure 5.4.1.

Table 5.4.2. *Summary of Total Irony Comprehension Scores in Normalized T-scores*

		50% Group	80% Group	Overall
Grade 6	<i>N</i>	31	38	69
	<i>M</i>	47.25	52.25	50.00
	<i>SD</i>	9.47	9.10	9.59
Grade 7	<i>N</i>	30	37	67
	<i>M</i>	48.87	50.88	49.98
	<i>SD</i>	10.05	9.17	9.63

Figure 5.4.1. Frequency Histogram of Grade 7 Irony Comprehension Normalized T-Scores



Intercorrelations between the variables are summarized in Table 5.4.3. For the intensity group variable, dummy-variable coding was used by assigning 1 to each participant of the 80% group and 0 to each participant of the 50% group. Internal consistency coefficients for the total scores were also presented in terms of Cronbach's alpha (Cronbach, 1951). However, due to the transformation, it was not possible to obtain the coefficients for the normalized *T*-scores. Instead, the coefficients were calculated based on raw scores. Thus, caution is called for in interpreting these coefficients.

Table 5.4.3. Intercorrelations between Intensity Group and Total Irony Comprehension Scores

	Intensity Group	Total Scores (Grade 6)	Total Scores (Grade 7)
<i>M</i>	.55	49.84	49.98
<i>SD</i>	.50	9.67	9.63
<i>Internal Consistency</i>		.45	.72
Intensity Group	--		
Total Scores (Grade 6)	.26	--	
Total Scores (Grade 7)	.10	.37	--

Note. $N = 67$ for each variable. 2 cases were missing due to listwise deletion. Internal consistency was expressed in terms of Cronbach's alpha, and was calculated based on raw scores.

To check this assumption of homogeneity of regression, it was examined whether the regression lines for the two groups cross each other. The relationship between the grade 6 scores

and the grade 7 scores was plotted in Figure 5.4.2 with the two groups together, and in Figure 5.4.3 by group with regression line. Intercorrelations between the scores by group are summarized in Table 5.4.4.

Figure 5.4.2. Relationship between Irony Comprehension Scores

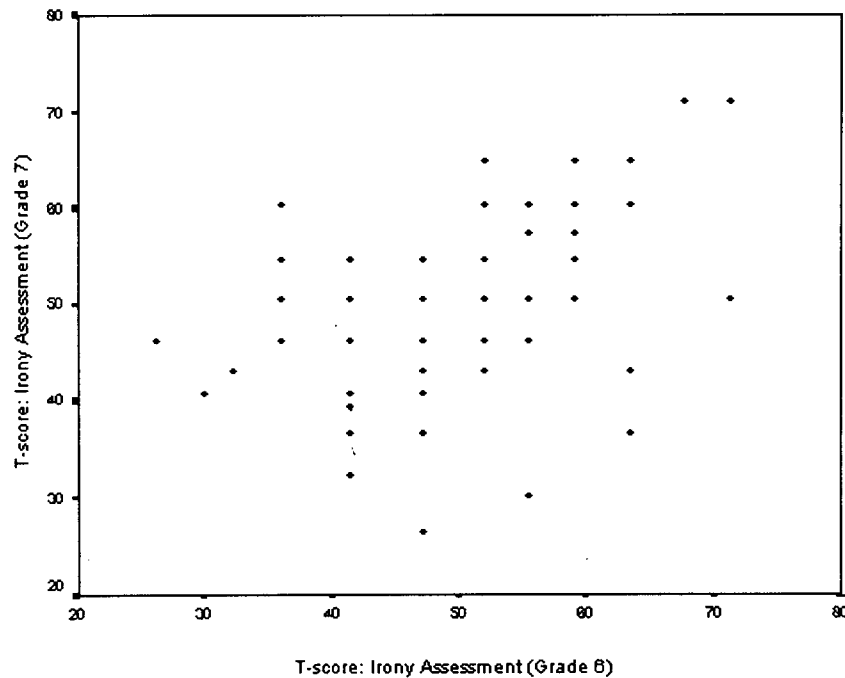


Figure 5.4.3. Relationship between Irony Comprehension Scores with Regression Line by Group

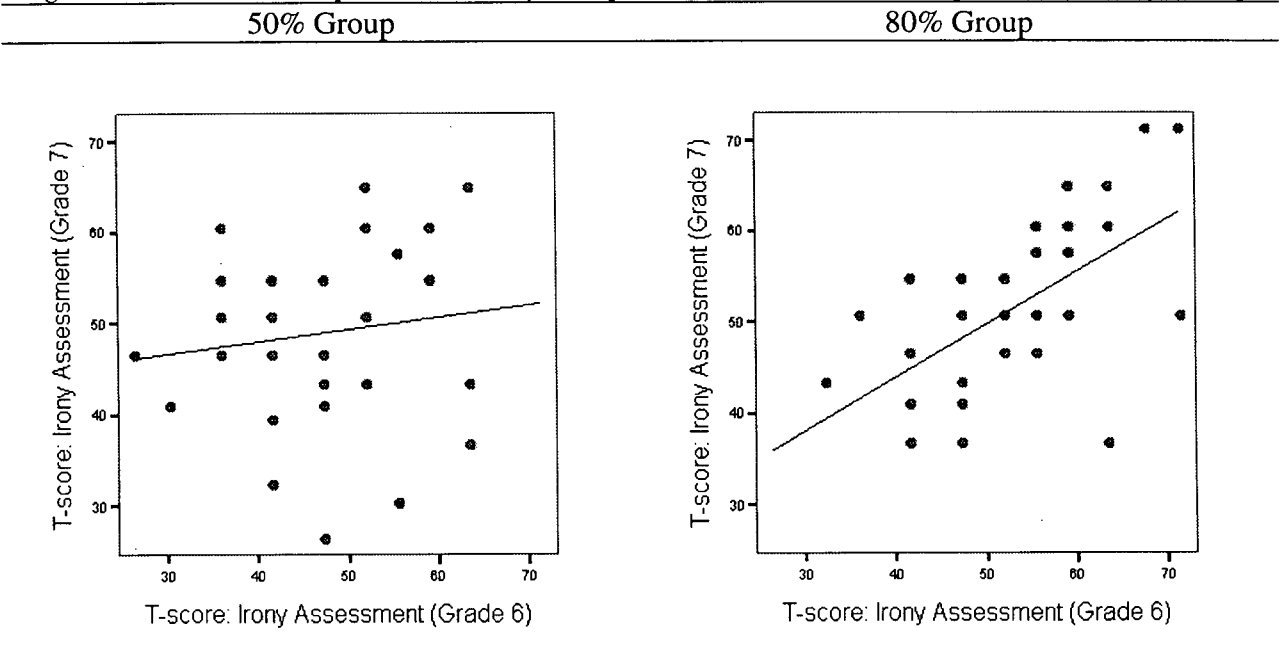


Table 5.4.4. *Intercorrelations between Total Irony Comprehension Scores by Group*

	50% Group		80% Group	
	Total Scores (Grade 6)	Total Scores (Grade 7)	Total Scores (Grade 6)	Total Scores (Grade 7)
<i>N</i>	30	30	37	37
<i>M</i>	47.09	48.87	52.07	50.88
<i>SD</i>	9.58	10.05	9.15	9.17
Total Scores (Grade 6)	--	--	--	--
Total Scores (Grade 7)	.50	--	.58	--

Note. 2 cases were missing due to listwise deletion.

Unlike the previous analysis on comprehension of request, it is obvious from Figure 5.4.3 that the two regression lines cross each other within the range of the grade 6 scores. In other words, the assumption of homogeneity of regression was seriously violated. When this assumption is violated, use of analysis of covariance will be invalid (Cohen & Cohen, 1983; Glass & Hopkins, 1996; Pedhazur, 1997; Tabachnick & Fidell, 1996). Therefore, analysis of covariance was not conducted. When the assumption of homogeneity of regression is violated, the examination of interaction is more meaningful (e.g., Cohen & Cohen, 1983; Pedhazur, 1997).¹⁹

Figure 5.4.3 indicates that the difference between the two groups on the grade 7 scores is smaller near the point at which the two regression lines cross each other. The difference becomes larger as the grade 6 scores become either higher or lower. To examine the point of intersection, the regression equation was obtained for each group. The regression equation for the 50% groups was:

$$\text{(Equation 5.4.1) Grade 7 scores estimate} = .14 * \text{Grade 6 scores} + 42.54$$

and the regression equation for the 80% group was:

$$\text{(Equation 5.4.2) Grade 7 scores estimate} = .58 * \text{Grade 6 scores} + 20.65$$

The two regression lines would cross each other if the grade 6 score was 49.07.

In sum, the participants whose scores on the comprehension of irony at grade 6 lay in the middle range were not associated with L2 intensity on comprehension of irony at grade 7. The participants whose scores were either in the higher or lower range on the grade 6 scores were more closely associated with L2 intensity on their grade 7 scores. More importantly, higher intensity in L2 was positively associated with the grade 7 scores if a participant's grade 6 score was above 49.07, whereas higher intensity in L2 was negatively associated with grade 7 scores if he or her grade 6 score was below 49.07. Furthermore, this association became even stronger as the participant's scores were getting closer to the more extreme end, whether it is positive or negative.

It should be noted, however, that the internal consistency coefficient was substantially low for the grade 6 scores ($\alpha = .45$) based on raw scores (Table 5.4.3). The magnitude of such a coefficient is affected by group homogeneity (Crocker & Algina, 1986). That is, the more

¹⁹ A prime example of the study of interaction is *Attribute (or Aptitude) -Treatment Interaction* (ATI) method, which is employed to study interaction between various types of attributes such as aptitudes and traits, and various types of treatments such as teaching methods (e.g., Cronbach & Snow, 1977).

a group is heterogeneous, the higher the coefficient is. Given that the participants of the present study were selected from a single school and formed a relatively homogeneous group (Reeder *et al.*, 1999), it may not be surprising to have a low coefficient. However, the coefficient was much lower for the grade 6 scores than for the grade 7 scores. This suggests that the grade 6 scores were measured with much larger error than the grade 7 scores. Thus, caution should be used to interpret this result.

5.5 *Discussion of Children's Comprehension of Nonliteral Use of Language*

This section will discuss the finding of children's comprehension of nonliteral use of language. Accounts for the findings in the present study will be attempted.

5.5.1 *Comprehension of Requests*

Direct requests are imperatives (*Do X.*) and are considered the most transparent because what is being requested is syntactically and semantically explicit. Indirect questions (*Can you do X?*) embed imperatives, but take the same form as yes-no questions in the surface structure. Thus, indirect questions are less transparent than direct requests. Hints are often stated in declarative form and usually do not contain the expected agent, action, and/or object together in an explicit way. Thus, hints are the least transparent since they may not contain enough information to decide which action is expected (e.g., Clark, 1979; Ervin-Tripp, 1977; Ervin-Tripp & Gordon, 1986; Ledbetter & Dent, 1988).

For children's comprehension of requests, it was expected, of the three request types, Direct Requests, Indirect Questions, and Hints, that Direct Requests were the easiest to comprehend because what was being requested was transparent in them. It was also expected that Indirect Questions would be more difficult to comprehend than Direct Requests, but easier than Hints due to the degree of transparency of what was being requested. No such expectations were made for Questions because they were not requests, and were not located in the same continuum with other three types in terms of the degree of transparency.

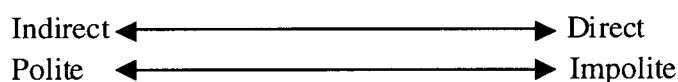
It was found that in general Indirect Questions were the easiest to comprehend, followed by Hints. As for the other two types, the 50% group comprehended Questions better whereas the 80% group comprehended Direct Requests better. In addition, the 80% group's comprehension developed with age in all four types except in Hints from grade 5 to grade 6, whereas the 50% group's comprehension developed with age in Direct Requests and Indirect Requests but did not change much in Questions and Hints.

The highest comprehension scores in Indirect Questions suggest that the participants were familiar with a request that takes the form of *Can you do X?*. The higher scores of comprehension of Hints than of Direct Requests could be accounted for by the possibility that Direct Requests were more difficult to comprehend than Hints. However, this explanation is counter-intuitive. If children can comprehend Hints that are the least transparent in terms of what is being requested, why can they not comprehend Direct Requests that are the most transparent in it? One possible answer to this question may be that the participants knew that Hints were more appropriate as a request than Direct Requests. In other words, Direct Requests were more transparent in what was being requested syntactically and semantically, but they were not transparent pragmatically, that is, not appropriate.

The degree of transparency of what is being requested reflects the degree of indirectness (Clark, 1979; Ledbetter & Dent, 1988; Leech, 1983). Apparently it seemed that the more indirect

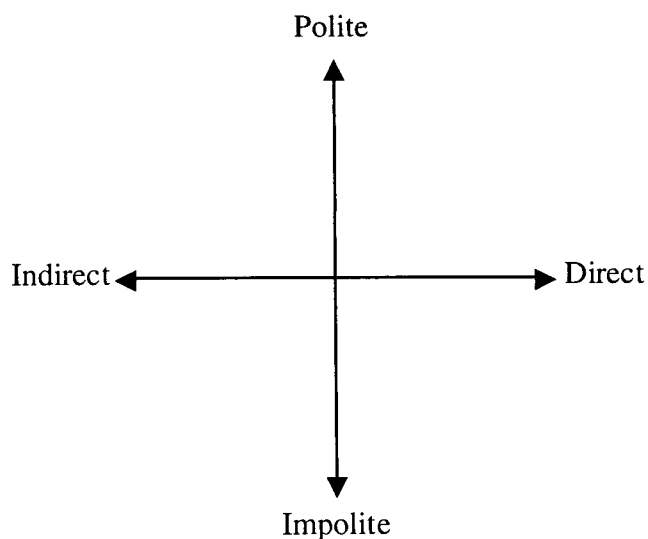
a request was, the more difficult it was to comprehend because a more indirect request was less transparent syntactically and semantically in what was being asked. However, this was not necessarily the case. Politeness seemed to affect children's comprehension. In requests the scales of indirectness and politeness are regarded as parallel (e.g., Brown & Levinson, 1987; Leech, 1983). That is, a request becomes more polite as it becomes more indirect (see Figure 5.5.1).

Figure 5.5.1. Parallel Scale Model of Indirectness and Politeness



However, from the viewpoint of ease of comprehension, they may not be parallel because indirectness has something to do with syntactic and semantic aspects of a request whereas politeness has something to do with its pragmatic aspect. For example, Indirect Questions (*Can you do X?*) are considered to be more polite than Direct Requests (*Do X.*). The traditional account for the relationship between the two is that Indirect Questions are more indirect and, therefore, more polite. However, it is possible that some requests are indirect and polite whereas others are indirect but impolite depending on contexts. Indirect Questions such as *Can you do X?* or even *Could you do X?* can be impolite if a hearer has no choice and is imposed to do *X* (Leech, 1983). Thus, Indirect Requests such as Indirect Questions and Hints are necessarily indirect, but not necessarily polite as a request (see Figure 5.5.2).

Figure 5.5.2. Independent Scale Model of Indirectness and Politeness



If indirectness and politeness sit on independent scales, it is not surprising that the participants used different criteria to comprehend various types of Requests. On one hand, a request appeared easier to comprehend if it was more direct because what was being requested was more explicit both syntactically and semantically in a more direct request. On the other, a

request appeared also easier to comprehend as a request if it was more polite because politeness was socially desirable in requests to save a hearer's negative face (Brown & Levinson, 1987). The participants of the present study may have overcome this apparent clash of the two scales by weighting the politeness scale more heavily. It followed that Indirect Requests and Hints were easier to comprehend than Direct Requests because the former were pragmatically easier on the politeness scale although they were syntactically and semantically more difficult on the indirectness scale.

This separation of indirectness, or syntactic and semantic aspects, and politeness, or pragmatic aspects, has further implication for the comprehension of Questions. In the present study, Questions took the same form of *Can you do X?* as Indirect Questions. The difference between the two types was the speaker's intent. In Indirect Questions a speaker wanted a hearer to do X, whereas in Questions a speaker did not want a hearer to do X but questioned the hearer's ability to do X. Thus, the two types were the same syntactically and semantically, but different pragmatically. With this separation of two aspects, it may be possible to account for the difference between the 50% and 80% groups on comprehension of Questions. Relative to Indirect Questions, Questions were more difficult for the 80% group than for the 50% group. The 50% group appeared to consider the pragmatic aspect of Questions independently of the syntactic and semantic aspects of Questions and, therefore, the 50% group was not affected by the fact that Questions and Indirect Questions had the same form. In contrast, the 80% group appeared to consider the pragmatic aspect of Questions together with the syntactic and semantic aspects of Questions and, thus, the form of Questions had some effect on the 80% group's comprehension. Consequently, because Questions took the same form as Indirect Questions, which expressed indirectness and politeness, the 80% group tended to interpret Questions as a request rather than a question.

This apparent difference between the two groups on comprehension of Questions may be associated with L2 intensity. That is, L2 intensity might make the 80% group more conscious of pragmatic rules and as a consequence overgeneralize them to the cases in which such rules were not applicable. However, the present study was not designed to address directly the effect of L2 intensity on particular types of requests. Thus, this relationship between L2 intensity and comprehension of Questions is still at the level of speculation. To investigate this relationship, studies that are aimed at it directly are called for.

5.5.2 Comprehension of Irony

For children's comprehension of irony, it was expected that Sincere utterances would be the easiest to comprehend because what was said was consistent with the speaker's belief and intent (see Table 5.5.1). It was also expected that Deceptive utterances would be more difficult to comprehend than Sincere utterances, but easier than Ironical but Misfiring utterances and Ironical utterances because what was said was consistent with the speaker's intent although it was not with the speaker's belief (e.g., Demorest *et al.*, 1984; Winner, 1988). Ironical but Misfiring utterances and Ironical utterances were expected to be more difficult than the other two utterance types because what was said was inconsistent with the speaker's belief and intent. However, no expectations were held about which of the two utterances were the more difficult.

Table 5.5.1. *Consistency among What Is Said and Speaker's Belief and Speaker's Intent*

	S's belief	S's intent	Utterance Type
What is said	+	+	Sincere
	-	+	Deceptive
	-	-	Ironical but Misfiring, Ironical

Note. The plus sign (+) stands for consistency, and the minus sign (-) stands for inconsistency.

It was found that in general Sincere utterances were the easiest to comprehend, followed by Deceptive utterances. However, Deceptive utterances were as easy to comprehend as Sincere utterances for the 80% group. The other two types of utterances were more difficult to comprehend, but there appeared no substantial difference on comprehension between the two types. The participants' comprehension of Ironical but Misfiring utterances and Ironical utterances developed with age, whereas the participants' comprehension of Sincere and Deceptive utterances did not develop with age. Consequently, as the participants became older, the differences on comprehension among the four utterance types decreased. Comprehension of Ironical but Misfiring utterances and Ironical utterances developed more from grade 6 to grade 7 for the 50% group than for the 80% group.

These results were largely in accordance with the expectations. Thus, Sincere utterances were the easiest to comprehend because what was said was consistent with the speaker's belief and intent. Deceptive utterances were also easy to comprehend because what was said was consistent with the speaker's intent although it was not consistent with the speaker's belief. The other two types were more difficult to comprehend because what was said was not consistent with the speaker's belief and intent. In sum, utterances were easier to comprehend if what was said was consistent with the speaker's intent, whereas utterances were more difficult to comprehend if what was said was inconsistent with the speaker's intent. This finding supports the research findings in the literature (e.g., Ackerman, 1981b, 1983; Demorest *et al.*, 1984; Winner, 1988) that ironical utterances were difficult to comprehend because there is discrepancy between what is said and what is meant. It appeared that whether ironical utterances were misfiring or not did not affect the participants' comprehension of ironical utterances. In other words, whether the beliefs of the speaker and the hearer were consistent did not affect the degree of difficulty in comprehending ironical utterances. With age the participants developed in detecting the discrepancy between what was said and what was meant and, accordingly, the difference of comprehension among the four types of utterances decreased.

The largest developmental difference was found in comprehension of the two ironical utterances for the 50% group. Thus, apparently L2 intensity was not associated with the development of comprehension of various types of utterances. However, it should be noted that the distribution pattern of comprehension for the 50% group at grade 6 was similar to that for the 80% group at grade 5. On comprehension of the two ironical utterances the 80% group developed more from grade 5 to grade 6 than from grade 6 to grade 7. Thus, it could be the case that the 80% group's development of comprehension of ironical utterances was a year ahead of the 50% group, and that this difference was associated with L2 intensity. However, the present study was not designed to address directly the effect of L2 intensity on particular types of utterances. Thus, this relationship between L2 intensity and comprehension of the two types of ironical utterances is still at the level of speculation. To investigate this relationship, studies that are aimed at it directly are called for.

5.5.3 *L2 Intensity and Metapragmatic Knowledge*

The relationship between L2 intensity and metapragmatic knowledge was examined in terms of total comprehension scores of requests and those of irony. It was found that L2 intensity was positively associated with metapragmatic knowledge measured by comprehension of requests. In contrast, the association between L2 intensity and metapragmatic knowledge measured by comprehension of irony was not necessarily positive. More precisely, for those who scored about 49 in normalized *T*-scores on comprehension of irony, L2 intensity was not associated with their metapragmatic knowledge. Those who scored higher had a positive relationship between L2 intensity and their metapragmatic knowledge whereas those who scored lower had a negative relationship between L2 intensity and their metapragmatic knowledge.

Why was L2 intensity associated with metapragmatic knowledge differently? One possible explanation may be that ironical utterances were pragmatically more demanding than requests. In the requests assessment there were three different forms for the four types. That is, although Indirect Questions and Questions took the same form, they were different in form from Direct Questions and Hints, which were also different from each other in form. Thus, it may be the case that the variety in the forms helped pragmatic comprehension of all the request types. In addition, requests are common acts in the classroom. Students and teachers request some action, information, answers, and so on, from each other. Thus, it may be the case that the participants in the present study were able to enhance their metapragmatic knowledge from their intensified L2 instruction experience. In contrast, in the assessment of comprehension of ironical utterances, an identical form with different intonation was used in all the four utterance types. This may make irony pragmatically more demanding than requests. Furthermore, it is unlikely that ironical utterances are used as often as requests in the classroom at the primary school level. The occasion to develop ability to comprehend ironical utterances may be limited in the classroom. Thus, in comprehending ironical utterances, unless metapragmatic knowledge is already developed, it may be difficult to apply intensified L2 instruction experience directly to enhancement of metapragmatic knowledge.

5.6 *Summary of the Chapter*

This chapter presented the results of the quantitative part of the analysis in which children's understanding of nonliteral use of language was assessed. This assessment involved the scores from children's comprehension of request and irony and the degree of sophistication in their attribution responses.

Chapter 6

Children's Attributions in Nonliteral Use of Language

This chapter presents the results of the qualitative part of the analysis in which children's attributions in understanding of nonliteral use of language is described. Participants were asked to listen to eight short stories, and to then answer a set of questions during a brief clinical interview. The questions involved in this qualitative part of the analysis were regarding the attributions of the speaker's intentions and of the perlocutionary effects on the hearer. The participants' responses were coded by two coders. The percentages of agreement between the coders ranged from 82% to 87% over the four questions, with disagreements resolved by discussion.

6.1 Attribution of Perlocutionary Effects in Requests

This section presents the result of the analysis on attribution of perlocutionary effects in requests. Participants' responses to the question "Do you think *H* will do *X*?" (Question 8) are descriptively summarized. The analysis was conducted on the responses to the question "Why do you think *H* will (or will not) do *X*?" (Question 9) in the request assessment.

6.1.1 Coding Scheme for Attribution of Perlocutionary Effects in Requests

On the basis of the responses to the question "Why do you think *H* will (or will not) do *X*?" (Question 9), a coding scheme was created for the response types. This scheme consisted of seven categories. Table 6.1.1 exemplifies this scheme.

Table 6.1.1. *Coding Scheme for Attribution of Perlocutionary Effect in Requests*

Category	Example
Preparatory condition	<i>Because, well, she's right there, so she'll probably just reach over and answer it. (Possibility)</i> <i>Because her mother will probably take the pieces away. (Impossibility)</i> <i>Because she's answered it before. (Ability)</i> <i>Because she doesn't know how. (Inability)</i> <i>He knows he can't read it. (Knowledge)</i>
Sincerity condition	<i>Because her mother wanted her to.</i> <i>Because his Dad wanted him to open the window.</i>
Hearer's intention	<i>Uhm, because if he wants to finish his car, he will.</i> <i>Because, well, she'll probably want to help her mother.</i>
Perlocutionary effect	<i>Because Mom told her to get the phone.</i> <i>Because his father asked him to.</i>
Politeness Principle	<i>Because mother didn't ask her nicely.</i> <i>Because his father should have told him in a nicer tone.</i>
Relationship	<i>Because it's her mother.</i> <i>Uh, because he'd listen to his father.</i>
Recognition	<i>Because I think he knows what his Dad meant.</i> <i>Because maybe she'd get that little hint.</i>

The first category is *preparatory condition*. Austin (1975) posed a happiness/unhappiness dimension on an illocutionary act in contrast to the truth/falsehood dimension of a locutionary meaning. In Semantics meaning has been traditionally treated as either true or false. When one says *The cat is on the mat*, and the cat is indeed on the mat, the utterance is true. Who says the utterance does not matter. This is the truth/falsehood dimension. Conversely, some utterances such as *I name this ship the Queen Elizabeth* are affected by who says it, when it is said, where it is said, and so on. For example, if someone who is entitled to name the ship does so in an appropriate situation, the utterance will have certain conventional force, that is, illocutionary force, and the ship will be named as such. However, if a passer-by, who is not entitled to name the ship, says the utterance, the ship will not be named as such. In these instances, Austin argued, it is not relevant to say if the utterance is true or false. Rather the utterance is said infelicitously or not. Austin described this situation in which illocutionary force fails to work as 'unhappy'. This is the happiness/unhappiness dimension.

Searle (1969) advanced Austin's initial interest in infelicity in illocutionary acts, and proposed four subtypes of rule that illocutionary verbs should meet to be successful or 'happy'. These are *propositional content condition*, *preparatory condition*, *sincerity condition*, and *essential condition*, and are collectively called *felicity conditions*. The felicity conditions are determined by types of illocutionary acts. Searle's summary of felicity conditions for requests and questions is excerpted and shown in Table 6.1.2 (Searle, 1969, P. 66). The felicity conditions for questions is included because three of the four versions of the stories (Versions 1, 2, and 4) in the requests assessment are about requests while one version (Version 3) is about question.

Table 6.1.2. *Felicity Conditions on Requests and Questions*

Conditions	Requests	Questions
Propositional content	Future act <i>X</i> of <i>H</i> .	Any proposition or propositional function.
Preparatory	<ol style="list-style-type: none"> 1. <i>H</i> is able to do <i>X</i>. <i>S</i> believes <i>H</i> is able to do <i>X</i>. 2. It is not obvious to both <i>S</i> and <i>H</i> that <i>H</i> will do <i>X</i> in the normal course of events of his own accord. 	<ol style="list-style-type: none"> 1. <i>S</i> does not know 'the answer', i.e., does not know if the proposition is true, or, in the case of the propositional function, does not know the information needed to complete the proposition truly. 2. It is not obvious to both <i>S</i> and <i>H</i> that <i>H</i> will provide the information at that time without being asked.
Sincerity	<i>S</i> wants <i>H</i> to do <i>X</i> .	<i>S</i> wants this information.
Essential	Counts as an attempt to get <i>H</i> to do <i>X</i> .	Counts as an attempt to elicit this information from <i>H</i> .

When the participant was asked, "Why do you think *H* will (or will not) do *X*?" (Question 9) and their responses mentioned a preparatory condition, they were classified under the category of preparatory condition. In this classification the notion of the hearer's ability was interpreted according to Clark (1996). His definition of ability in requests included the hearer's physical

possibility (It is physically possible for *H* to do *X* for *S*), and the hearer's competence (*H* is competent to do *X* for *S*). Thus, under the category of preparatory condition were included possibility and competence on requests and *S*'s knowledge on questions. Although requests and questions are considered different illocutionary acts, these three subcategories were used across the two acts in coding because the participants did not always understand each illocutionary act correctly. For example, some participants perceived questions as requests.

The second category was *sincerity condition*. This is the condition to be met for an illocutionary act to be performed sincerely. If someone does not want a hearer to do something and still the speaker utters a request to the hearer, it will be an insincere request. This category corresponds to the speaker's desire in Clark's (1996) terminology. Here again sincerity condition was interpreted somewhat broader than Searle's (1969) original formula by including, as in Clark, not only Searle's formula (*S* wants *H* to do *X*) but also similar formulae (*S* wants *X* to be done, *S* wants to do *X*) where the hearer was not explicitly mentioned.

The third category was the hearer's intention. Participants' responses included in this category showed a shift of their perspective from the speaker to the hearer. Participants whose responses were included in this category did not view the hearer's subsequent action as a perlocutionary effect. Rather their view was that the hearer would (or would not) do *X* because he or she wanted (or did not want) to do *X*.

The fourth category was the opposite of the third category. That is, the responses included in this category were the ones that looked at the hearer's subsequent action as a perlocutionary effect.

The fifth category was called *Politeness Principle*. This category included the responses that indicated participants' awareness of a pragmatic rule on politeness. According to Leech (1983), politeness principle is defined as to "Minimize (other things being equal) the expression of impolite beliefs" (p. 81). The treatments of politeness are often related to the concept of *face*, which is "something that is emotionally invested, and that can be lost, maintained, or enhanced, and must be constantly attended to in interaction" (Brown & Levinson, 1987, p. 61). Someone who has been requested to do some action by a speaker is concerned with his or her *negative face*, which is the want that his or her actions not be imposed by others. The more polite a request becomes, the less threatening to the hearer's negative face it becomes. Participants' responses commenting on politeness indicated that some participants had reflexive knowledge about face-threatening in requests.

The sixth category, social relationship, was relatively straightforward, and referred to the social relationship between the speaker and the hearer. Some responses, such as *Because his father asked him to*, that were included in other categories could have been included in this relationship category. To avoid such ambiguity only responses that mentioned explicitly the relationship between the speaker and the hearer were included in this category. One typical example of this category was *Because of the mother-daughter relationship*.

The last category was recognition and was about the hearer's understanding of the speaker's meaning. The speaker's intention depends on the hearer's recognition (Clark, 1996). When a speaker asks a hearer to do something and the hearer does not recognize the speaker's intention that the speaker wants the hearer to do it, the speaker's request will not be granted. It is true that, even if the hearer recognizes the speaker's intention, the hearer may or may not grant the request, as perlocutionary effects are not included in understanding of the speaker's intention. However, for a request to be successful, the hearer's recognition of the speaker's intention is the

necessary condition. Participants' responses in this category mentioned this recognition stage of the hearer.

6.1.2 Results of Attribution of Perlocutionary Effects in Requests

Table 6.1.3 and Table 6.1.4 summarize participants' responses to the question "Do you think *H* will do *X*?" (Question 8). The results in Table 6.1.3 are the summary for the 50% group and the results in Table 6.1.4 are the summary for the 80% group.

Table 6.1.3. *Summary of Tendency of Perlocutionary Effects in Requests (50% group)*

50%			Direct Request	Indirect Question	Question	Hint
		N				
Grade 6		31				
	Yes		94%	94%	74%	77%
	No		6%	6%	26%	23%
Grade 7		30				
	Yes		87%	90%	77%	90%
	No		13%	10%	23%	10%

Table 6.1.4. *Summary of Tendency of Perlocutionary Effects in Requests (80% group)*

80%			Direct Request	Indirect Question	Question	Hint
		N				
Grade 5		38				
	Yes		95%	89%	71%	87%
	No		5%	8%	29%	13%
Grade 6		38				
	Yes		89%	95%	68%	79%
	No		11%	5%	32%	21%
Grade 7		37				
	Yes		97%	89%	70%	95%
	No		3%	8%	30%	3%

The participants tended to answer yes to this question, not only for Direct Requests, Indirect Questions, and Hints, but also for Questions, in which the hearer was not requested to do *X*. It may be the case that the participants were substantially biased in favor of saying yes to this question. Therefore, although there appeared to be some interesting differences among the request types, it may not be safe to make a conclusion about such differences.

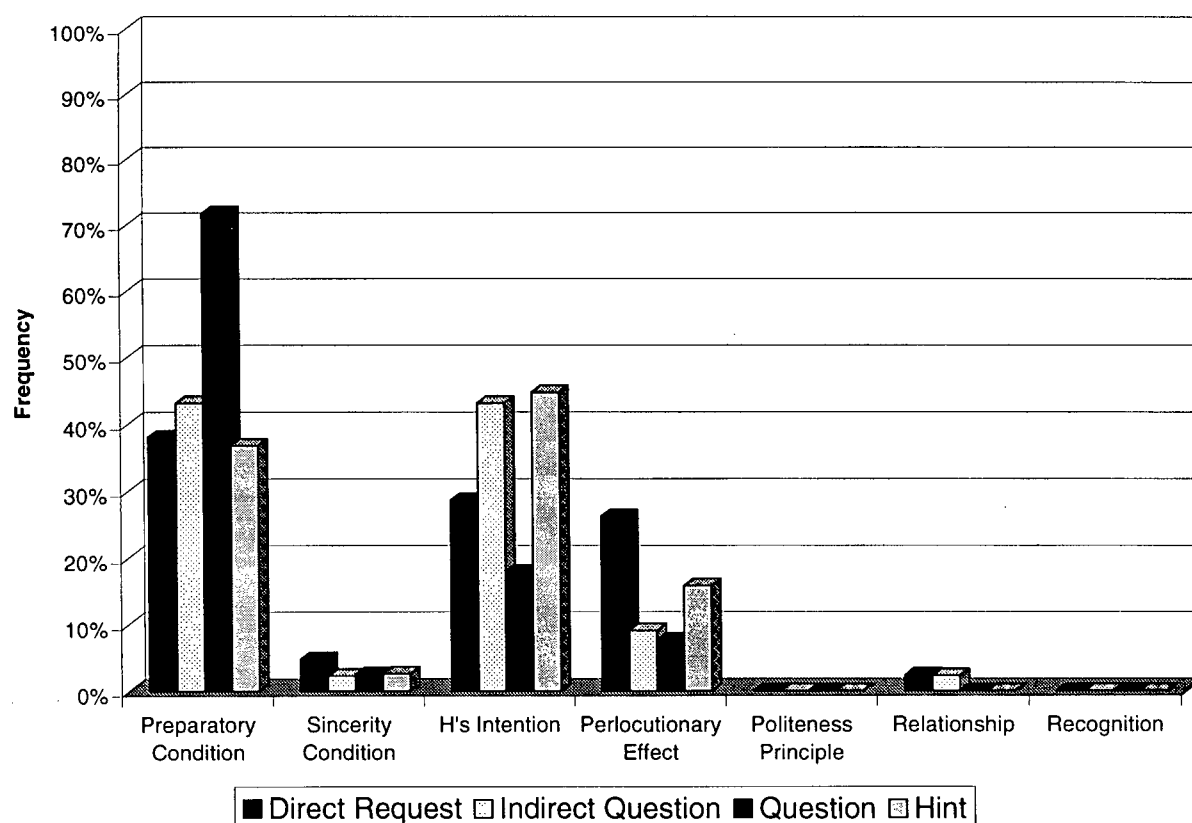
Table 6.1.5 summarizes participants' responses to the question, "Why do you think *H* will (or will not) do *X*?" (Question 9), for the 80% group when the participants were in the grade 5.

The results are also graphically shown in Figure 6.1.1 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.1.1.

Table 6.1.5. *Summary of Attribution of Perlocutionary Effects in Requests (Grade 5, 80% group)*

G5/80%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Preparatory condition	16	38%	19	43%	28	72%	14	37%
Sincerity condition	2	5%	1	2%	1	3%	1	3%
H's intention	12	29%	19	43%	7	18%	17	45%
Perlocutionary effect	11	26%	4	9%	3	8%	6	16%
Politeness Principle	0	0%	0	0%	0	0%	0	0%
Relationship	1	2%	1	2%	0	0%	0	0%
Recognition	0	0%	0	0%	0	0%	0	0%
Total	42	100%	44	100%	39	100%	38	100%

Figure 6.1.1. *Attribution of Perlocutionary Effects in Requests (Grade 5, 80% group)*



In grade 5, most of the responses (more than 90%) by the 80% group lay in three categories, *Preparatory condition*, *Hearer's intention*, and *Perlocutionary effect* across the request types. However, Table 6.1.5 indicates the difference in the trend of distribution among the request types. For Direct Request, about a quarter of participants' responses fell into *Perlocutionary effect* in addition to *Preparatory condition* (38%) and *Hearer's intention* (29%).

For Indirect Question and Hint, the trends of the participants' responses are similar in the sense that more than 80% of the responses fell into *Preparatory condition* and *Hearer's intention*. In contrast to the three request types, the participants' responses for Question are different. More than 70% of the responses fell into *Preparatory condition*.

Table 6.1.6 summarizes participants' responses to the question, "Why do you think *H* will (or will not) do *X*?" (Question 9), for the 50% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.1.2 so that they may be easier to grasp. Table 6.1.7 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.1.3 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.1.1.

Table 6.1.6. *Summary of Attribution of Perlocutionary Effects in Requests (Grade 6, 50% group)*

G6/50%	Direct		Indirect		Question		Hint	
	Request		Question					
	N	%	N	%	N	%	N	%
Preparatory condition	15	43%	16	47%	20	65%	16	48%
Sincerity condition	1	3%	0	0%	1	3%	2	6%
H's intention	9	26%	10	29%	8	26%	9	27%
Perlocutionary effect	6	17%	8	24%	1	3%	5	15%
Politeness Principle	0	0%	0	0%	0	0%	0	0%
Relationship	4	11%	0	0%	1	3%	0	0%
Recognition	0	0%	0	0%	0	0%	1	3%
Total	35	100%	34	100%	31	100%	33	100%

Figure 6.1.2. Attribution of Perlocutionary Effects in Requests (Grade 6, 50% group)

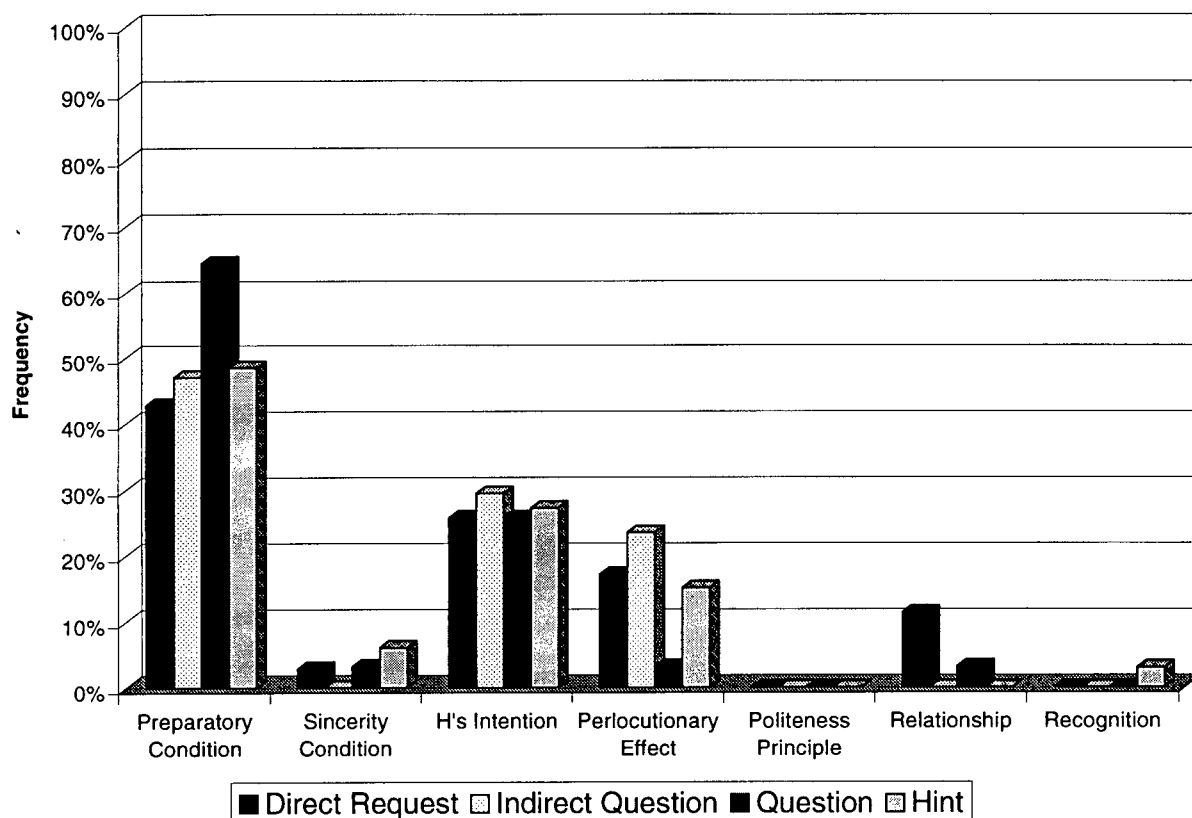
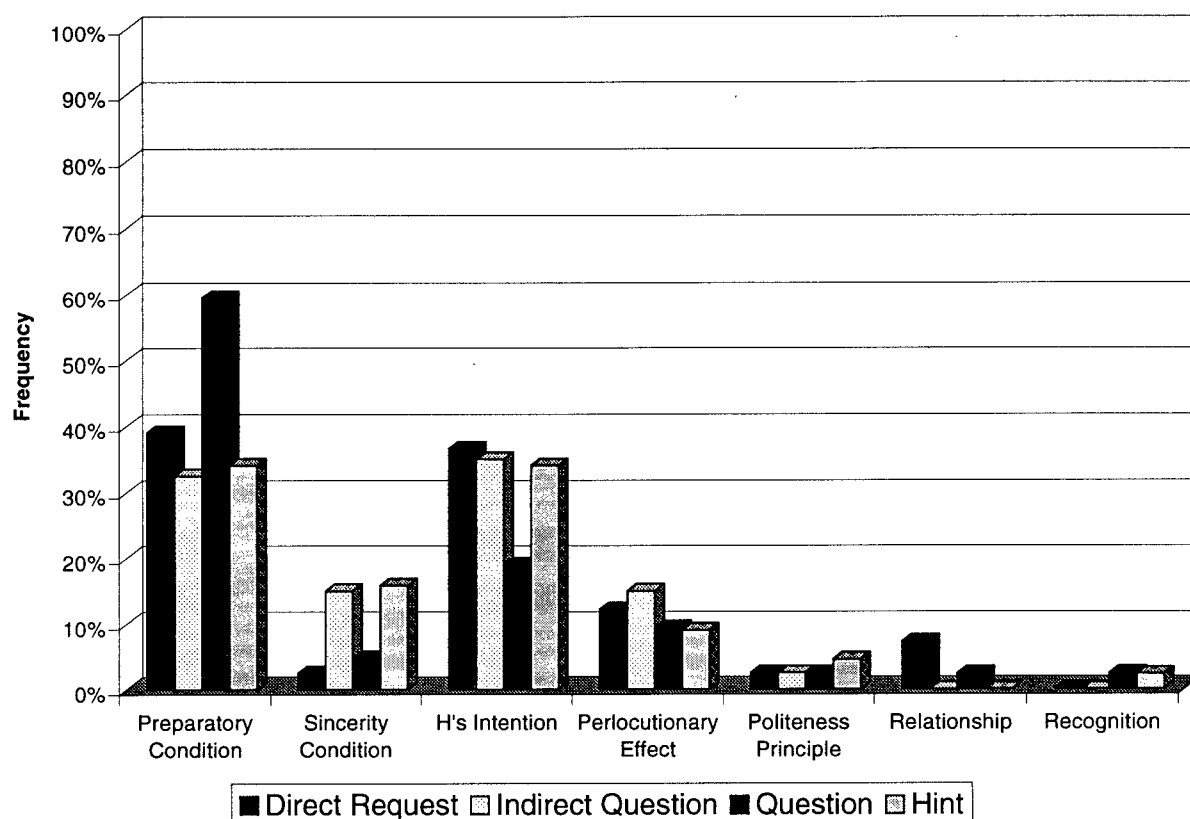


Table 6.1.7. Summary of Attribution of Perlocutionary Effects in Requests (Grade 6, 80% group)

G6/80%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Preparatory condition	16	39%	13	33%	25	60%	15	34%
Sincerity condition	1	2%	6	15%	2	5%	7	16%
H's intention	15	37%	14	35%	8	19%	15	34%
Perlocutionary effect	5	12%	6	15%	4	10%	4	9%
Politeness Principle	1	2%	1	3%	1	2%	2	5%
Relationship	3	7%	0	0%	1	2%	0	0%
Recognition	0	0%	0	0%	1	2%	1	2%
Total	41	100%	40	100%	42	100%	44	100%

Figure 6.1.3. Attribution of Perlocutionary Effects in Requests (Grade 6, 80% group)



In grade 6, the trends of distribution are very similar to those of the 80% group in grade 5 regarding the request types. The majority of the responses (more than 75%) by the both groups lay in three categories, *Preparatory condition*, *Hearer's intention*, and *Perlocutionary effect* across the request types. In addition, the trend for Question was different from the trends for the other three types with the trends for Indirect Question and Hint being quite similar. However, Table 6.1.6 and Table 6.1.7 indicate the difference in the trend of distribution among the request types and the groups.

For Direct Request, *Perlocutionary effect* was no longer a category characteristic of the type because this category appeared as often in other types. Rather *Relationship* appeared to be peculiar to Direct Request. Otherwise, however, the trend for Direct Request became close to the ones for Indirect Question and Hint. For Indirect Question and Hint, the trends of the participants' responses are similar to each other. However, the 50% group and the 80% group showed different trends for the two types. For the 50% group, more than 75% of the responses still fell in *Preparatory condition* and *Hearer's intention*. For the 80% group, this percentage decreased to less than 70% and that of *Sincerity condition* increased. In contrast to the three request types, the participants' responses for Question are different. Although the percentage decreased, more than 60% of the responses still fell into *Preparatory condition* for the both groups.

Table 6.1.8 summarizes participants' responses to the question, "Why do you think *H* will (or will not) do *X*?" (Question 9), for the 50% group when the participants were in the grade 7. The results are also graphically shown in Figure 6.1.4 so that they may be easier to grasp. Table

6.1.9 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 7. The results are also graphically shown in Figure 6.1.5 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.1.1.

Table 6.1.8. *Summary of Attribution of Perlocutionary Effects in Requests (Grade 7, 50% group)*

G7/50%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Preparatory condition	19	53%	21	60%	23	68%	17	52%
Sincerity condition	1	3%	2	6%	0	0%	1	3%
H's intention	7	19%	8	23%	5	15%	11	33%
Perlocutionary effect	6	17%	2	6%	5	15%	1	3%
Politeness Principle	1	3%	0	0%	0	0%	0	0%
Relationship	2	6%	2	6%	1	3%	1	3%
Recognition	0	0%	0	0%	0	0%	2	6%
Total	36	100%	35	100%	34	100%	33	100%

Figure 6.1.4. *Attribution of Perlocutionary Effects in Requests (Grade 7, 50% group)*

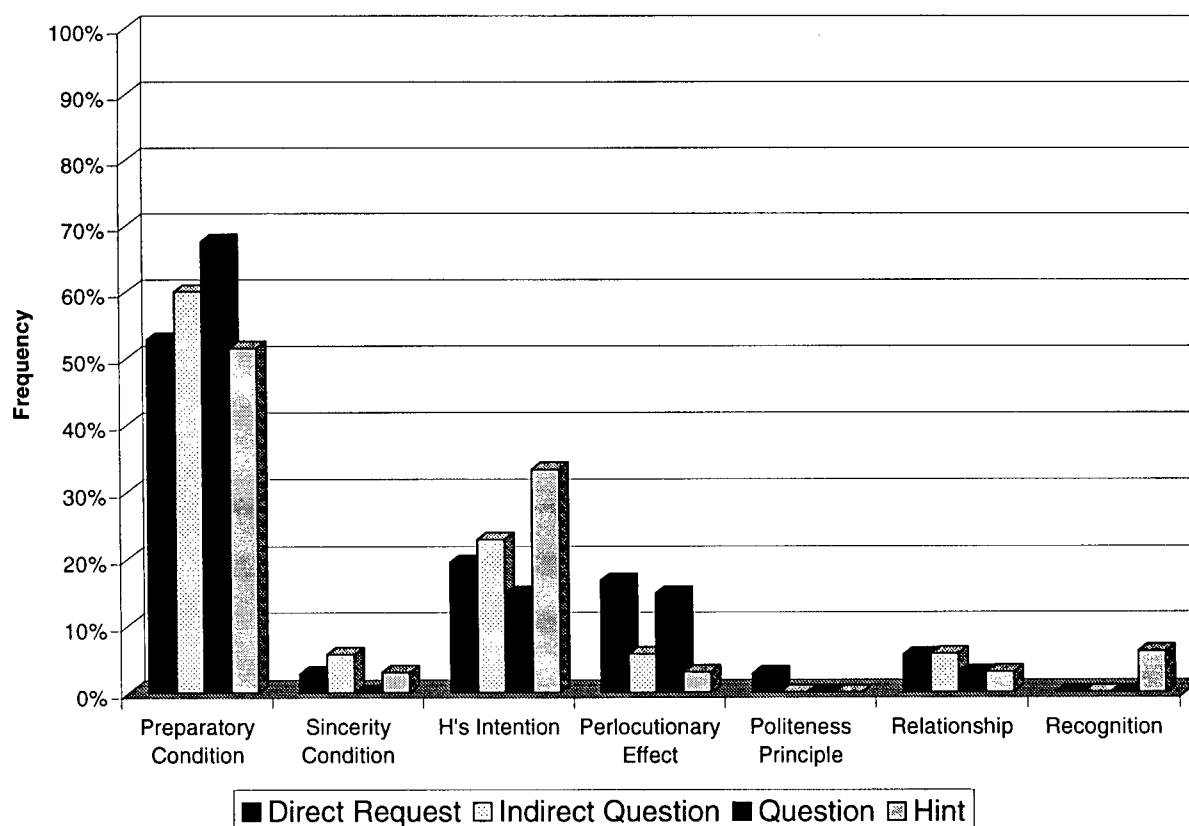
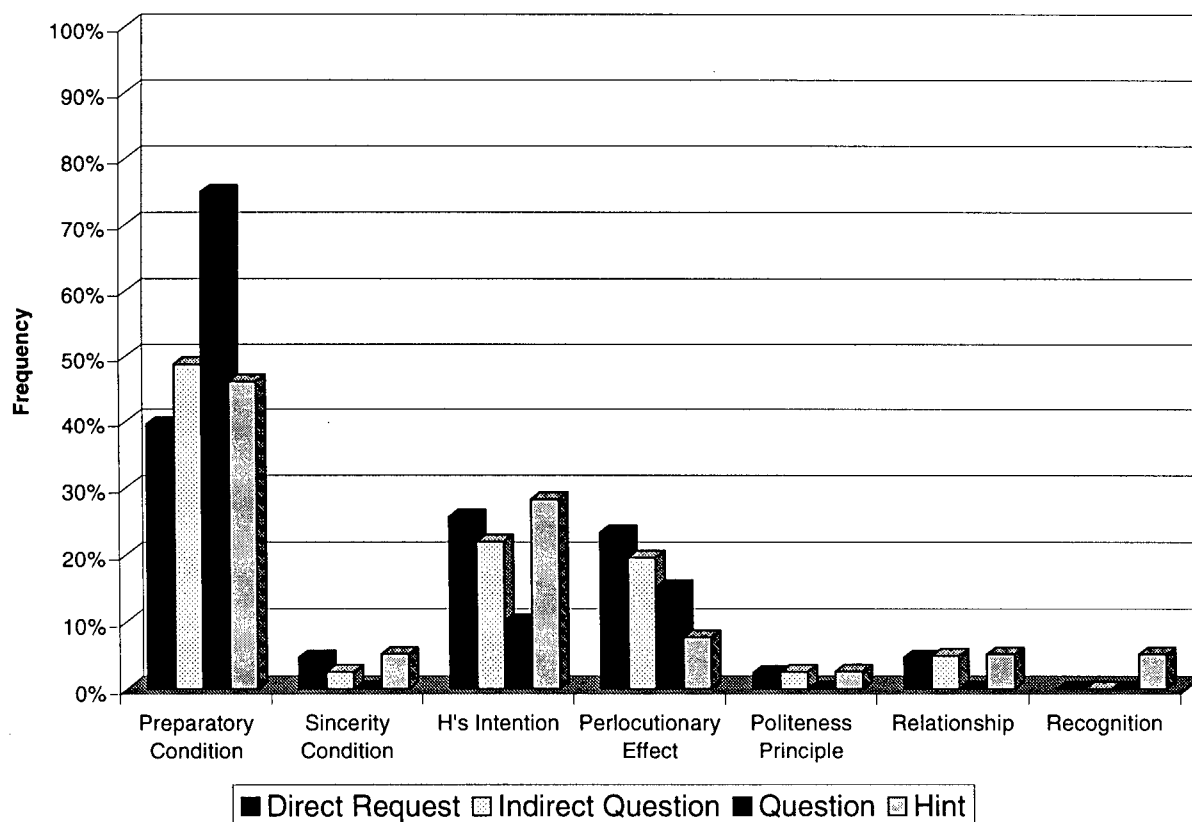


Table 6.1.9. *Summary of Attribution of Perlocutionary Effects in Requests (Grade 7, 80% group)*

G7/80%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Preparatory condition	17	40%	20	49%	30	75%	18	46%
Sincerity condition	2	5%	1	2%	0	0%	2	5%
H's intention	11	26%	9	22%	4	10%	11	28%
Perlocutionary effect	10	23%	8	20%	6	15%	3	8%
Politeness Principle	1	2%	1	2%	0	0%	1	3%
Relationship	2	5%	2	5%	0	0%	2	5%
Recognition	0	0%	0	0%	0	0%	2	5%
Total	43	100%	41	100%	40	100%	39	100%

Figure 6.1.5. *Attribution of Perlocutionary Effects in Requests (Grade 7, 80% group)*

In grade 7, too, the majority of the responses (more than 80%) by the both groups lay in three categories, *Preparatory condition*, *Hearer's intention*, and *Perlocutionary effect* across the request types. In addition, the trend for Question was different from the ones for the other three types. However, the change in trends from grade 5 to grade 6 appeared to become clearer. Table 6.1.8 and Table 6.1.9 indicate that the trend for Direct Request became closer to that for Indirect Question and Hint whereas a difference started to emerge between the trends for Indirect Question and Hint.

For Direct Request, *Relationship* was no longer a category characteristic of the type because this category appeared as often in other types. The trend for Direct Request became even closer to the trends for Indirect Question and Hint. For Indirect Question and Hint, whereas the trends of the participants' responses were still similar to each other, some differences were found in *Hearer's intention* and *Recognition* for the two groups. In addition, these two types were different in *Perlocutionary effect* for the 80% group, but this difference was not remarkable for the 50% group. The group difference found in grade 6 regarding *Sincerity condition* seemed to disappear. The participants' responses for Question were different from the other three types. More than 65% of the responses still fell into *Preparatory condition* for the both groups.

6.2 Paraphrase Task in Requests Assessment

This section presents the result of the analysis on the paraphrase task in the request assessment. The analysis was conducted on the responses to the question "What was *S* trying to say?" (Question 10) in the request assessment.

6.2.1 Coding Scheme for Paraphrase Task in Requests Assessment

On the basis of the responses to the question "What was *S* trying to say?" (Question 10), a coding scheme similar to one in Reeder (1996) was created for the response. This scheme consisted of five categories. Table 6.2.1 exemplifies this scheme.

Table 6.2.1. Coding Scheme for Paraphrase Task in Requests Assessment

Category	Example
Order	<i>Answer the phone.</i> <i>To tell Chris to open the window.</i>
Solicitation	<i>Could you please pick up the phone?</i> <i>Asking Chris to open the window.</i>
Question	<i>Is he able to open the window?</i> <i>Asked her if she even knew how to play chess.</i>
Suggestion	<i>Uhm, the instruction booklet will help you do this.</i> <i>Why don't you just give it a try?</i>
Statement	<i>You can't read it.</i> <i>The window will not get open.</i>

The first category was *order*. Responses that put obligation on the hearer were included in this category. This category corresponded to the request type of direct requests. The second category was *solicitation*. Responses that put less obligation on the hearer were included in this category. The term solicitation is generally termed request as in Reeder (1996). However, the term request was avoided because it was used as a cover term for all the request types. This second category corresponded to the request type of indirect questions. The third category was *question*. Responses that addressed the information about the hearer's ability or knowledge were included in this category. It corresponded to the request type of questions. The fourth category was *suggestion*. Responses that put the least obligation on the hearer were included in this category. It corresponded to the request type of hints. The fifth category was *statement*. Responses that stated the opposite of the requested action were included in this category.

It should be noted that not all the responses were classified into one of the five categories. Some responses were merely repetitions of the original utterance and, therefore, excluded from the five categories. For example, if someone said *Open the window* as a paraphrase of a hint (*The window is closed.*), it counted as an order. However, if the same paraphrase was used in a direct request (*Open the window.*), it was excluded. Other responses were ambiguous. For example, if someone said *Can you open the window?* as a paraphrase, it was excluded because it did not make a distinction between requests and questions. Similarly, paraphrases that used the form of *Would you like to do X?* were excluded because they could be interpreted as a question, a solicitation, an order, a suggestion, and an offer (Reeder, 1996). Therefore, these repetitive or ambiguous responses were categorized as *unclassified*.

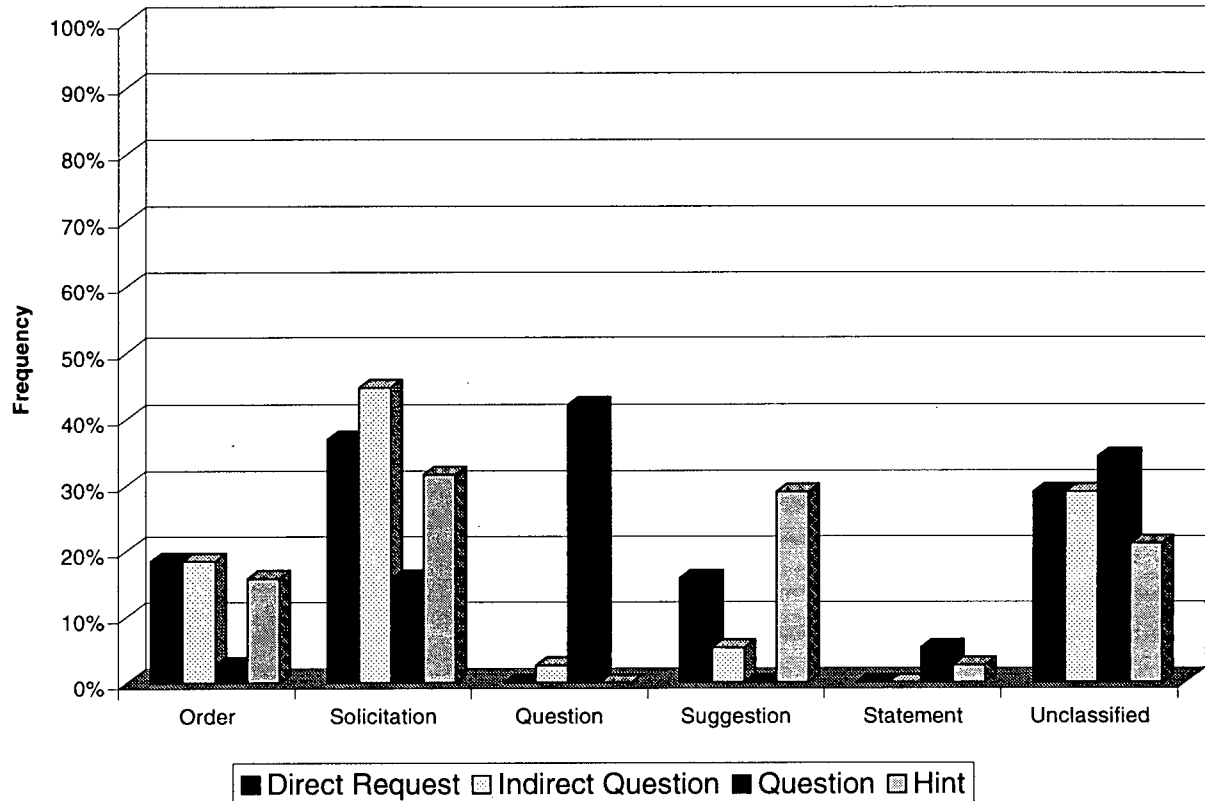
6.2.2 Results of Paraphrase Task in Requests Assessment

Table 6.2.2 summarizes participants' responses to the question, "What was *S* trying to say?" (Question 10), for the 80% group when the participants were in the grade 5. The results are also graphically shown in Figure 6.2.1 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.2.1.

Table 6.2.2. Summary of Paraphrase Task in Requests Assessment (Grade 5, 80% group)

G5/80%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Order	7	18%	7	18%	1	3%	6	16%
Solicitation	14	37%	17	45%	6	16%	12	32%
Question	0	0%	1	3%	16	42%	0	0%
Suggestion	6	16%	2	5%	0	0%	11	29%
Statement	0	0%	0	0%	2	5%	1	3%
Unclassified	11	29%	11	29%	13	34%	8	21%
Total	38	100%	38	100%	38	100%	38	100%

Figure 6.2.1. Paraphrase Task in Requests Assessment (Grade 5, 80% group)



In grade 5, responses by the 80% group indicated that Direct Requests, Indirect Questions, and Hint were most often considered to be a solicitation, whereas Questions were most often regarded as a question (see Table 6.2.2). Direct Requests were also considered to be an order or a suggestion. Indirect Questions were also considered to be an order. Questions were also regarded as a solicitation. Hints were considered to be a suggestion as often as a solicitation, and less often to be an order.

Table 6.2.3 summarizes participants' responses to the question, "What was *S* trying to say?" (Question 10), for the 50% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.2.2 so that they may be easier to grasp. Table 6.2.4 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.2.3 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.2.1.

Table 6.2.3. Summary of Paraphrase Task in Requests Assessment (Grade 6, 50% group)

G6/50%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Order	9	30%	8	27%	2	7%	2	6%
Solicitation	9	30%	10	33%	4	13%	10	32%
Question	0	0%	1	3%	11	37%	0	0%
Suggestion	5	17%	4	13%	3	10%	10	32%
Statement	0	0%	0	0%	3	10%	1	3%
Unclassified	7	23%	7	23%	7	23%	8	26%
Total	30	100%	30	100%	30	100%	31	100%

Figure 6.2.2. Paraphrase Task in Requests Assessment (Grade 6, 50% group)

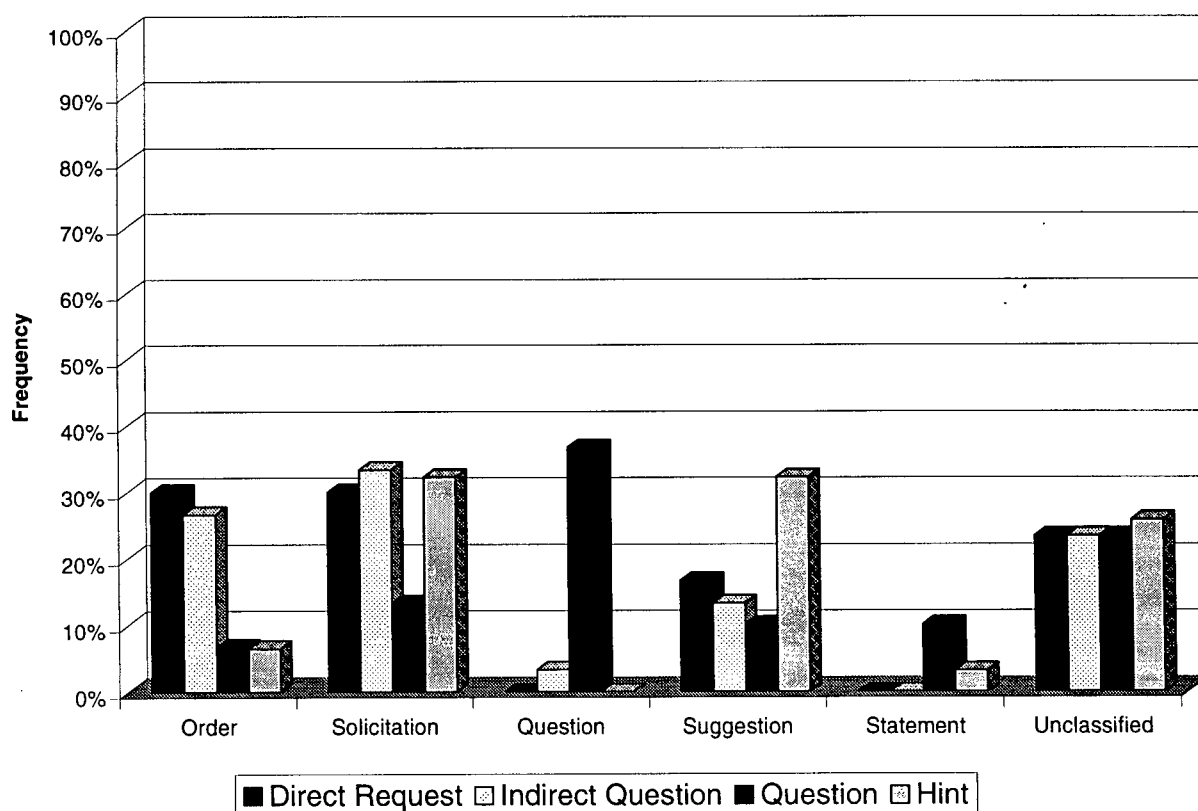
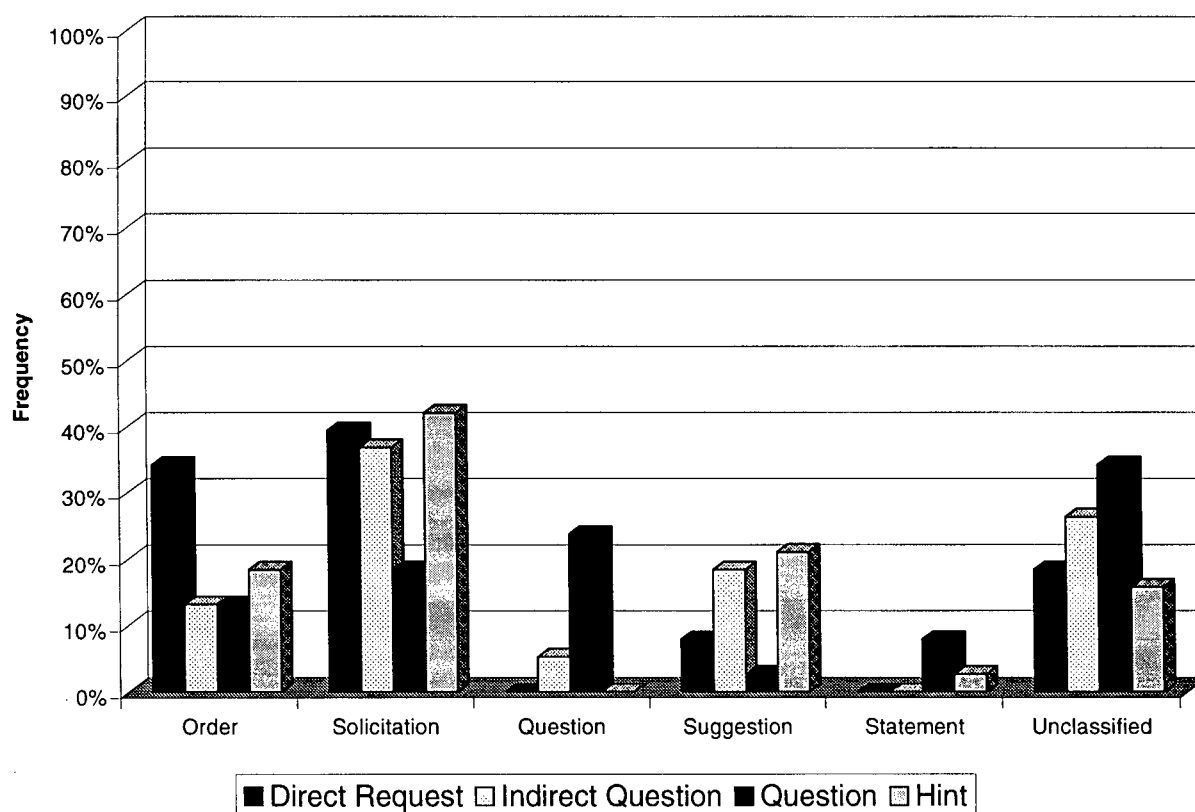


Table 6.2.4. *Summary of Paraphrase Task in Requests Assessment (Grade 6, 80% group)*

G6/80%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Order	13	34%	5	13%	5	13%	7	18%
Solicitation	15	39%	14	37%	7	18%	16	42%
Question	0	0%	2	5%	9	24%	0	0%
Suggestion	3	8%	7	18%	1	3%	8	21%
Statement	0	0%	0	0%	3	8%	1	3%
Unclassified	7	18%	10	26%	13	34%	6	16%
Total	38	100%	38	100%	38	100%	38	100%

Figure 6.2.3. *Paraphrase Task in Requests Assessment (Grade 6, 80% group)*

In grade 6, the trends of distribution were similar to those of the 80% group in grade 5 regarding the request types in the sense that Direct Requests, Indirect Questions, and Hints were most often considered to be a solicitation, whereas Questions was most often regarded as a question (see Table 6.2.3 and Table 6.2.4). Furthermore, the percentage of Direct Requests being interpreted as an order increased. Although Indirect Questions were most often considered to be a solicitation, they were also considered to be an order or a suggestion. For Questions, the responses were different between the two groups. For the 50% group Questions were also regarded as an order, or a suggestion. For the 80% group Questions were also regarded as an order and a solicitation. In addition, sometimes Questions were considered to be a statement. The

responses were different between the two groups for Hints as well. For the 50% group Hints were considered to be a suggestion as often as a solicitation. For the 80% group Hints were most often considered to be a solicitation, and sometimes to be a suggestion and an order.

Table 6.2.5 summarizes participants' responses to the question, "What was *S* trying to say?" (Question 10), for the 50% group when the participants were in the grade 7. The results are also graphically shown in Figure 6.2.4 so that they may be easier to grasp. Table 6.2.6 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.2.5 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.2.1.

Table 6.2.5. *Summary of Paraphrase Task in Requests Assessment (Grade 7, 50% group)*

G7/50%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Order	9	30%	8	27%	3	10%	10	33%
Solicitation	8	27%	12	40%	8	27%	12	40%
Question	0	0%	2	7%	9	30%	0	0%
Suggestion	3	10%	4	13%	1	3%	5	17%
Statement	0	0%	0	0%	4	13%	0	0%
Unclassified	10	33%	4	13%	5	17%	3	10%
Total	30	100%	30	100%	30	100%	30	100%

Figure 6.2.4. Paraphrase Task in Requests Assessment (Grade 7, 50% group)

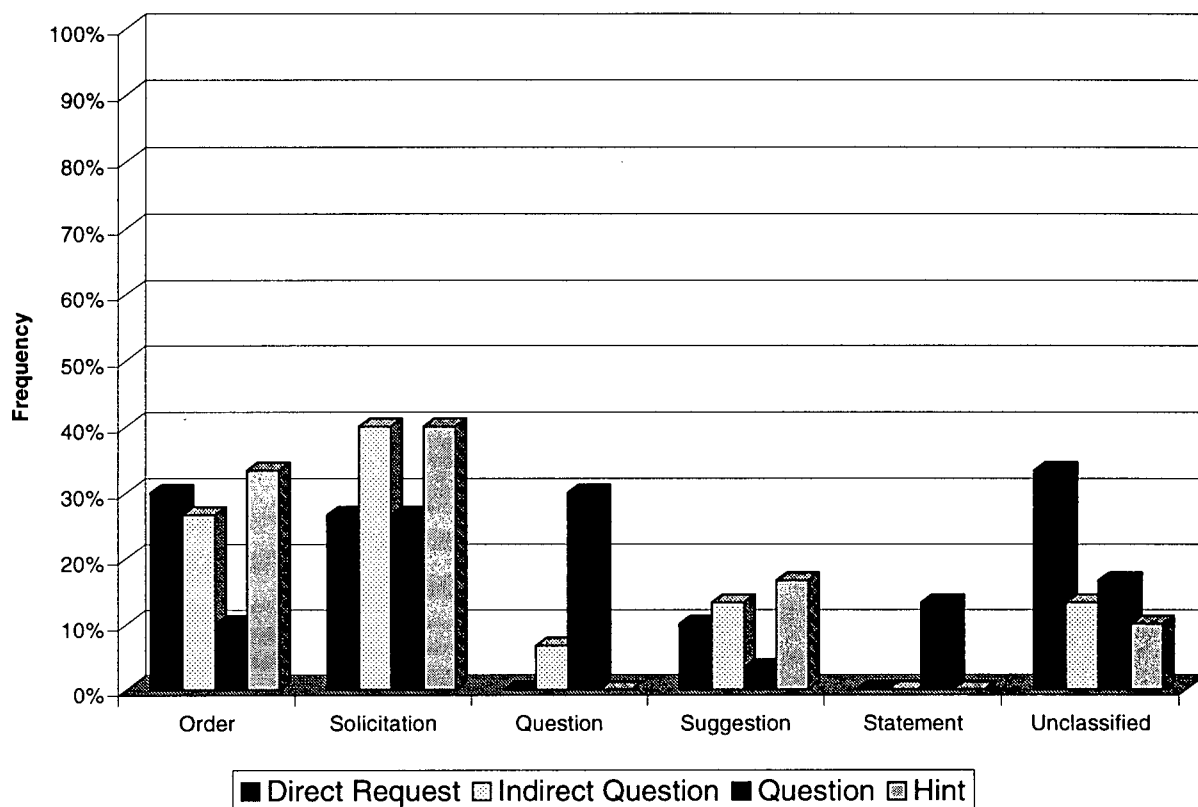
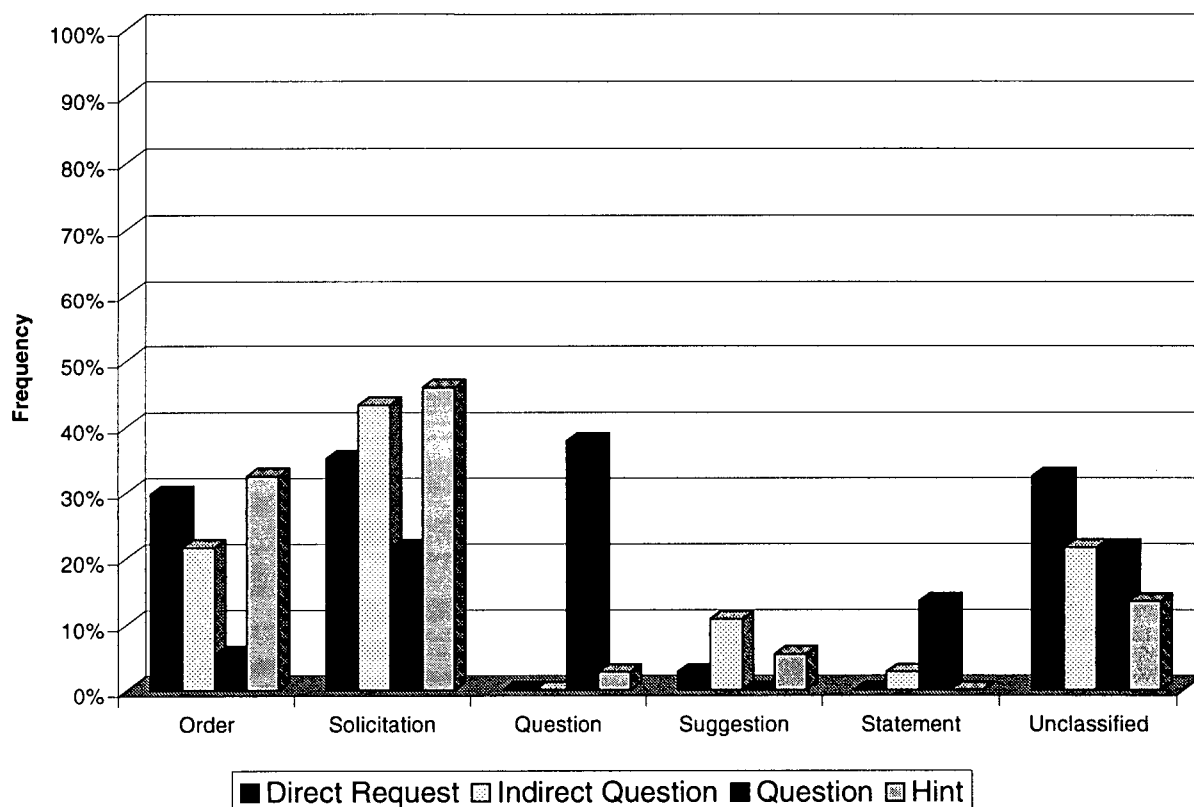


Table 6.2.6. Summary of Paraphrase Task in Requests Assessment (Grade 7, 80% group)

G7/80%	Direct Request		Indirect Question		Question		Hint	
	N	%	N	%	N	%	N	%
Order	11	30%	8	22%	2	5%	12	32%
Solicitation	13	35%	16	43%	8	22%	17	46%
Question	0	0%	0	0%	14	38%	1	3%
Suggestion	1	3%	4	11%	0	0%	2	5%
Statement	0	0%	1	3%	5	14%	0	0%
Unclassified	12	32%	8	22%	8	22%	5	14%
Total	37	100%	37	100%	37	100%	37	100%

Figure 6.2.5. Paraphrase Task in Requests Assessment (Grade 7, 80% group)



In grade 7, the trends of distribution became somewhat different (see Table 6.2.5 and Table 6.2.6). For the 50% group, Direct Requests were most often considered to be an order, and slightly less often to be a solicitation. The 80% group showed the opposite of this pattern of distribution. However, in both groups, the differences between the two categories were small and, therefore, it appeared that Direct Requests were considered to be an order as often as a solicitation. Indirect Questions were most often regarded as a solicitation, and sometimes as an order and a suggestion. Questions were most often regarded as a question, and sometimes as a solicitation. Furthermore, they were interpreted as a statement for the both groups. Hints were most often considered to be a solicitation. In addition, they were also considered to be an order more often than as a suggestion.

6.3 Attribution of Perlocutionary Effects in Ironical Utterances

This section presents the result of the analysis on attribution of perlocutionary effects in ironical utterances. Participants' responses to the question "Do you think *H* is glad to hear *S*'s comment?" (Question 8) are descriptively summarized. The analysis was conducted on the responses to the question "Why do you think *H* is (or is not) glad (to hear *S*'s comment)?" (Question 9) in the irony assessment.

6.3.1 Coding Scheme for Attribution of Perlocutionary Effects in Ironical Utterances

On the basis of the responses to the question “Why do you think *H* is (or is not) glad (to hear *S*’s comment)?” (Question 9), a coding scheme was created for the response types. This scheme consisted of seven categories. Table 6.3.1 exemplifies this scheme.

Table 6.3.1. Coding Scheme for Attribution of Perlocutionary Effect in Ironical Utterances

Category	Example
Expressives	<i>Because he’s glad that other people are glad of his accomplishments.</i> <i>Because at least someone else likes it.</i>
Implication	<i>Because it’s a good comment.</i> <i>Because it was a compliment.</i>
Shared knowledge	<i>Because she ran really well.</i> <i>Because he bought it at half price.</i>
Pragmatic principles	<i>Because it’s not very nice to say something like that.</i> (Politeness Principle) <i>Because his dad said it sarcastically.</i> (Irony Principle)
Perlocutionary effect	<i>Because it makes her feel a lot better.</i> <i>Because it puts him down even more.</i>
Relationship	<i>Because mothers are very comforting.</i> <i>It would be nice if a friend said that.</i>
Hearer’s initial psychological state	<i>Because he was disappointed.</i> <i>Because he must have felt down.</i>

The first category was *expressives*. To say ironical or deceptive utterances is an indirect speech act. An indirect speech act involves in an utterance both a primary illocutionary act, which is indirectly performed, and a secondary illocutionary act, which is directly performed (Searle, 1975b). In ironical or deceptive utterances a speaker’s primary illocutionary act is an *expressive* by which to express a psychological state toward the hearer, and the speaker’s secondary illocutionary act is an *assertive* by which to get the hearer to form or attend to a belief (Clark, 1996; Levinson, 1983; Searle, 1975a). Assertives were originally termed *Representatives* in Searle (1975a) and were treated as such in Levinson (1983). However, when Searle (1975a) reappeared in Searle (1979), *Representatives* was replaced with *Assertives* by the author, who stated that he preferred the latter to the former. Thus, ironical or deceptive utterances involve an expressive as the primary illocutionary act, and an assertive as the secondary illocutionary act. Participants’ responses that were associated with the primary illocutionary act were included in this category.

The second category was *implication*. Implication here was a noun form of the verb *imply* which was used in the sense that “the assertion implies a belief” (Austin, 1975, p. 49) According to Austin, if a speaker says *The cat is on the mat*, the utterance implies that the speaker believes that the cat is on the mat. When someone says *The cat is on the mat*, and he or she does not believe that the cat is on the mat, it is an instance of insincerity and this is where nonliteral meanings departs from literal meanings. Therefore, if only literal meanings are taken into consideration, it is not possible to say *The cat is on the mat* along with *I do not believe that it is*. Participants’ responses included in this category were the ones that assumed the speaker’s final utterance represented his or her belief in a sincere way.

The third category was *shared knowledge*. Shared knowledge is knowledge that the speaker and the hearer believe they share, and is “a body of facts which both speaker and hearer believe they agree on and which is therefore not in dispute” (Kempson, 1975, p. 167). Participants’ responses that mentioned a fact, or the knowledge about a fact, in a story were included in this category.

The fourth category was called *Pragmatic Principles*. Specifically, it included Politeness Principle and *Irony Principle*. This category included the responses that indicated participants’ awareness of pragmatic rules on politeness and irony. As was seen before, politeness principle is defined as to “Minimize (other things being equal) the expression of impolite beliefs” (Leech, 1983, p. 81). According to Leech, irony principle is defined as follows. “If you must cause offence, at least do so in a way which doesn’t overtly conflict with the PP, but allows the hearer to arrive at the offensive point of your remark indirectly, by way of implicature” (Leech, 1983, p. 82). The term *implicature* was introduced by Grice (1975) and was applied to the cases in which whatever speakers implied (or suggested, meant, and so on) is distinct from what they said. Thus, children whose responses mentioned any cue that leads the hearer to get to this offensive point of ironical utterances were considered to be aware of this irony principle. Such cues can be both contextual as well as intonational (Ackerman, 1983; Capelli *et al.*, 1990; Kreuz & Roberts, 1995).

The fifth category was *perlocutionary effect*. As was seen before, a perlocutionary effect is a certain effect that is brought about or achieved on a hearer by a speaker’s saying something (Austin, 1975; Searle, 1969, 1975b). Participants’ responses included in this category explicitly mentioned perlocutionary effects of the utterance.

The sixth category referred to the social relationship between the speaker and the hearer. Only responses that mentioned this relationship explicitly were included in this category.

The seventh category was the hearer’s initial psychological state. Participants whose responses were included in this category attributed the hearer’s current psychological state to his or her initial psychological state. That is, they did not relate the change in the hearer’s psychological state to the speaker’s utterance.

6.3.2 Results of Attribution of Perlocutionary Effects in Ironical Utterances

Table 6.3.2 and Table 6.3.3 summarize participants’ responses to the question “Do you think *H* is glad to hear *S*’s comment?” (Question 8). The results in Table 6.3.2 are the summary for the 50% group and the results in Table 6.3.3 are the summary for the 80% group.

Table 6.3.2. *Summary of Tendency of Perlocutionary Effects in Irony (50% group)*

50%			Sincere	Ironical but Misfiring	Deceptive	Ironical
		N				
Grade 6		31				
	Glad		100%	94%	90%	84%
	Not Glad		0%	6%	10%	16%
Grade 7		30				
	Glad		100%	80%	100%	80%
	Not Glad		0%	20%	0%	20%

Table 6.3.3. *Summary of Tendency of Perlocutionary Effects in Irony (80% group)*

80%			Sincere	Ironical but Misfiring	Deceptive	Ironical
		N				
Grade 5		38				
	Glad		100%	87%	95%	82%
	Not Glad		0%	13%	5%	18%
Grade 6		38				
	Glad		100%	74%	97%	84%
	Not Glad		0%	26%	3%	16%
Grade 7		37				
	Glad		100%	68%	100%	78%
	Not Glad		0%	32%	0%	22%

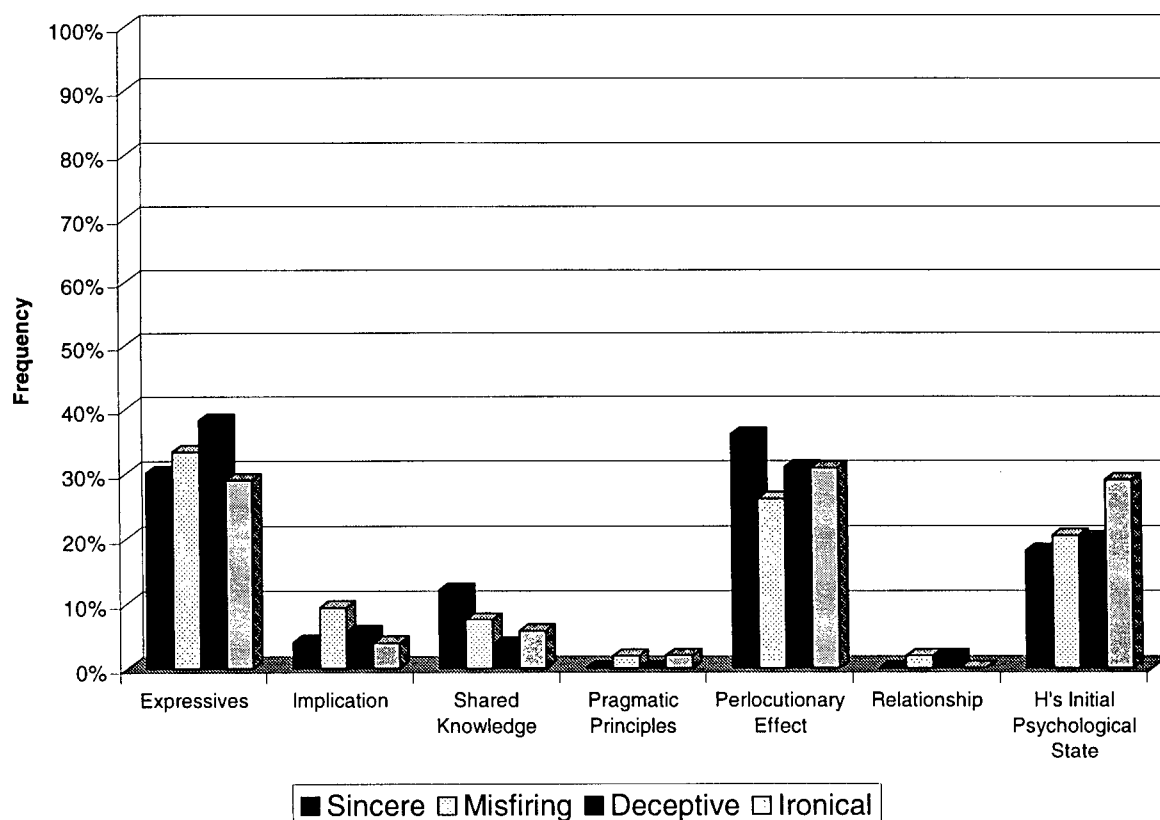
The participants appeared to make a clear distinction between the two ironical utterances (Ironical but Misfiring utterances and Ironical utterances) and the other two types. In general, the participants regarded the perlocutionary effects of Sincere utterances and Deceptive utterances as positive. In contrast, for the two ironical utterances, some of the participants looked at their perlocutionary effects as negative, and the percentage of such participants increased with age.

Table 6.3.4 summarize participants' responses to the question, "Why do you think *H* is (or is not) glad (to hear *S*'s comment)?" (Question 9), for the 80% group when the participants were in the grade 5. The results are also graphically shown in Figure 6.3.1 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.3.1.

Table 6.3.4. *Summary of Attribution of Perlocutionary Effects in Ironical Utterances (Grade 5, 80% group)*

G5/80%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Expressives	15	30%	18	33%	21	38%	15	29%
Implication	2	4%	5	9%	3	5%	2	4%
Shared Knowledge	6	12%	4	7%	2	4%	3	6%
Pragmatic Principles	0	0%	1	2%	0	0%	1	2%
Perlocutionary Effect	18	36%	14	26%	17	31%	16	31%
Relationship	0	0%	1	2%	1	2%	0	0%
H's Initial Psychological State	9	18%	11	20%	11	20%	15	29%
Total	50	100%	54	100%	55	100%	52	100%

Figure 6.3.1. *Attribution of Perlocutionary Effects in Ironical Utterances (Grade 5, 80% group)*



In grade 5, the majority of the responses (more than 80%) by the 80% group lay in three categories, *Expressives*, *Perlocutionary Effect*, and *Hearer's initial psychological state* across the utterance types (see Table 6.3.4). For the Sincere utterances, *Perlocutionary effect* was the most frequent category, followed by *Expressives* and *Hearer's initial psychological state*. For the Ironical but Misfiring utterances and the Deceptive utterances, *Expressives* was the most frequent, followed by *Perlocutionary Effect* and *Hearer's initial psychological state*. For the Ironical utterances, these three categories were about equally frequent.

Table 6.3.5 summarize participants' responses to the question, "Why do you think *H* is (or is not) glad (to hear *S*'s comment)?" (Question 9), for the 50% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.3.2 so that they may be easier to grasp. Table 6.3.6 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.3.3 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.3.1.

Table 6.3.5. *Summary of Attribution of Perlocutionary Effects in Ironical Utterances (Grade 6, 50% group)*

G6/50%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Expressives	15	37%	14	34%	11	29%	13	28%
Implication	2	5%	1	2%	2	5%	1	2%
Shared Knowledge	4	10%	8	20%	1	3%	4	9%
Pragmatic Principles	1	2%	0	0%	0	0%	1	2%
Perlocutionary Effect	14	34%	7	17%	11	29%	15	33%
Relationship	0	0%	0	0%	0	0%	0	0%
H's Initial Psychological State	5	12%	11	27%	13	34%	12	26%
Total	41	100%	41	100%	38	100%	46	100%

Figure 6.3.2. *Attribution of Perlocutionary Effects in Ironical Utterances (Grade 6, 50% group)*

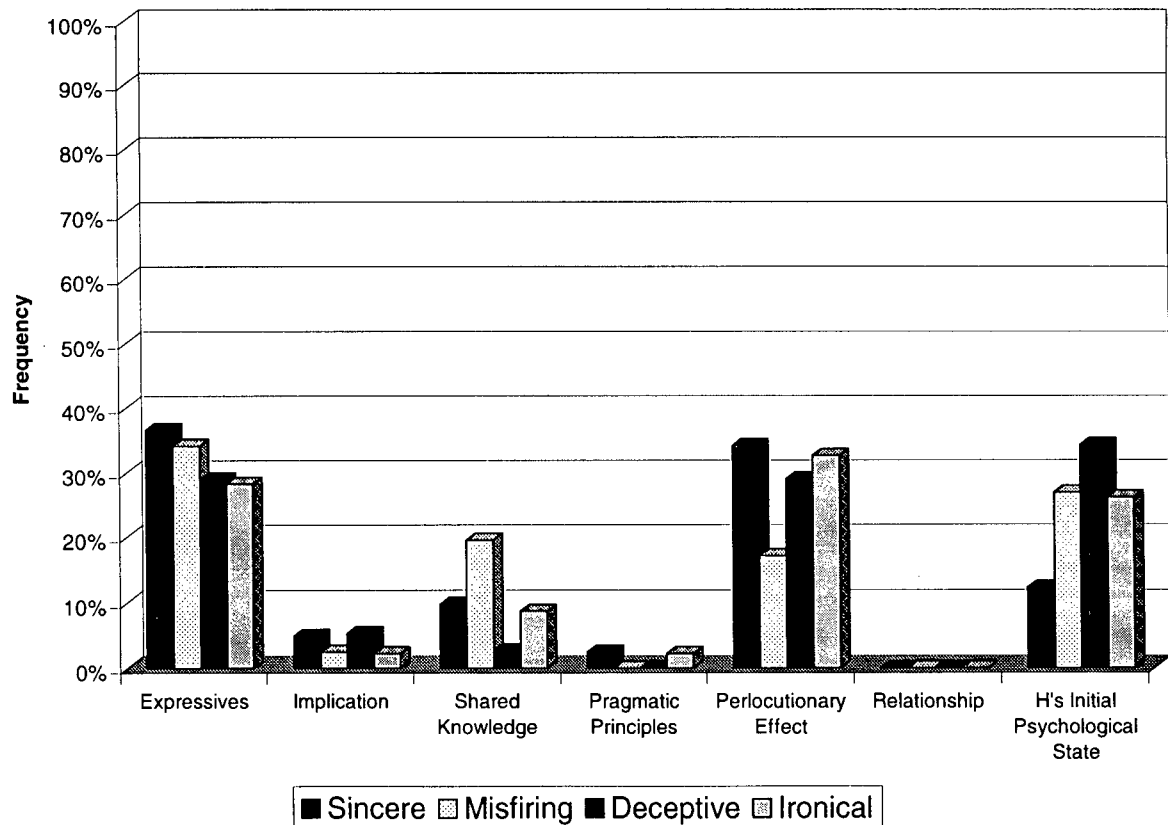
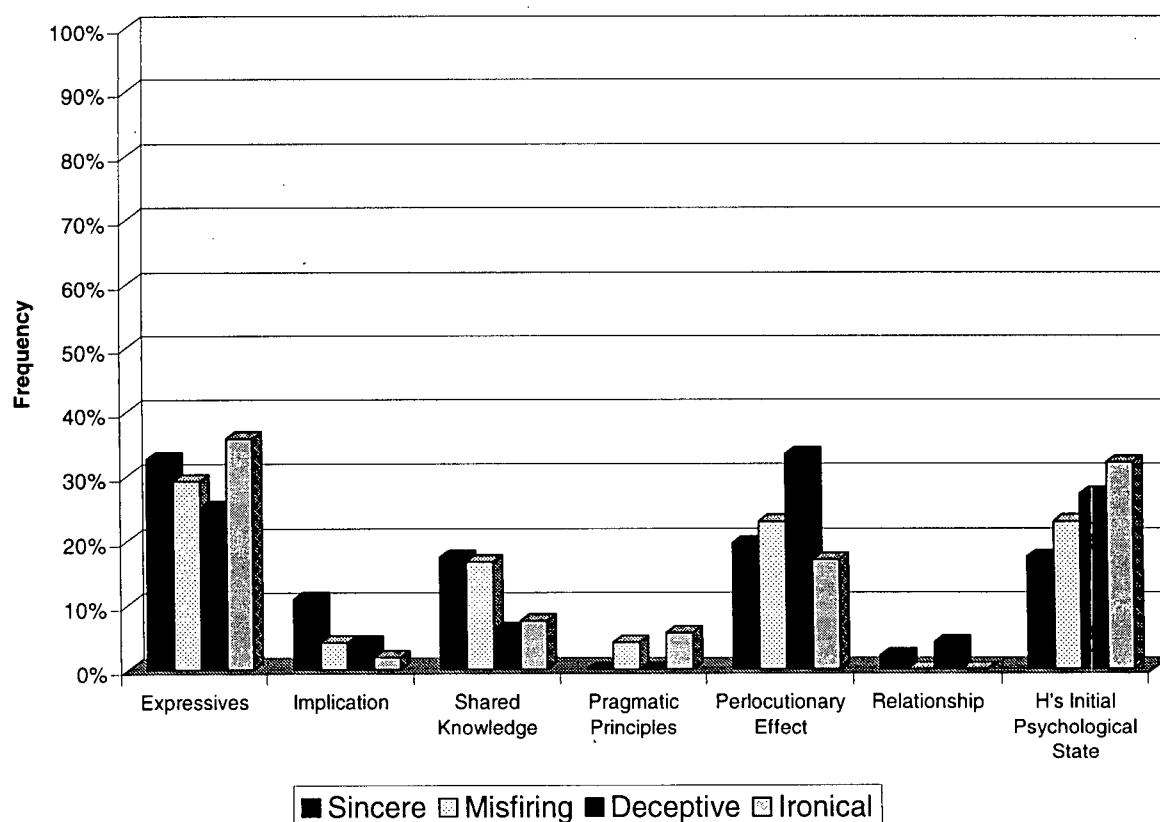


Table 6.3.6. *Summary of Attribution of Perlocutionary Effects in Ironical Utterances (Grade 6, 80% group)*

G6/80%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Expressives	15	33%	14	29%	12	25%	19	36%
Implication	5	11%	2	4%	2	4%	1	2%
Shared Knowledge	8	17%	8	17%	3	6%	4	8%
Pragmatic Principles	0	0%	2	4%	0	0%	3	6%
Perlocutionary Effect	9	20%	11	23%	16	33%	9	17%
Relationship	1	2%	0	0%	2	4%	0	0%
H's Initial Psychological State	8	17%	11	23%	13	27%	17	32%
Total	46	100%	48	100%	48	100%	53	100%

Figure 6.3.3. *Attribution of Perlocutionary Effects in Ironical Utterances (Grade 6, 80% group)*



In grade 6, the trends of distribution were very similar to those of the 80% group in grade 5 regarding the utterance types in the sense that the majority of the responses (more than 70%) lay in three categories, *Expressives*, *Perlocutionary Effect*, and *Hearer's initial psychological state* for both groups. However, Table 6.3.5 and Table 6.3.6 indicate the difference in the trend of distribution among the utterance types and the groups.

The two groups were similar in the distribution of the Ironical but Misfiring utterances. For the Ironical but Misfiring utterances, *Expressives* were the most frequent category, followed by *Hearer's initial psychological state* and *Perlocutionary effect* as well as *Shared knowledge*.

Otherwise, the two groups were different in the distributions. For the Sincere utterances, more than 30 % of the responses by the 50% group fell in each of *Expressives* and *Perlocutionary effect* categories whereas more than 30% of the responses by the 80% group fell only in *Expressives*. For the Deceptive utterances, *Hearer's initial psychological state* was the most frequent for the 50% group whereas *Perlocutionary effect* was the most frequent for the 80% group. For the Ironical utterances, the 50% group showed a distribution similar to that of the 80% group in grade 5 with *Perlocutionary effect* being the most frequent followed by *Expressives* and *Hearer's initial psychological state*. In contrast, only 17% of the responses by the 80% group fell in *Perlocutionary effect* with more than 30% falling in each of *Expressives* and *Hearer's initial psychological state* categories.

Table 6.3.7 summarize participants' responses to the question, "Why do you think *H* is (or is not) glad (to hear *S*'s comment)?" (Question 9), for the 50% group when the participants were in the grade 7. The results are also graphically shown in Figure 6.3.4 so that they may be easier to grasp. Table 6.3.8 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 7. The results are also graphically shown in Figure 6.3.5 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.3.1.

Table 6.3.7. *Summary of Attribution of Perlocutionary Effects in Ironical Utterances (Grade 7, 50% group)*

G7/50%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Expressives	10	27%	11	28%	10	28%	8	21%
Implication	2	5%	1	3%	0	0%	1	3%
Shared Knowledge	5	14%	7	18%	2	6%	2	5%
Pragmatic Principles	0	0%	1	3%	0	0%	1	3%
Perlocutionary Effect	12	32%	7	18%	11	31%	15	39%
Relationship	1	3%	1	3%	2	6%	0	0%
H's Initial Psychological State	7	19%	11	28%	11	31%	11	29%
Total	37	100%	39	100%	36	100%	38	100%

Figure 6.3.4. Attribution of Perlocutionary Effects in Ironical Utterances (Grade 7, 50% group)

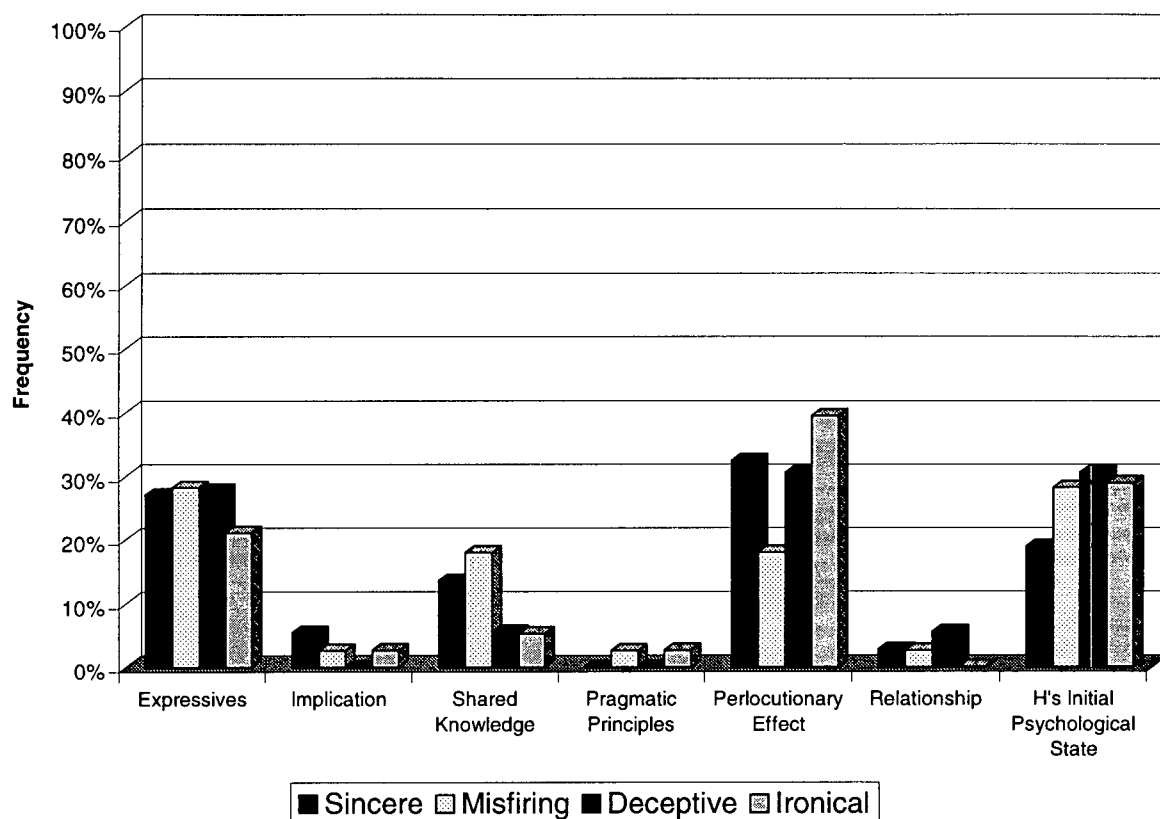
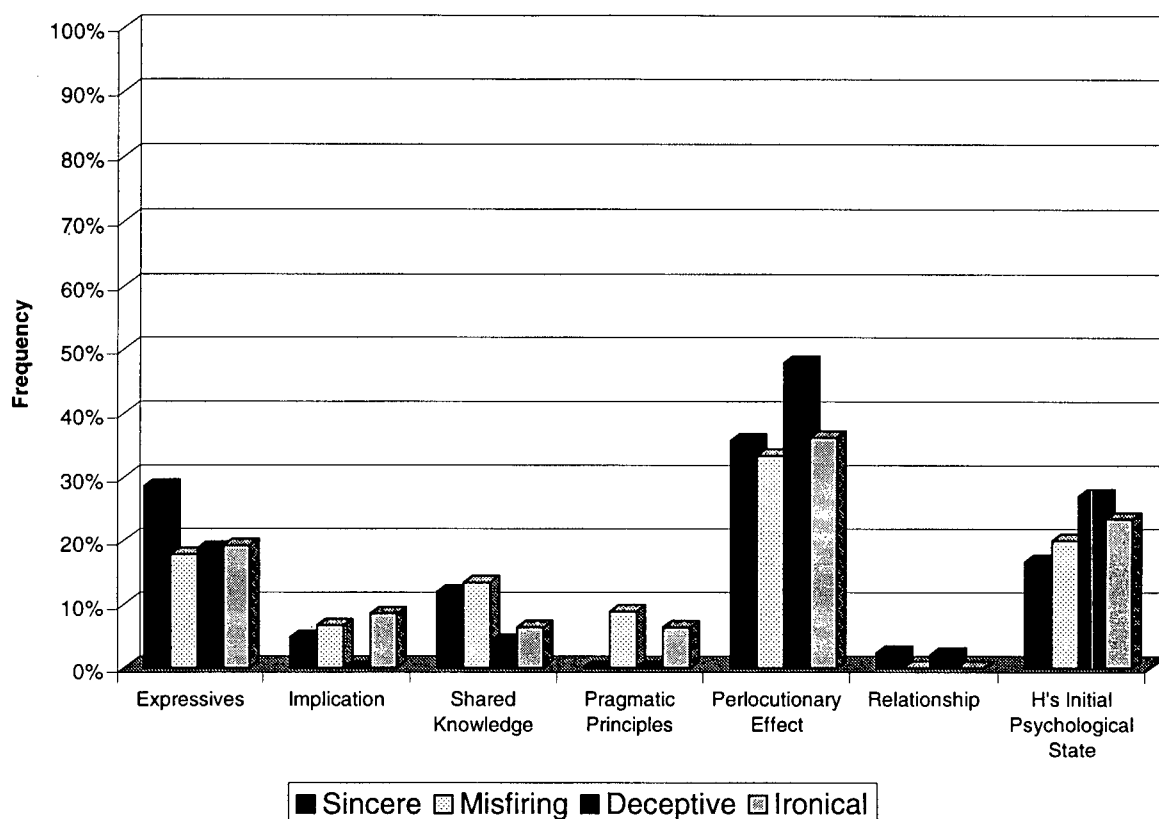


Table 6.3.8. Summary of Attribution of Perlocutionary Effects in Ironical Utterances (Grade 7, 80% group)

G7/80%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Expressives	12	29%	8	18%	9	19%	9	19%
Implication	2	5%	3	7%	0	0%	4	9%
Shared Knowledge	5	12%	6	13%	2	4%	3	6%
Pragmatic Principles	0	0%	4	9%	0	0%	3	6%
Perlocutionary Effect	15	36%	15	33%	23	48%	17	36%
Relationship	1	2%	0	0%	1	2%	0	0%
H's Initial Psychological State	7	17%	9	20%	13	27%	11	23%
Total	42	100%	45	100%	48	100%	47	100%

Figure 6.3.5. Attribution of Perlocutionary Effects in Ironical Utterances (Grade 7, 80% group)



In grade 7, the majority of the responses (more than 70%) still lay in three categories, *Expressives*, *Perlocutionary Effect*, and *Hearer's initial psychological state* for both groups. However, Table 6.3.7 and Table 6.3.8 indicate the difference in the trend of distribution among the utterance types and the groups.

The two groups were similar in the distributions of the Sincere utterances and the Ironical utterances. For the Sincere utterances, *Perlocutionary effect* was the most frequent followed by *Effectives* and *Hearer's initial psychological state*. For the Ironical utterances, *Perlocutionary effect* was the most frequent category, followed by *Hearer's initial psychological state* and *Effectives*. The two groups were different in the distributions for the Ironical but Misfiring utterances and the Deceptive utterances. For the Ironical but Misfiring utterances, *Expressives* and *Hearer's initial psychological state* were the two most frequent categories for the 50% group whereas they followed *Perlocutionary effect* for the 80% group. For the Deceptive utterances, *Effectives*, *Perlocutionary effect*, and *Hearer's initial psychological state* were equally frequent for the 50% group whereas *Perlocutionary effect* was the most frequent for the 80% group.

6.4 Attribution of Speaker Intention in Ironical Utterances

This section presents the result of the analysis on the speaker intention in ironical utterances. The analysis was conducted on the responses to the question "Why do you think S made the comment to H?" (Question 10) in the irony assessment.

6.4.1 Coding Scheme for Attribution of Speaker Intention in Ironical Utterances

On the basis of the responses to the question “Why do you think *S* made the comment to *H*?” (Question 10), a coding scheme was created for the response types. This scheme consisted of seven categories. Table 6.4.1 exemplifies this scheme.

Table 6.4.1. *Coding Scheme for Attribution of Speaker Intention in Ironical Utterances*

Category	Example
Locutionary meaning	<i>Because it's true.</i> <i>Well, because it was the truth.</i>
Implication	<i>I guess that's what he thought of the game.</i> <i>Because he thought it was.</i>
Expressives	<i>To show Robert that he was satisfied with the grade.</i> <i>Just to show how proud she was of Gina.</i>
Assertives	<i>Because she wanted tell her what she thought.</i> <i>Uh, communication, to tell her.</i>
Perlocutionary objectives	<i>To make her feel good.</i> <i>So that William wouldn't feel bad.</i>
Relationship	<i>Because she's her friend and that's what friends are for.</i> <i>Because a lot of time parents have comments about their children's grade.</i>
Shared knowledge	<i>Because it was on sale for half price.</i> <i>Because she didn't know about the fever.</i>

The first category was *locutionary meaning*. This was based on the traditional truth/falsehood dimension of meaning in contrast to happiness/unhappiness dimension (Austin, 1975) in speech act theory. According to this traditional dimension, “meaning can be defined in terms of conditions for the truth of sentences - i.e. be defined in terms of the relation between sentences (and lexical items) and the external world they describe” (Kempson, 1975, p. 2). Responses that mentioned this truth/falsehood dimension were included in this category.

The second category was *implication*. According to Austin (1975), an assertion implies a certain belief. For example, if one says ‘the cat is on the mat’, it implies that he or she believes that the cat is on the mat. In contrast, if one says ‘the cat is on the mat’ when he or she does not believe that the cat is on the mat, the utterance is considered to be insincere. Thus, this notion of implication reflects whether the utterance is interpreted as sincere or not. Responses that indicated that participants inferred the speaker’s belief from what he or she said by interpreting it sincerely were included in this category.

The third and fourth categories were *expressives* and *assertives*. The former is a primary illocutionary act and the latter is a secondary illocutionary (Searle, 1975b). As was seen before, in ironical or deceptive utterances a speaker’s primary illocutionary act is an expressive by which to express a psychological state toward the hearer, and the speaker’s secondary illocutionary act is an assertive by which to get the hearer to form or attend to a belief (Clark, 1996; Levinson, 1983; Searle, 1975a). Participants’ responses that were associated with the primary and secondary illocutionary acts were included in the third and the fourth categories respectively.

The fifth category was *perlocutionary objectives*. As was seen before, perlocutionary acts are not part of understanding itself (Clark, 1996). When hearing someone say *Shoot me!*, for

example, the hearer understands what is meant by the speaker and still may or may not shoot the speaker. Thus, it is important to make a distinction between what the speaker tries to achieve by an utterance and what he or she indeed achieves. The former is the speaker's intended aim and the latter depends on how the hearer considers it. In ironical utterances the speaker tries to bring about some consequent effects on the hearer. This speaker's aim to bring about some consequent effects on the hearer can be called perlocutionary objectives (Hickey, 1992) or perlocutionary purposes (Davis, 1979) which "cover any practical aim the speaker wishes to achieve as a result of his use of language" (Hickey, 1992, p. 85). Responses mentioned the speaker's intended aim about perlocutionary effects that he or she expected to occur on the hearer were included in this category.

The sixth category referred to the relationship between the speaker and the hearer. Here again only responses that mentioned explicitly this social relationship were included in this category.

The seventh category was *shared knowledge*. As was seen before, shared knowledge is knowledge that the speaker and the hearer believe they share (Kempson, 1975). Participants' responses that mentioned a fact, or the knowledge about a fact, in a story were included in this category.

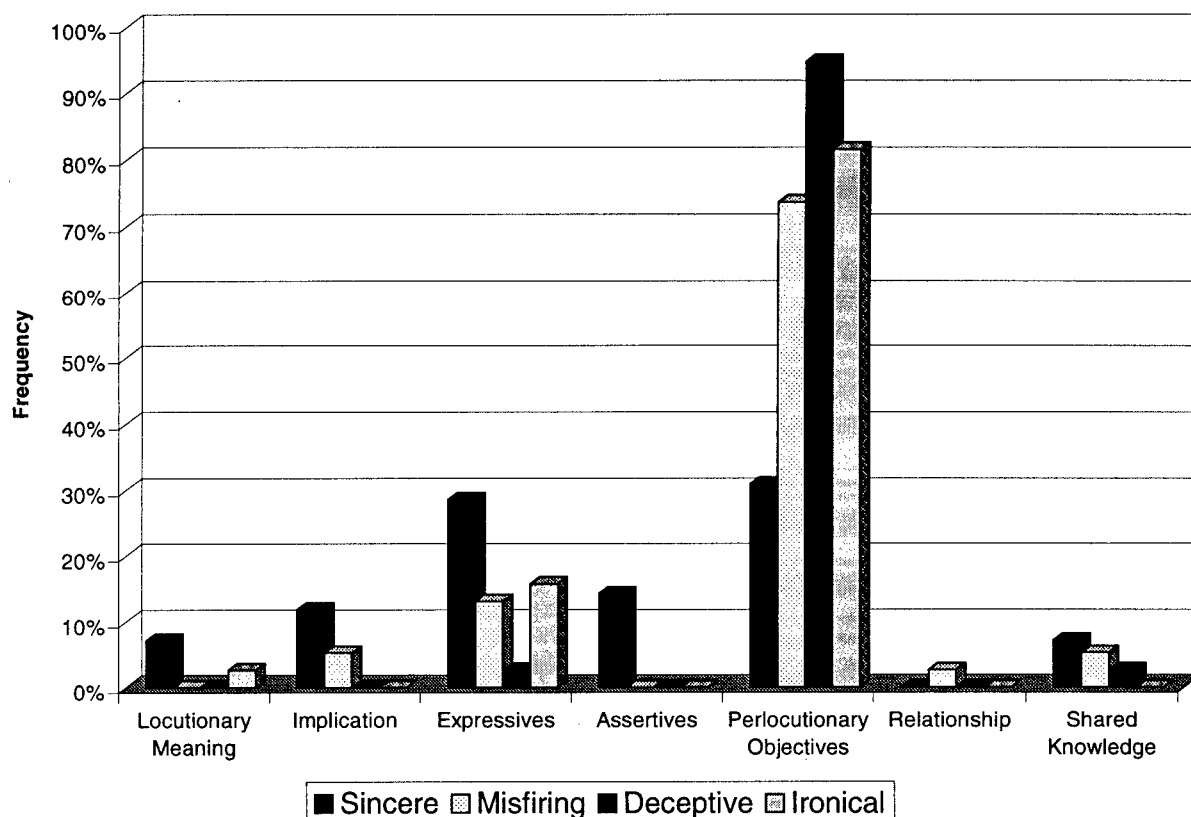
6.4.2 Results of Attribution of Speaker Intention in Ironical Utterances

Table 6.4.2 summarize participants' responses to the question, "Why do you think *S* made the comment to *H*?" (Question 10), for the 80% group when the participants were in the grade 5. The results are also graphically shown in Figure 6.4.1 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.4.1.

Table 6.4.2. *Summary of Attribution of Speaker Intention in Ironical Utterances (Grade 5, 80% group)*

G5/80%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Locutionary Meaning	3	7%	0	0%	0	0%	1	3%
Implication	5	12%	2	5%	0	0%	0	0%
Expressives	12	29%	5	13%	1	3%	6	16%
Assertives	6	14%	0	0%	0	0%	0	0%
Perlocutionary Objectives	13	31%	28	74%	36	95%	31	82%
Relationship	0	0%	1	3%	0	0%	0	0%
Shared Knowledge	3	7%	2	5%	1	3%	0	0%
Total	42	100%	38	100%	38	100%	38	100%

Figure 6.4.1. Attribution of Speaker Intention in Ironical Utterances (Grade 5, 80% group)



In grade 5, the responses by the 80% groups reflected the difference in the utterance types (see Table 6.4.2). For the Sincere utterances, about 30% of the responses fell in each of the *Perlocutionary objectives* and *Expressives* categories. Following the two categories, *Assertives* and *Implication* were also the categories in which more than 10% of the responses fell. For the other three utterance types, majority of the responses (more than 70%) by the 80% group lay in *Perlocutionary objectives*. However, for the Ironical but Misfiring utterances and the Ironical utterances, *Expressives* followed *Perlocutionary objectives*, whereas for the Deceptive utterances, the latter appeared to be the exclusive category.

Table 6.4.3 summarizes participants' responses to the question, "Why do you think *S* made the comment to *H*?" (Question 10), for the 50% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.4.2 so that they may be easier to grasp. Table 6.4.4 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 6. The results are also graphically shown in Figure 6.4.3 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.4.1.

Table 6.4.3. *Summary of Attribution of Speaker Intention in Ironic Utterances (Grade 6, 50% group)*

G6/50%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Locutionary Meaning	6	16%	0	0%	0	0%	0	0%
Implication	3	8%	1	3%	2	6%	1	3%
Expressives	13	34%	3	9%	2	6%	2	6%
Assertives	2	5%	3	9%	0	0%	0	0%
Perlocutionary Objectives	12	32%	25	78%	26	81%	28	85%
Relationship	2	5%	0	0%	1	3%	1	3%
Shared Knowledge	0	0%	0	0%	1	3%	1	3%
Total	38	100%	32	100%	32	100%	33	100%

Figure 6.4.2. *Attribution of Speaker Intention in Ironic Utterances (Grade 6, 50% group)*

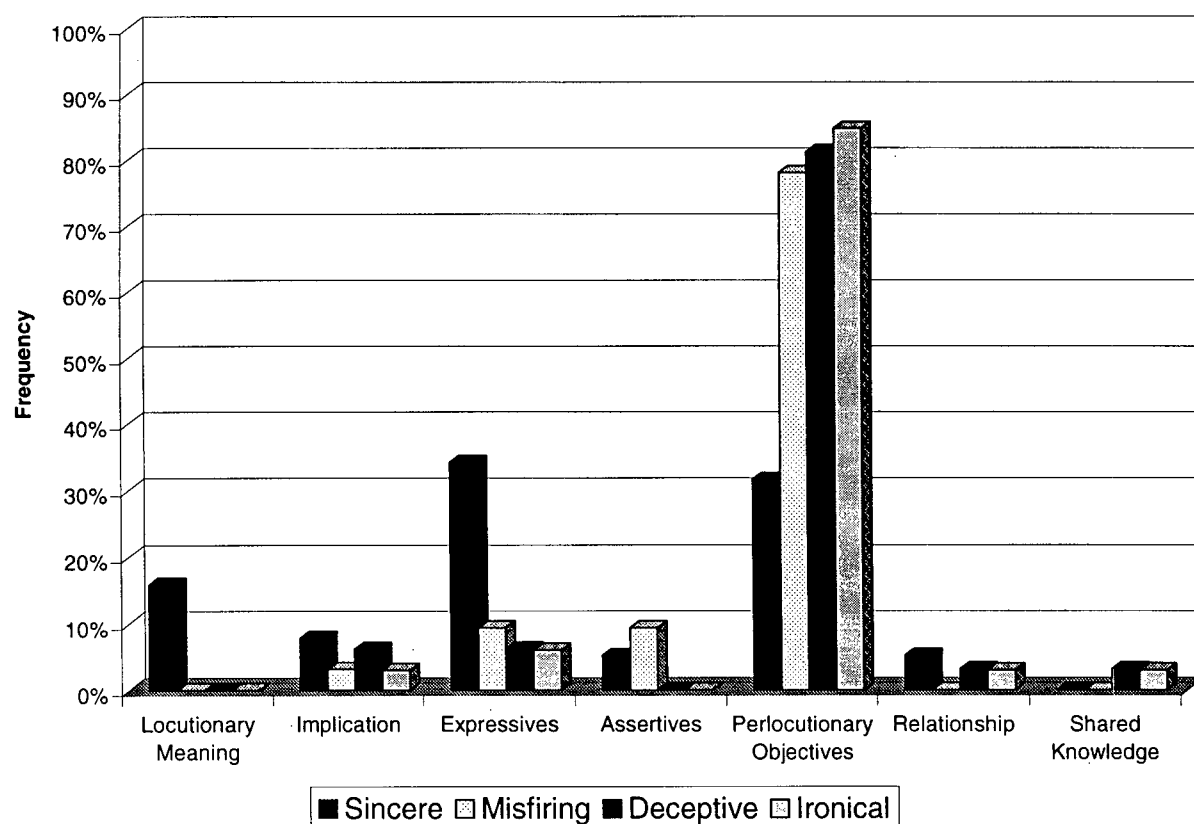
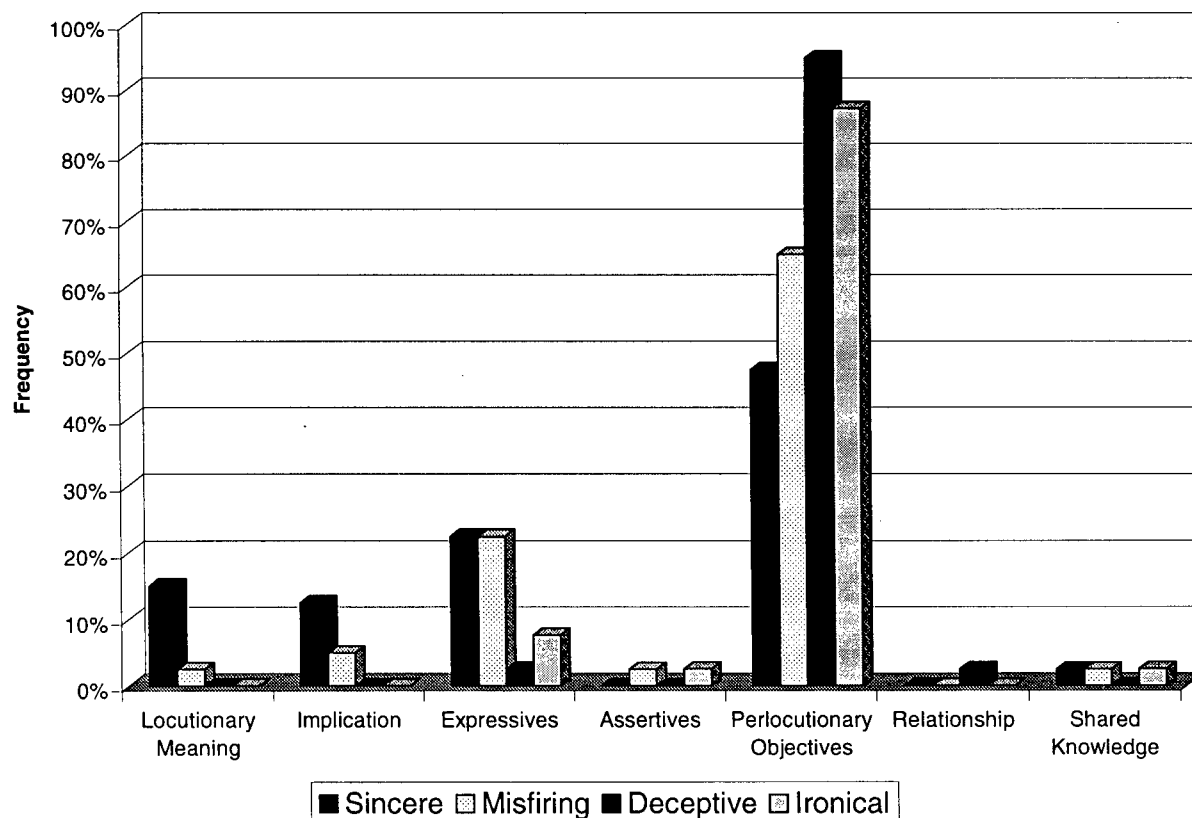


Table 6.4.4. *Summary of Attribution of Speaker Intention in Ironical Utterances (Grade 6, 80% group)*

G6/80%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Locutionary Meaning	6	15%	1	3%	0	0%	0	0%
Implication	5	13%	2	5%	0	0%	0	0%
Expressives	9	23%	9	23%	1	3%	3	8%
Assertives	0	0%	1	3%	0	0%	1	3%
Perlocutionary Objectives	19	48%	26	65%	37	95%	34	87%
Relationship	0	0%	0	0%	1	3%	0	0%
Shared Knowledge	1	3%	1	3%	0	0%	1	3%
Total	40	100%	40	100%	39	100%	39	100%

Figure 6.4.3. *Attribution of Speaker Intention in Ironical Utterances (Grade 6, 80% group)*



In grade 6, the trends of distribution differed from those of the 80% group in grade 5 regarding the utterance types, and the two groups showed differences in their trends of distribution (see Table 6.4.3 and Table 6.4.4).

For the Sincere utterances, more than 30% of the responses by the 50% group fell in each of *Expressives* and *Perlocutionary objectives*. These two categories were followed by *Locutionary meaning*. In contrast, almost half of the responses by the 80% group fell in *Perlocutionary objectives*, followed by *Expressives*, *Locutionary meaning*, and *Implication*. For the Ironical but Misfiring utterances, although the *Perlocutionary objectives* was the most

frequent category for the two groups, *Expressives* was more frequent for the 80% group than for the 50% group. For the Deceptive utterances, *Perlocutionary objectives* was the most frequent for the both groups although this trend was more salient for the 80% group. For the Ironical utterances, the two groups were similar in the sense that *Perlocutionary objectives* was the most frequent category and the majority of the responses (more than 85%) fell in it.

Table 6.4.5 summarizes participants' responses to the question, "Why do you think S made the comment to H?" (Question 10), for the 50% group when the participants were in the grade 7. The results are also graphically shown in Figure 6.4.4 so that they may be easier to grasp. Table 6.4.6 summarizes participants' responses to the same question for the 80% group when the participants were in the grade 7. The results are also graphically shown in Figure 6.4.5 so that they may be easier to grasp. For the summary of the coding scheme and its examples, see Table 6.4.1.

Table 6.4.5. *Summary of Attribution of Speaker Intention in Ironical Utterances (Grade 7, 50% group)*

G7/50%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Locutionary Meaning	3	9%	0	0%	0	0%	0	0%
Implication	0	0%	0	0%	0	0%	0	0%
Expressives	9	28%	6	20%	1	3%	9	28%
Assertives	3	9%	0	0%	0	0%	0	0%
Perlocutionary Objectives	16	50%	21	70%	29	94%	22	69%
Relationship	0	0%	0	0%	0	0%	0	0%
Shared Knowledge	1	3%	3	10%	1	3%	1	3%
Total	32	100%	30	100%	31	100%	32	100%

Figure 6.4.4. Attribution of Speaker Intention in Ironical Utterances (Grade 7, 50% group)

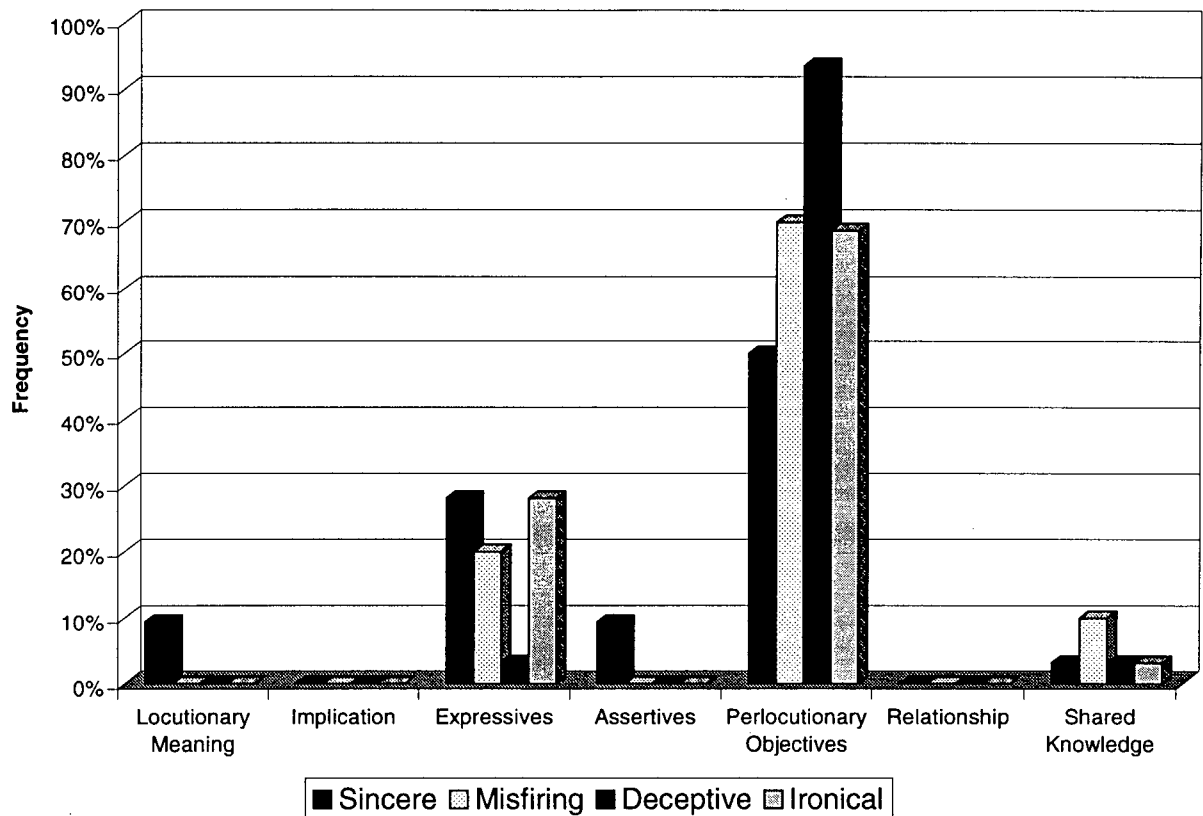
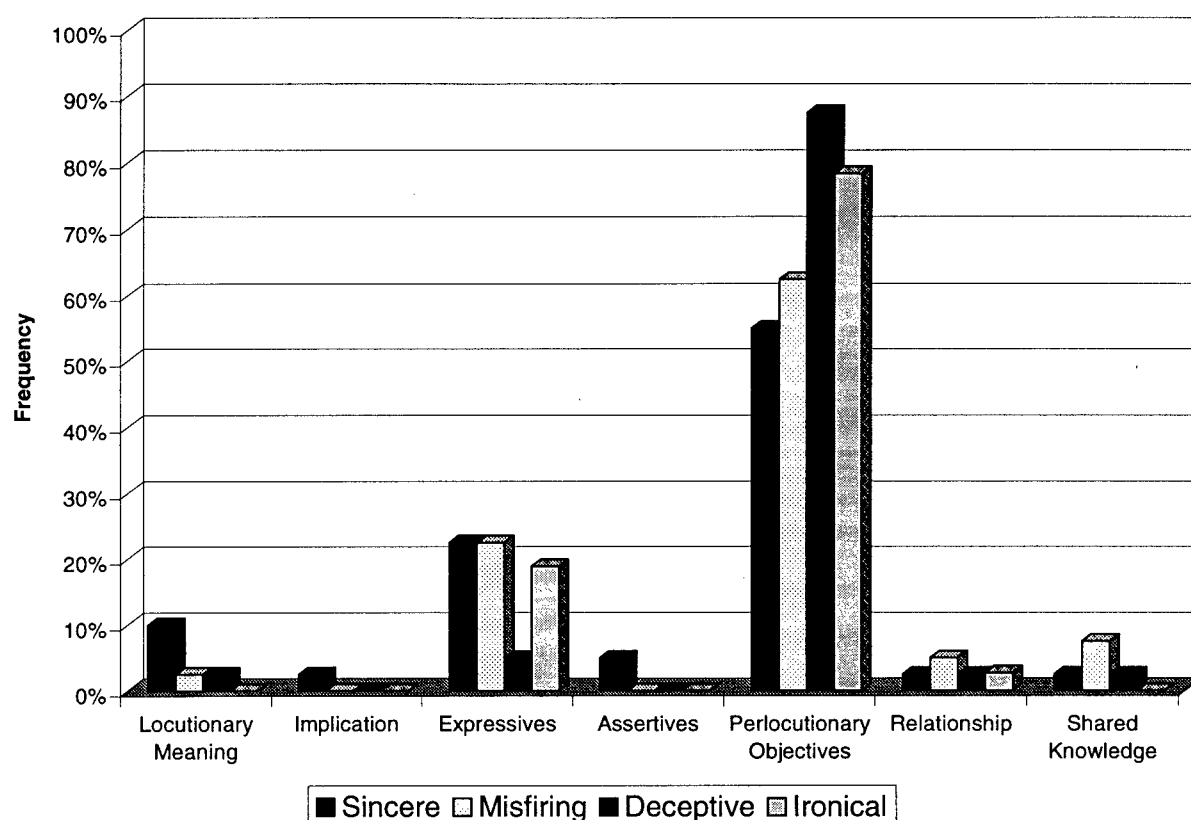


Table 6.4.6. Summary of Attribution of Speaker Intention in Ironical Utterances (Grade 7, 80% group)

G7/80%	Sincere		Misfiring		Deceptive		Ironical	
	N	%	N	%	N	%	N	%
Locutionary Meaning	4	10%	1	3%	1	3%	0	0%
Implication	1	3%	0	0%	0	0%	0	0%
Expressives	9	23%	9	23%	2	5%	7	19%
Assertives	2	5%	0	0%	0	0%	0	0%
Perlocutionary Objectives	22	55%	25	63%	35	88%	29	78%
Relationship	1	3%	2	5%	1	3%	1	3%
Shared Knowledge	1	3%	3	8%	1	3%	0	0%
Total	40	100%	40	100%	40	100%	37	100%

Figure 6.4.5. Attribution of Speaker Intention in Ironic Utterances (Grade 7, 80% group)



In grade 7, the trends of distribution also became different in the sense that the two groups were similar in distribution for the Sincere utterances and the Deceptive utterances, but different for the Ironical but Misfiring utterances and for the Ironical utterances (see Table 6.4.5 and Table 6.4.6).

For the Sincere utterances, *Perlocutionary objectives* was the most frequent category in which about half of the responses for the two groups fell. *Expressives* and *Locutionary meaning* followed *Perlocutionary objectives*. For the Deceptive utterances, *Perlocutionary objectives* was the most frequent, and also almost exclusive, category for the two groups. For the Ironical but Misfiring utterances and the Ironical utterances, *Perlocutionary objectives* was the most frequent category for the two groups. However, the two types of utterances showed similar distribution for the 50% group, but not for the young groups. In contrast, in *Expressives*, which was the second most frequent category for the two types, the two types of utterances showed a different distribution for the 50% group, but not as much for the 80% group.

6.5 Discussion of Children's Attributions in Nonliteral Use of Language

This section will discuss the finding of children's attribution of nonliteral use of language. Accounts for the findings in the present study will be attempted.

6.5.1 Attribution of Requests

By examining the participants' attribution of perlocutionary effects in requests, it was found that the participants' responses differed depending on the request types. In general the

participants made a remarkable distinction between Questions and the other three types. Of the three types, the participants responded similarly to Indirect Questions and Hints, and differently to Direct Requests. With age, however, the difference between Direct Requests and the other two types, Indirect Questions and Hints, decreased, whereas Indirect Questions and Hints became slightly different.

There was a pragmatic difference between a request and a question. In requests, what is requested is some action *X*, and in questions, what is requested is information. The result that the participants treated Questions differently from the other three types suggests that they appeared to know the pragmatic difference between a request and a question. In grade 5 the 80% group's responses showed that, relative to Indirect Questions and Hints, the participants attributed perlocutionary effects of Direct Requests less to *Hearer's intention* (Table 6.1.1) and more to *Perlocutionary acts*. However, this difference seemed to disappear as the participants became older. Rather, Indirect Questions and Hints seemed to be different from each other in grade 7 in terms of attribution of perlocutionary effect to *Hearer's intention*. Thus, it may be the case that initially the participants viewed the consequent act of Direct Requests as imposed by the speaker as often as initiated on the hearer's own will. Conversely, the participants viewed the consequent act of Indirect Questions and Hints as initiated on the hearer's own will more often than imposed by the speaker. In addition, the higher rate of attribution to *Hearer's intention* in Hints than in Indirect Questions suggests that the participants viewed Hints as less forceful than Indirect Questions.

There were some apparent differences between the two groups in attribution of perlocutionary effect, and they may be associated with L2 intensity. However, the present study was not designed to address directly the effect of L2 intensity on particular types of attribution categories. Thus, this relationship between L2 intensity and children's attribution of perlocutionary effect should be investigated in future studies that are aimed at the relationship directly.

By examining how the participants paraphrased various types of requests, it was found that the participants' responses differed depending on the request types. In general the participants made a clear distinction between Questions and the other three types. The participants paraphrased Questions as a question (Table 6.2.1), whereas they paraphrased the other three types as a solicitation. However, the three types were also different. Direct Requests came to be paraphrased more often as an order as the participants became older. Indirect Questions were most often paraphrased as a solicitation, but sometimes as an order. Hints were also paraphrased as a suggestion, but this happened less often as the participants became older. Rather, Hints came to be paraphrased often as an order with age. It should be noted, however, that in this paraphrase task there were some responses that were ambiguously paraphrased, and such responses were labeled as unclassified and excluded from the analysis. The ratio of the unclassified responses varied from type to type, and from grade to grade. Thus, different results may emerge from a study in which no such ambiguous responses are produced.

The participants making a distinction between Questions and the other three types suggests that the participants appeared to know the pragmatic difference between a question in which what was requested was information and a request in which what was requested was some action *X*. This finding is consistent with the previous literature (e.g., Ervin-Tripp & Gordon, 1986; Garton & Pratt, 1990; Wilkinson *et al.*, 1984). In addition, the participants often noticed that Direct Requests, Indirect Questions, and Hints were solicitations, even if the three types were

different in their forms. More interestingly, the three types were more often paraphrased as an order with age. That is, not only Direct Requests, but also two indirect requests, Indirect Questions and Hints, were often paraphrased as an order. This result suggests that the participants developmentally came to interpret various types of requests based more on their pragmatic aspects than on syntactic and semantic aspects.

There were some apparent differences between the two groups in the paraphrasing task, and they may be associated with L2 intensity. However, the present study was not designed to address directly the effect of L2 intensity on particular types of paraphrase categories. Thus, this relationship between L2 intensity and how children paraphrase various types of requests should be investigated in future studies that are aimed at the relationship directly.

6.5.2 Attribution of Irony

By examining the participants' attribution of perlocutionary effects in ironical utterances, it was found that the four utterances were similar in the sense that *Expressives*, *Perlocutionary effect*, and *Hearer's initial psychological state* (Table 6.3.1) were the major categories across the utterance types. Thus, the participants viewed the perlocutionary effect of any types of utterances as caused by a speech act, either from an illocutionary (*Expressives*) or perlocutionary (*Perlocutionary effect*) point of view, or as just a change of psychological state (*Hearer's initial psychological state*). At the same time, however, the participants' responses differed depending on the utterance types and the groups.

For Sincere utterances, some of the responses also fell in the category of *Shared knowledge*. Thus, the perlocutionary effect of Sincere utterances was sometimes viewed as associated with the fact presented in the story. For Ironical but Misfiring utterances, about the same ratio of the responses fell in *Shared knowledge* and *Perlocutionary effect* for the 50% group, whereas the latter was more frequent than the former for the 80% group. The higher rate of *Shared knowledge* may be accounted for by the fact that, in these Ironical but Misfiring utterances, the speaker's belief contradicts the hearer's belief. Thus, it may be the case that, to judge the perlocutionary effect, the participants had to depend on the fact presented in the story rather than the feelings of the speaker and the hearer. For Deceptive utterances, the three major categories, *Expressives*, *Perlocutionary effect*, and *Hearer's initial psychological state*, did not change for the 50% group with age, whereas *Perlocutionary effect* became more frequent with age for the 80% group. For Ironical utterances, of the three major categories *Perlocutionary effect* appeared to increase with age except for the 80% group at grade 6. Therefore, it may be the case that the participants viewed Ironical utterances as having perlocutionary effects more often as the participants became older.

The apparent differences between the two groups in Ironical but Misfiring utterances and Deceptive utterances may be associated with L2 intensity. That is, the 80% group viewed these two types of utterances as having perlocutionary effects more often than the 50% group did. However, the present study was not designed to address directly the effect of L2 intensity on particular types of attribution categories. Thus, this relationship between L2 intensity and the increase in *Perlocutionary effect* is still at the level of speculation. To investigate this relationship, studies that are aimed at it directly are called for.

By examining the participants' attribution of speaker intention in ironical utterances, it was found that the participants' responses differed depending on the utterance types. In general the speaker intention of Sincere utterances was associated with *Expressives* (Table 6.4.1) and

Perlocutionary objectives. In Ironical but Misfiring utterances, although the majority of the participants' responses also fell in the two categories, speaker intention was far more often associated with *Perlocutionary objectives*. For Deceptive utterances, *Perlocutionary objectives* was the major and almost exclusive category. For Ironical utterances, although the majority of the participants' responses also fell in *Expressives* and *Perlocutionary objectives*, it appeared that the ratio of the former increased with age whereas that of the latter decreased with age.

The higher rate of *Expressives* and the lower rate of *Perlocutionary objectives* in Sincere utterances relative to the other three utterance types suggest that the participants viewed Sincere utterances as different from the other three types. In Sincere utterances what was said and what was meant were consistent with each other as well as with the speaker's belief and the hearer's belief. It may be the case that the participants viewed literal utterances did not have much perlocutionary effect in such a case. On the contrary, in the other three utterance types, the participants viewed the utterances as having more perlocutionary effect. This was most salient in Deceptive utterances. The different rate of *Perlocutionary objectives* between Ironical but Misfiring utterances and Ironical utterances may reflect the difference between the two types. That is, the participants viewed ironical utterances as having more perlocutionary effect when the speaker's belief and the hearer's belief were consistent. The increased rate of *Expressives* with age suggest that the participants came to view Ironical utterances from the illocutionary point of view.

There were some apparent differences between the two groups in attribution of speaker intention, and they may be associated with L2 intensity. However, the present study was not designed to address directly the effect of L2 intensity on particular types of attribution categories. Thus, this relationship between L2 intensity and attribution of the speaker intention should be investigated in future studies that are aimed at the relationship directly.

6.6 Summary of the Chapter

This chapter presented the results of the qualitative part of the analysis in which children's attributions in understanding of nonliteral use of language is described. Participants were asked to listen to eight short stories, and to then answer a set of questions during a brief clinical interview. The questions involved in this qualitative part of the analysis were regarding the attributions of the speaker's intentions and of the perlocutionary effects on the hearer.

Chapter 7

Summary and Implications

This chapter summarizes the findings of the present study according to each research question. Then, the limitations of the present study are discussed. Finally, implications that the present study has for both education and future studies will be presented.

7.1 Summary of the Findings of the Study

The present study offers some important findings on children's metapragmatic knowledge in the context of bilingual education. The findings will be presented according to each research question (Section 3.2).

7.1.1 Research Question One

The first question was as follows: Do levels of children's understanding of a request vary according to the type of request? In the present study, three types of requests were investigated. They were Direct Requests, Indirect Questions, and Hints. In addition, Questions were also included in the assessment to examine how differently children looked at them from Indirect Questions when both types had the same grammatical form.

Of the three request types, it was found that Indirect Questions and Hints were easier to comprehend than Direct Requests. According to the degrees of transparency of what was being requested, Direct Requests were syntactically and semantically the most transparent. Thus, this apparent counter-intuitive result suggests that the participants' comprehension of requests may not have depended solely on syntactic and semantic transparency of what was being requested. The participants may also have depended on pragmatic appropriateness of what was being requested. That is, compared to Direct Requests, indirect questions such as Indirect Questions and Hints were more appropriate as a request because they were more polite. Therefore, it may be the case that the participants' comprehension was based on syntactic and semantic transparency (indirectness) of a request as well as its pragmatic appropriateness (politeness), and that the participants weighted the latter more heavily.

Indirect Questions and Hints were similar in the comprehension assessment. However, there was a difference between the two types in the attribution assessment. For both Indirect Questions and Hints the participants viewed the perlocutionary effect of a request as initiated on the hearer's own will more often than caused by the speaker, and this tendency was more salient for Hints. Thus, it may be the case that the participants viewed Hints as less forceful than Indirect Questions.

Questions were also difficult to comprehend. However, in the attribution assessment the participants made a remarkable distinction between Questions and the other three request types. Thus, it appeared that the participants knew the pragmatic difference between a request, in which some action was requested, and a question in which some information was requested.

7.1.2 Research Question Two

The second question was as follows: Do levels of children's understanding of irony vary according to the extent to which the speaker's belief is consistent with the hearer's? In the present study, four types of utterances were investigated. They were Sincere utterances, Ironical but Misfiring utterances, Deceptive utterances, and Ironical utterances. In Sincere utterances and

Deceptive utterances what was said was consistent with the speaker's intent. In two ironical utterances what was said was not consistent with the speaker's intent. Furthermore, the speaker's belief and the hearer's belief were consistent in Ironical utterances, but they were inconsistent in Ironical but Misfiring utterances.

It was found that Sincere utterances were easiest to comprehend. Deceptive utterances were also almost as easy as Sincere utterances. These two types of utterances were easier to comprehend than the two ironical utterances. Thus, it appeared that, when what was said was consistent with the speaker's belief and intent in utterances, as in Sincere utterances, they were the easiest to comprehend. Even if what was said was inconsistent with the speaker's belief, when what was said was consistent with speaker's intent in utterances, as in Deceptive utterances, they were easy to comprehend. In contrast, the participants had difficulty comprehending ironical utterances in which what was said and the speaker's intent were not consistent. However, from the viewpoint of comprehension, there was not substantial difference between Ironical but Misfiring utterances and Ironical utterances. That is, whether the beliefs of the speaker and the hearer were consistent did not affect the degree of difficulty in comprehending ironical utterances. Thus, it appeared that whether ironical utterances were misfiring or not did not affect the participants' comprehension of ironical utterances.

However, the participants looked at the two ironical utterances differently in the attribution assessment. When considering the perlocutionary effect of an utterance, the participants associated it with the fact in the story. This suggests that, to judge the perlocutionary effect, the participants had to depend on the fact presented in the story more heavily in Ironical but Misfiring utterances than in Ironical utterances. In addition, the participants viewed Ironical utterances as having stronger perlocutionary effect than Ironical but Misfiring utterances. That is, the participants looked at ironical utterances as having stronger perlocutionary effect when the speaker's belief and the hearer's belief were consistent. In sum, two ironical utterances, Ironical but Misfiring utterances and Ironical utterances, did not differ in terms of difficulty of comprehension. However, the two types were different in relation to their perlocutionary effect.

7.1.3 *Research Question Three*

The third question was as follows: Does children's metapragmatic knowledge vary according to the intensity of children's exposure to a second language? In the present study, the intensity variable was defined in the way that one group was provided with 50% French / 50% English curriculum whereas the other group with 80% French / 20% English curriculum. The two groups were compared on grade 7 comprehension scores in requests and irony assessments by taking into consideration grade 6 scores.

It was found that L2 intensity was positively associated with metapragmatic knowledge measured by comprehension of requests. In contrast, the association between L2 intensity and metapragmatic knowledge measured by comprehension of irony was not necessarily positive. For those who scored in the middle range, that is, around somewhat lower than the median, L2 intensity was not associated with their metapragmatic knowledge. Those who scored higher than the range had positive relationship between L2 intensity and their metapragmatic knowledge whereas those who scored lower than the range had negative relationship between L2 intensity and their metapragmatic knowledge.

Thus, how L2 intensity affects metapragmatic knowledge varies depending on the kinds of metapragmatic knowledge. On the one hand, L2 intensity may be associated with

metapragmatic knowledge of requests comprehension positively despite of the level of metapragmatic knowledge. On the other hand, in comprehending ironical utterances, unless metapragmatic knowledge is already developed, it may be difficult to apply intensified L2 instruction experience directly to enhancement of metapragmatic knowledge.

7.1.4 *Research Question Four*

The fourth question was as follows: Does children's metapragmatic knowledge develop with age? In the present study, metapragmatic knowledge was measured in terms of comprehension of requests and irony. Requests comprehension included Direct Requests, Indirect Questions, Questions, and Hints. Irony comprehension included Sincere utterances, Ironical but Misfiring utterances, Deceptive utterances, and Ironical utterances.

In comprehension of requests, metapragmatic knowledge of both 50 % and 80% groups developed with age in terms of total scores. In addition, the 80% group's metapragmatic knowledge developed with age in all four types except in Hints from grade 5 to grade 6, whereas the 50% group's comprehension developed with age in Direct Requests and Indirect Requests but did not change much in Questions and Hints. Although it could be the case that the apparent group difference was due to the association with L2 intensity, the present study was not designed to address directly the effect of L2 intensity on particular types of requests.

In irony comprehension, metapragmatic knowledge of both groups developed with age in terms of total scores. In addition, the 80% group's metapragmatic knowledge developed with age in Ironical but Misfiring utterances, Deceptive utterance, and Ironical utterances, whereas the 50% group's comprehension developed with age in Ironical but Misfiring utterances and Ironical utterances. Although it could be the case that the apparent group difference was due to the association with L2 intensity, the present study was not designed to address directly the effect of L2 intensity on particular types of utterances. Thus, it may be safe to say that metapragmatic knowledge for irony comprehension, but not necessarily all the four types, developed with age.

7.2 *Limitations of the Study*

Like other studies in the literature, the present study has several limitations. First, the school in which the study was conducted was not randomly selected. This nonrandom sampling of the participants has a few important implications in conducting research. For example, the traditional distinction of samples and populations in statistical analyses necessarily involves random sampling (e.g., Glass & Hopkins, 1996; Tabachnik & Fidell, 1996). A population is any set of units or entities about which inferences are to be made based on a limited number of units at hand, called samples. To make valid inferences about a population, samples should be representative, and random sampling is a necessary condition for samples to be representative of a population, although random sampling is not a sufficient condition. Glass and Hopkins (1996) emphasized this point and gave a warning about nonrandom sampling:

Accidental or convenience sampling is a very common, but inappropriate, method of obtaining a sample. Convenient, but haphazard, collections of observations are usually of little value in estimating parameters. Results from street corner polls, polls of the audience of a particular television or radio program, or readers of a particular magazine cannot be generalized beyond such groups without great risks. (p. 226)

Thus, it is virtually impossible for samples who are selected nonrandomly to have a population to which valid inferences can be made based on the samples. This in turn means that the subjects

selected nonrandomly are not samples of a population, but the population itself. Therefore, any results from the present study should not be generalized beyond the participants.

Another implication of nonrandom sampling is that hypothesis testing based on statistical significance is invalid and thus should be avoided with nonrandom sampling.²⁰ For one thing, as seen above, nonrandom samples do not have a population to which valid inferences can be made. However, what hypothesis testing based on statistical significance does is to test hypotheses about differences or effects in populations based on measurements made on samples. Thus, hypothesis testing based on statistical significance is conceptually invalid with nonrandom sampling. For another, hypothesis testing based on statistical significance is also mathematically invalid with nonrandom sampling. As Shaver (1993) put it:

Randomness (i.e., random error) is the basis for the sampling distributions against which results are compared. Use of, for example, a *t* distribution to answer the question "How likely is this particular result under the null hypothesis?" will not yield a meaningful probability statement if the sample or samples are not random. Repeated random sampling (or assignment) yields known sampling distributions. Nonrandom sampling does not, nor does the comparison of a nonrandom sample to a randomly generated sampling distribution, provide a valid statement of probability of occurrence. (p. 295)

Thus, hypothesis testing based on statistical significance was not possible in the present study.

The second limitation of the present study is lack of random assignment. When comparing two or more groups, random assignment of the participants to each group is necessary. However, random sampling or random assignment is sometimes impossible in many studies of intact groups in education such as the present study. Because of the school's desired implementation plan, the two cohorts in the present study could not be assigned randomly to treatment and control groups. Thus, it was decided to employ analysis of covariance to reduce the irrelevant sources of variation as much as possible. It should be emphasized, however, that analysis of covariance will not equate any groups (Pedhazur, 1997) and, therefore, it will never be a substitute for randomization. That is, the initial group difference will not be fully eliminated with use of analysis of covariance. Thus, the initial group difference would be a confounding factor even if adjustment is taken into consideration in between group analyses. Therefore, caution is called for when interpreting the results.

Third, since the material used to measure children's metapragmatic knowledge was originally developed, it was expected that measurement error would be larger than when standardized tests would have been employed. Although some researchers attempt to construct tests by which the pragmatic ability of adult second language learners is to be measured (e.g., Hudson, Detmer, & Brown, 1995; Matsumura, 2000), no such standardized tests are available to measure children's pragmatic and metapragmatic knowledge. Thus, researchers still have to create their own device to measure it. Given these exploratory characteristics and the group homogeneity of the participants (Reeder *et al.*, 1999), it was anticipated that internal consistency coefficients would not be high in the present study (Crocker & Algina, 1986). Yet Cronbach's

²⁰ The inappropriate uses of statistical significance have been criticized recently and, even in a study with randomization, the use of tests of statistical significance alone is not recommended because statistical significance is, other things being equal, a function of the sample size. That is, a large enough sample can always make results statistically significant. (see, e.g., Cohen, 1990, 1994; Kirk, 1996; Thompson, 1992, 1995, 1996).

alpha of .45 for the raw score of irony comprehension at grade 6 (Table 5.4.3) is substantially low. It may follow that the grade 6 scores of irony comprehension were measured with much larger error than the grade 7 scores. Thus, the relationships among the variables were underestimated in the present study. Cronbach's alpha of .64 for the raw scores of requests comprehension at grade 6 (Table 5.3.3) may also be problematic. These scores were used as the covariate for an analysis of covariance in the present study (Section 5.3). However, some researchers (Tabachnik & Fidell, 1996) suggest that in nonexperimental studies covariates be limited to variables that can be measured reliably. Therefore, the results from the present study should be examined with caution.

Fourth, the sample size of the present study was small. The matter of sample size of a study is usually discussed in relation to hypothesis testing based on statistical significance (e.g., Cohen, 1990, 1994; Glass & Hopkins, 1996; Tabachnik & Fidell, 1996). In a study with randomization, other things being equal, if the sample size is too big, even a small difference or effect will be statistically significant, whereas if the sample size is too small, even a relatively large difference or effect will not be statistically significant. Thus, researchers of a study with randomization should be always careful about the sample size so that it may be neither too big nor too small. In such a case, power analysis may be used to determine the necessary sample size to detect a population effect given a desired power, which is the probability of rejecting the null hypothesis when it is false, and a specified error rate (Cohen & Cohen, 1983).

In contrast, in a study without randomization, this type of discussion of the sample size in relation to hypothesis testing based on statistical significance is invalid because, as was seen above, hypothesis testing based on statistical significance itself is invalid without randomization. Rather, what is important about the sample size in a nonexperimental study is about the matter of stability. In other words, if the sample size is too small, the relationship among variables can be erroneously large or small. For example, even among random numbers, for which the expected value of the correlation coefficient is $r = 0$, r can be larger than .7 if the sample size is $N = 10$. As the sample size gets bigger, the value of r will be stabilized. When the sample size gets bigger than $N = 150$, the possible maximum value of r among random numbers will be about .2 or less. However, r can be larger than .4, for example, when $N = 30$, and it still can be larger than .2 when $N = 70$ among random numbers. Thus, the relationship among the variables in the present study should be interpreted with caution.

7.3 *Contributions of the Study*

Despite some of its drawbacks, the present study is a methodologically valuable contribution to research in developmental pragmatics, bilingualism, and bilingual education. The significance of the contributions of the present study is twofold. First, the procedure used to measure children's metapragmatic knowledge is innovative. Second, the analyses used in the present study are rigorous compared to many studies of bilingualism and bilingual education.

In the present study, children's metapragmatic knowledge was measured by presenting them with brief, audio-recorded, picture-accompanied stories which involved an interaction between two people. This material was developed by using Macintosh's HyperCard program. In the field of developmental pragmatics, such stories have traditionally been presented using a cassette recorder with pictures shown independently to participants. Use of computer technology to present materials to participants is innovative in the field. By using computer technology, researchers would simply use a laptop computer rather than bringing to the research site an audio

player, audiotapes containing stories for participants to listen to, and pictures. Furthermore, researchers can exercise greater control over the assessment procedure. For example, by programming the order of the stories to be presented beforehand, researchers can easily randomize it or counterbalance it. In addition, and perhaps more importantly, the use of computer technology allows the assessment procedure itself to become highly entertaining for participants who are themselves part of the computer generation. During the assessment session, the participants in the present study enjoyed playing with HyperCard stack by controlling the computer mouse and clicking on the various transparent and hidden buttons. The fact that the procedure is entertaining is important in conducting research since such a procedure may prevent participants from growing bored. This in turn may help prevent researchers from collecting unreliable data from bored participants. Thus, the present study contributed to showing researchers in the field of developmental pragmatics how computer technology can be successfully integrated in the assessment procedure.

The rigorous analyses in the present study should interest researchers who aim to conduct scientific research. In particular, researchers in the study of bilingualism will find the methodological rigor found in the present study necessary in their research. As is often criticized (e.g., Carey, 1991; Palij & Homel, 1987; Reynolds, 1991) as well as reviewed critically in the present study, many studies of bilingualism and bilingual education have been found to have deficiencies in their designs and analyses. The main defect common to such studies is a certain lack of rigor. For example, limitations of the present study described in section 7.2 would not be limitations in such studies that are methodologically deficient due to lack of rigor. Incorrect or inappropriate analyses found in those studies make their results uninterpretable. The present study should help move the study of bilingualism and bilingual education in the direction of more rigorous and scientific research. In summary, the present study provides researchers with a sense of how a study in bilingualism and bilingual education may be conducted with rigor. This can contribute to reinterpreting results of previous studies of bilingualism and bilingual education and will eventually yield the results from rigorous research that are interpretable and warranted.

7.4 *Implications of the Study*

Although children's metapragmatic knowledge has been investigated in the literature (e.g., Baroni & Axia, 1989; Bernicot & Laval, 1996; Hickmann, Champaud, & Bassano, 1993; Wilkinson *et al.*, 1984), it is rarely studied in relation to education. Reeder and Shapiro (1997) found children's metapragmatic knowledge has a positive relationship with their literate proficiency. However, children's metapragmatic knowledge has not been investigated in relation to bilingual education. This lack of a body of research makes it difficult to locate the findings of this study in the literature. Instead, some speculations about implication for education and educators will be attempted. Then, implication for future studies will be discussed.

7.4.1 *Implication for Education and Educators*

In this study, the relationship between L2 intensity and metapragmatic knowledge was examined in terms of total comprehension scores of requests and those of irony. It was found that L2 intensity was positively associated with metapragmatic knowledge measured by comprehension of requests. In contrast, the association between L2 intensity and metapragmatic knowledge measured by comprehension of irony was not necessarily positive. Those who scored higher had positive relationship between L2 intensity and their metapragmatic knowledge

whereas those who scored lower had negative relationship between L2 intensity and their metapragmatic knowledge. What implication do the findings of this study have for education?

Donahue (1997), who works with students with language/learning disabilities, argued that they tend to assume that the speaker follow the four maxims proposed by Grice (1975). The four maxims are quantity, quality, relevance, and manner, which speakers are supposed to observe in order to be cooperative in conversations (Grice, 1975, 1978). According to Donahue, students with language/learning disabilities tend to blame themselves as a hearer when communication breaks down because they assume that the speaker is always right. Therefore, she argued, the metapragmatic beliefs that students with language/learning disabilities have should be fully considered when language/literacy intervention for them is planned. It is true that Dohahue (1997) used a dichotomous distinction between students with and without language/learning disabilities and the participants in the present study were not among the students with language/learning disabilities. However, Donahue's argument sheds some light on the implication of the findings of the present study.

Although the participants in the present study were without language/learning disabilities, there was variability in the scores of the participants' metapragmatic knowledge. That is, there was a continuum among the participants' scores in each assessment of metapragmatic knowledge. On the one hand, L2 intensity was positively associated with metapragmatic knowledge measured by comprehension of requests. In other words, the levels of the participants' metapragmatic knowledge did not affect its association with L2 intensity. On the other, the association between L2 intensity and metapragmatic knowledge measured by comprehension of irony was not necessarily positive. Those who scored higher had positive relationship between L2 intensity and their metapragmatic knowledge whereas those who scored lower had negative relationship between L2 intensity and their metapragmatic knowledge. In other words, the levels of the participants' metapragmatic knowledge affected its association with L2 intensity.

In summary, L2 intensity is not always positively associated with any type of metapragmatic knowledge. This suggests that a larger amount of exposure to L2 is not necessarily beneficial to children's development of metapragmatic knowledge. Therefore, as implication of the present study for bilingual education, it is important to take into consideration the levels of children's metapragmatic knowledge when planning an increase of exposure to L2 instruction. To this end, it is also important to acknowledge the variability in children's metapragmatic knowledge even among relatively homogeneous group of children such as the participants in the present study.

7.4.2 Implications for Future Studies

As reviewed in the chapter two, if bilingualism may have a positive effect on children's metalinguistic development, it is worth investigating the relationship between children's metapragmatic knowledge and bilingualism. Although the findings of the present study shed some light on children's metapragmatic knowledge and its relationship with L2 intensity, the claims made in the present study should be interpreted with much caution due to the limitations. To ensure the findings of the present study, it should be replicated with a much larger number of participants. Furthermore, in addition to replicated studies, similar exploratory studies are necessary. The present study investigated children's metapragmatic knowledge by means of requests and irony assessment. However, construct of metapragmatic knowledge is not limited to these two. It should be investigated from some other aspects of cognitive ability.

Children's metapragmatic knowledge that the study examined will be tested in the larger study, "L'Ecole Jules Quesnel 80% Intermediate French Provision Study", against Cummins' interdependence hypothesis by using path analysis. More specifically, the larger study investigates if metapragmatic knowledge can be a common underlying proficiency which functions as an explanatory mechanism to enhance L1 and L2 proficiencies. Cummins (1978) proposed the developmental interdependence hypothesis in strong bilinguals. Later, this hypothesis came to be called the interdependence hypothesis (e.g., Cummins and Swain, 1986). According to this hypothesis, the academic skills in L1 and L2 are manifestations of a common underlying proficiency. Thus, even if children are educated in L2, for example, children's common underlying proficiency will be enhanced in the way that it can promote children's L2 proficiency at no cost to the development of L1 proficiency. The common underlying proficiency involves "cognitively demanding communicative tasks" (Cummins & Swain, 1986, p. 82). Given the definition of metapragmatic knowledge, it could well be the case that metapragmatic knowledge forms one aspect of bilingual speakers' common underlying proficiency. Thus, by playing a core role in the larger study, the findings of the present study will be of interest for Canadian language policy making to investigate if this intensified type of bilingual program can enhance students' proficiencies in L1 and L2, and academic achievement in general.

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Appendix A

The Stories with the Probing Questions in the Request Assessment

Story 1 "Chess"

Version 1: Direct Request

Mother and her 8-year-old daughter Cathy were in the living room. Cathy was reading a book. Mother was supposed to play chess with her friend. Her friend from the Chess club called her and told her that he would not be coming. Mother was disappointed that the meeting was canceled. Mother still wanted to play chess. Cathy was still reading her book. Mother brought her chess pieces to Cathy. Mother had seen Cathy play chess many times before. Mother said to Cathy, "Play chess, Cathy."

Version 2: Indirect Question

Mother and her 8-year-old daughter Cathy were in the living room. Cathy was reading a book. Mother was supposed to play chess with her friend. Her friend from the Chess club called her and told her that he would not be coming. Mother was disappointed that the meeting was canceled. Mother still wanted to play chess. Cathy was still reading her book. Mother brought her chess pieces to Cathy. Mother had seen Cathy play chess many times before. Mother said to Cathy, "Can you play chess, Cathy?"

Version 3: Question

Mother and her 8-year-old daughter Cathy were in the living room. Cathy was reading a book. Mother was supposed to play chess with her friend. Her friend from the Chess club called her and told her that he would not be coming. Mother was glad the meeting was canceled. Mother didn't even feel like playing chess that night. Mother wanted go to bed early. Just then, Cathy stopped reading and reached for the chess pieces. Mother had kept the chess pieces out of Cathy's reach because Cathy was too young to use them properly. Mother said to Cathy, "Can you play chess, Cathy?"

Version 4: Hint

Mother and her 8-year-old daughter Cathy were in the living room. Cathy was reading a book. Mother was supposed to play chess with her friend. Her friend from the Chess club called her and told her that he would not be coming. Mother was disappointed that the meeting was canceled. Mother still wanted to play chess. Cathy was still reading her book. Mother brought her chess pieces to Cathy. Mother had seen Cathy play chess many times before. Mother said to Cathy, "I wish I could play chess."

Questions:

1. What happened in the story?
2. Did Mother order Cathy to play chess?
3. How do you know that?
4. Did Mother ask if Cathy can play chess?
5. How do you know that?
6. Did Mother want Cathy to play chess?

7. How can you tell that?
8. Do you think Cathy will play chess?
9. Why do you think Cathy will (or will not) play chess?
10. What was Mother trying to say?
11. If you were Cathy, how would you respond?

Story 2 "LEGO"

Version 1: Direct Request

Father was watching TV in the living room. His 6-year-old son Mike was building a LEGO car beside Father. It was quite complicated with lots of small parts. Mike was having trouble figuring out how to attach the front wheels. He told Father he didn't know how to attach the wheels. Father took out the instruction booklet from the box. Father looked at the booklet and saw the solution. Father had seen Mike follow the directions in the instruction booklet many times before. Just then, Mike was going to give up building a LEGO car. Father said, "Read the instruction booklet, Mike."

Version 2: Indirect Question

Father was watching TV in the living room. His 6-year-old son Mike was building a LEGO car beside Father. It was quite complicated with lots of small parts. Mike was having trouble figuring out how to attach the front wheels. He told Father he didn't know how to attach the wheels. Father took out the instruction booklet from the box. Father looked at the booklet and saw the solution. Father had seen Mike follow the directions in the instruction booklet many times before. Just then, Mike was going to give up building a LEGO car. Father said, "Can you read the instruction booklet, Mike?"

Version 3: Question

Father was watching TV in the living room. His 6-year-old son Mike was building a LEGO car beside Father. It was quite complicated with lots of small parts. Mike was having trouble figuring out how to attach the front wheels. He told Father he didn't know how to attach the wheels. Father took out the instruction booklet from the desk drawer. Father looked at the booklet and saw the solution. Father had kept the instruction booklet out of Mike's reach so that Mike would not tear some pages. Mike reached for the instruction booklet. Father said, "Can you read the instruction booklet, Mike?"

Version 4: Hint

Father was watching TV in the living room. His 6-year-old son Mike was building a LEGO car beside Father. It was quite complicated with lots of small parts. Mike was having trouble figuring out how to attach the front wheels. He told Father he didn't know how to attach the wheels. Father took out the instruction booklet from the box. Father looked at the booklet and saw the solution. Father had seen Mike follow the directions in the instruction booklet many times before. Just then, Mike was going to give up building a LEGO car. Father said, "The instruction booklet has the solution."

Questions:

1. What happened in the story?
2. Did Father order Mike to read the instruction booklet?
3. How do you know that?
4. Did Father ask if Mike can read the instruction booklet?
5. How do you know that?
6. Did Father want Mike to read the instruction booklet?
7. How can you tell that?
8. Do you think Mike will read the instruction booklet?
9. Why do you think Mike will (or will not) read the instruction booklet?
10. What was Father trying to say?
11. If you were Mike, how would you respond?

Story 3 "Phone"

Version 1: Direct Request

Mother and her 4-year-old daughter Tiffany were at the dining room table. Tiffany was reading a book. Mother had been waiting for her friend's call for more than 30 minutes. The phone was on the dining table. After a while Mother gave up waiting and started cooking in the kitchen. Then the phone rang. Mother was too busy to answer the phone. When Mother looked back at the dining table, Tiffany was still reading her book. Mother had seen Tiffany answer the phone many times before. Mother said to Tiffany, "Get the phone, Tiffany."

Version 2: Indirect Question

Mother and her 4-year-old daughter Tiffany were at the dining room table. Tiffany was reading a book. Mother had been waiting for her friend's call for more than 30 minutes. The phone was on the dining table. After a while Mother gave up waiting and started cooking in the kitchen. Then the phone rang. Mother was too busy to answer the phone. When Mother looked back at the dining table, Tiffany was still reading her book. Mother had seen Tiffany answer the phone many times before. Mother said to Tiffany, "Can you get the phone, Tiffany?"

Version 3: Question

Mother and her 4-year-old daughter Tiffany were at the dining room table. Tiffany was reading a book. Mother had been waiting for her friend's call for more than 30 minutes. The phone was high on the wall so that Tiffany would not reach it. After a while Mother gave up waiting and started cooking in the kitchen. Then the phone rang. Tiffany climbed up on her chair and reached for the phone. Just then, the phone stopped ringing. Mother had never seen Tiffany reach the phone before. Mother said to Tiffany, "Can you get the phone, Tiffany?"

Version 4: Hint

Mother and her 4-year-old daughter Tiffany were at the dining room table. Tiffany was reading a book. Mother had been waiting for her friend's call for more than 30 minutes. The phone was on the dining table. After a while Mother gave up waiting and started cooking in the kitchen. Then the phone rang. Mother was too busy to answer the phone. When Mother looked back at the

dining table, Tiffany was still reading her book. Mother had seen Tiffany answer the phone many times before. Mother said to Tiffany, "The phone is ringing."

Questions:

1. What happened in the story?
2. Did Mother order Tiffany to get the phone?
3. How do you know that?
4. Did Mother ask if Tiffany can get the phone?
5. How do you know that?
6. Did Mother want Tiffany to get the phone?
7. How can you tell that?
8. Do you think Tiffany will get the phone?
9. Why do you think Tiffany will (or will not) get the phone?
10. What was Mother trying to say?
11. If you were Tiffany, how would you respond?

Story 4 "Window"

Version 1: Direct Request

One afternoon, Father was alone reading in the basement. It was hot inside. The air conditioner in the room was not working properly. So father wanted to open the window. The window was always unlocked. Father opened the window easily. Later that night, Father and his 10-year-old son Chris were playing in the basement. It was hot in the room. Chris was sitting by the window. Father said to Chris, "Open the window, Chris."

Version 2: Indirect Question

One afternoon, Father was alone reading in the basement. It was hot inside. The air conditioner in the room was not working properly. So father wanted to open the window. The window was always unlocked. Father opened the window easily. Later that night, Father and his 10-year-old son Chris were playing in the basement. It was hot in the room. Chris was sitting by the window. Father said to Chris, "Can you open the window, Chris?"

Version 3: Question

One afternoon, Father was alone reading in the basement. It was hot inside. The air conditioner in the room was not working properly. So father wanted to open the window. Father opened the window easily. When he left, he locked the window tightly so that his 10-year-old son Chris would not open it by himself. Later that night, Father and Chris were playing in the basement. Chris got bored and started to play with the window lock beside him. Chris unlocked the window easily. Father said to Chris, "Can you open the window, Chris?"

Version 4: Hint

One afternoon, Father was alone reading in the basement. It was hot inside. The air conditioner in the room was not working properly. So father wanted to open the window. The window was always unlocked. Father opened the window easily. Later that night, Father and his 10-year-old

son Chris were playing in the basement. It was hot in the room. Chris was sitting by the window. Father said to Chris, "The window is closed."

Questions:

1. What happened in the story?
2. Did Father order Chris to open the window?
3. How do you know that?
4. Did Father ask if Chris can open the window?
5. How do you know that?
6. Did Father want Chris to open the window?
7. How can you tell that?
8. Do you think Chris will open the window?
9. Why do you think Chris will (or will not) open the window?
10. What was Father trying to say?
11. If you were Chris, how would you respond?

Appendix B

The Stories with the Probing Questions in the Irony Assessment

Story 1 "Game"

Version 1: Sincere

William likes playing video games. One day, William bought an expensive video game. It was on sale for half price at the toy store. William invited George home. They played the game together. William found it very exciting. William was glad he bought the game. George found the game very exciting, too. George knew that the game was on sale for half price. George said to William, "This is a good bargain."

Version 2: Ironical but Misfiring

William likes playing video games. One day, William bought an expensive video game. It was on sale for half price at the toy store. William invited George home. They played the game together. William found it very exciting. William was glad he bought the game. George found the game very boring. George didn't know that the game was on sale for half price. George said to William, "This is a good bargain."

Version 3: Deceptive

William likes playing video games. One day, William bought an expensive video game. He bought it at the regular price at the toy store. William invited George home. They played the game together. William found it very boring. William regretted buying the game. George was worried about William's feelings. George knew that the game was bought at the regular price. George said to William, "This is a good bargain."

Version 4: Ironical

William likes playing video games. One day, William bought an expensive video game. He bought it at the regular price at the toy store. William invited George home. They played the game together. William found it very boring. William regretted buying the game. George found the game very boring, too. George knew that the game was bought at the regular price. George said to William, "This is a good bargain."

Questions:

1. What happened in the story?
2. Did William think that the purchase was good or bad?
3. How do you know that?
4. Did George think that the purchase was good or bad?
5. How do you know that?
6. Did George want William to think that the purchase was good or bad?
7. How can you tell that [George wanted William to think that the purchase was good (or bad)]?
8. Do you think William is glad to hear George's comment?
9. Why do you think William is glad (or is not glad)?
10. Why do you think George made the comment to William?
11. If you were William, how would you respond to George's comment?

Story 2 "Cookies"

Version 1: Sincere

Mary was new at cooking. Her class was having a party. She decided to bake cookies. Her cookies were a little burnt. This was her first time baking cookies. She ate some of her cookies and was satisfied with them. At the party, her friend Cora ate some of the cookies. Cora knew that Mary had never baked cookies before. Cora liked Mary's cookies. Cora said to Mary, "These cookies are delicious."

Version 2: Ironical but Misfiring

Mary was new at cooking. Her class was having a party. She decided to bake cookies. Her cookies were a little burnt. This was her first time baking cookies. She ate some of her cookies and was satisfied with them. At the party, her friend Cora ate some of the cookies. Cora didn't know that Mary had never baked cookies before. Cora didn't like Mary's cookies. Cora said to Mary, "These cookies are delicious."

Version 3: Deceptive

Mary was new at cooking. Her class was having a party. She decided to bake cookies. Her cookies were a little burnt. This was her first time baking cookies. She ate some of her cookies and was disappointed with them. At the party, her friend Cora ate some of the cookies. Cora knew that Mary had never baked cookies before. Cora was worried about Mary's feelings. Cora said to Mary, "These cookies are delicious."

Version 4: Ironical

Mary was new at cooking. Her class was having a party. She decided to bake cookies. Her cookies were a little burnt. This was her first time baking cookies. She ate some of her cookies and was disappointed with them. At the party, her friend Cora ate some of the cookies. Cora didn't know that Mary had never baked cookies before. Cora didn't like Mary's cookies. Cora said to Mary, "These cookies are delicious."

Questions:

1. What happened in the story?
2. Did Mary think that the cookies were delicious or not delicious?
3. How do you know that?
4. Did Cora think that the cookies were delicious or not delicious?
5. How do you know that?
6. Did Cora want Mary to think that the cookies were delicious or not delicious?
7. How can you tell that [Cora wanted Mary to think that the cookies were delicious (or not delicious)]?
8. Do you think Mary is glad to hear Cora's comment?
9. Why do you think Mary is glad (or is not glad)?
10. Why do you think Cora made the comment to Mary?
11. If you were Mary, how would you respond to Cora's comment?

Story 3 "Grade"

Version 1: Sincere

Robert is doing well in school. One day, he had a math test. He got 50 points. The test was out of 50. Robert was satisfied with his result. When Robert came home, Father asked what mark Robert got on the test. Robert reported his result proudly. Father knew that the test was out of 50. Father was satisfied with Robert's mark. Father said to Robert, "You got a good grade."

Version 2: Ironical but Misfiring

Robert is doing well in school. One day, he had a math test. He got 40 points. The test was out of 50. Robert was satisfied with his result. When Robert came home, Father asked what mark Robert got on the test. Robert reported his result proudly. Father thought the test was out of 100. Father was not satisfied with Robert's mark. Father said to Robert, "You got a good grade."

Version 3: Deceptive

Robert is doing well in school. One day, he had a math test. He got 30 points. The test was out of 50. Robert was very disappointed with his result. When Robert came home, Father asked what mark Robert got on the test. Robert reported his result sadly. Father knew that the test was out of 50. Father was worried about Robert's feelings. Father said to Robert, "You got a good grade."

Version 4: Ironical

Robert is doing well in school. One day, he had a math test. He got 20 points. The test was out of 50. Robert was very disappointed with his result. When Robert came home, Father asked what mark Robert got on the test. Robert reported his result sadly. Father knew that the test was out of 50. Father was unsatisfied with Robert's mark. Father said to Robert, "You got a good grade."

Questions:

1. What happened in the story?
2. Did Robert think that the grade was good or bad?
3. How do you know that?
4. Did Father think that the grade was good or bad?
5. How do you know that?
6. Did Father want Robert to think that the grade was good or bad?
7. How can you tell that [Father wanted Robert to think that the grade was good (or bad)]?
8. Do you think Robert is glad to hear Father's comment?
9. Why do you think Robert is glad (or is not glad)?
10. Why do you think Father made the comment to Robert?
11. If you were Robert, how would you respond to Father's comment?

Story 4 "Race"

Version 1: Sincere

Gina is the fastest runner in her school. One day, she ran a five-kilometer race at school. Before the race, Gina had a fever and wasn't feeling good. But she came in first. Gina was satisfied with

her result. When Gina came home, Mother asked how Gina did in the race. Gina reported the result proudly. Mother knew that Gina had a fever. Mother was happy with Gina's result. Mother said to Gina, "You ran really well."

Version 2: Ironical but Misfiring

Gina is the fastest runner in her school. One day, she ran a five-kilometer race at school. Before the race, Gina had a fever and wasn't feeling good. She came in third. Gina was satisfied with her result. When Gina came home, Mother asked how Gina did in the race. Gina reported the result proudly. Mother didn't know that Gina had a fever. Mother was not happy with Gina's result. Mother said to Gina, "You ran really well."

Version 3: Deceptive

Gina is the fastest runner in her school. One day, she ran a five-kilometer race at school. Before the race, Gina had a fever and wasn't feeling good. She came in tenth. Gina was very disappointed with her result. When Gina came home, Mother asked how Gina did in the race. Gina reported the result sadly. Mother knew that Gina had a fever. Mother was worried about Gina's feelings. Mother said to Gina, "You ran really well."

Version 4: Ironical

Gina is the fastest runner in her school. One day, she ran a five-kilometer race at school. Before the race, Gina was in good health and was feeling good. But she came in tenth. Gina was very disappointed with her result. When Gina came home, Mother asked how Gina did in the race. Gina reported the result sadly. Mother knew that Gina was in a good health. Mother was not satisfied with Gina's result. Mother said to Gina, "You ran really well."

Questions:

1. What happened in the story?
2. Did Gina think that she ran really well or not really well?
3. How do you know that?
4. Did Mother think that Gina ran really well or not really well?
5. How do you know that?
6. Did Mother want Gina to think that she ran really well or not really well?
7. How can you tell that [Mother wanted Gina to think that she ran really well (or not really well)]?
8. Do you think Gina is glad to hear Mother's comment?
9. Why do you think Gina is glad (or is not glad)?
10. Why do you think Mother made the comment to Gina?
11. If you were Gina, how would you respond to Mother's comment?