Strategies and Spoken Production on Three Oral Communication Tasks: A Study of High and Low Proficiency EFL Learners

Sarah Khan

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Departament de Filologia Anglesa i Germanística
Facultat de Filosofia i Lletres
Universitat Autònoma de Barcelona

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supervised by
Dr. Mia Victori i Blaya

To Pep, Jasmine and Joui

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If you haven't done one (PhD) and you think you'd like to, all I can say is it's like being dealt that fatal Chance card "Go to jail. Go directly to jail. Do not pass go. Do not collect £200".

‘Then you should say what you mean,’ the March Hare went on. ‘I do,’ Alice hastily replied; ‘at least – at least I mean what I say – that’s the same thing, you know’.

Lewis Carroll

Table of contents

Includes DVD/Audio CD

List of tables

List of figures

Abbreviations

ALTE	Association of Language Testers in Europe
AS	Analysis of speech
ASU	Actual strategy use
CAF	Complexity, accuracy and fluency
CEFR	Common European Framework for Languages
CS	Communication strategies
EFL	English as a foreign language
FCE	First Certificate in English
GLM	General linear model
L1	First language
L2	Second language
LLS	Language learner strategies
MANOVA	Multiple analysis of variance
NNS	Non-native speakers
NS	Native speakers
PSU	Perceived strategy use
SLA	Second language acquisition
SQ	Strategy Questionnaire
TOEFL	Test of English as a Foreign Language
UCLES	University of Cambridge Local Examinations Syndicate
UVIC	Universitat de Vic

Introduction

0.1 Oral communication in an EFL context

Learners of English as a foreign language (EFL) are often more preoccupied with improving their speaking skills than any other language skills, something they often voice in the classroom and which has been revealed in several studies where learners have been asked to reflect on their language needs and learning (see for example, Khan & Pinyana, 2004; Lafford, 2004; Victori, 1992). This is not surprising in the foreign language context where there are fewer practice opportunities for communicating in the target language than for those learning in the target community, and so oral communication skills are harder to develop than the other language skills: reading, listening and writing.

This need to speak English, particularly for business and travel has emerged from advances in the speed of communication systems and mobility, which have spurred globalization and have lead to the exponential growth of the use of English as a lingua franca. Within the European community the standardization of academic practices and quality control assurance across member states has meant that learning English has become a major necessity. Several measures have been taken to encourage exchanges between academics and professionals of the different European member states to meet this need. These have been in the form of a number of linguistic and educational policies and projects, such as Erasmus[1] exchanges, the European Language Portfolio[2], the Bologna Accords[3], the implementation of CLIL (Content and Language Integrated Learning) in schools and the Comenious[4] and Socrates[5] projects.

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[1] The Erasmus Programme (*European Region Action Scheme for the Mobility of University Students*) is a student exchange programme established in 1987.
[2] The European Language Portfolio is a personal document which provides information on its owner's communicative competence in several languages.
[3] The Bologna Accords aim to establish common standards in European higher education.
[4] Comenious promotes mobility and co-operation in Europe within nursery, primary and secondary education.
[5] Socrates was a European educational programme with an emphasis on language learning.

However, speaking still appears to be a difficult skill to develop in the foreign language context, despite learners undergoing years of classroom instruction and despite the many changes which have taken place to methodological approaches which claim to enhance SLA and oral communication skills, such as communicative language learning, task-based language learning and computer-mediated learning. In Spain, several reports (for example, Pisa, 2006) have been published disclosing poor English language levels among school-leavers and mainstream media attention has been given to the population's general lack of ability to communicate in English. Estimates put Spanish school-leavers' English level at A2 on the CEFR[6] and, according to Silió (2008), only 1.7% of Spanish university students are capable of communicating in English. In Catalonia, according to the latest *Estadística de Usos Linguísticos*, 21.7% of the population claim to be able to speak English fluently, a figure which is slightly higher (27%) for the whole of Spain. The cause of such poor figures clearly demands urgent attention.

As many learners prioritise speaking but attaining a successful level of spoken competence in the EFL classroom seems far from straight forward, further research into oral communication seems vitally important. The fundamental motivation for this study, therefore, was to gain a deeper understanding of the interplay between the many factors involved in L2 oral communication and thereby inform the teaching and learning of speaking. By helping teachers understand the difficulties learners come across when learners communicate in the L2, teachers can provide the best possible conditions for improving their learners' spoken competence.

Communicating in a foreign language is a complex multi-faceted skill. The kind of spoken output a learner produces may be determined by many factors. Individual

[6] CEFR - Common European Framework for Languages. Levels range from A1 and A2 (Elementary) to B1 and B2 (Intermediate) and C1 and C2 (Advanced).

learner factors, such as L2 proficiency, age, gender, personality, culture, affective state or motivation can affect spoken competence. Furthermore, as speech is essentially a communicative act, the nature of the interaction between interlocutors is another crucial consideration, as it can be determined by factors such as the power relationship between interlocutors or their relative L2 proficiency levels. The type of task that a learner undertakes, such as giving a speech or chatting with friends, is yet another determiner that influences the nature of the oral communication that takes place.

Evidence that speaking a foreign language involves the aforementioned factors has emerged from several branches of second language acquisition (SLA) research which have examined oral communication from different perspectives. Not only SLA research but also first language research and cognitive psychology have greatly contributed to what we know today about L2 speaking. This research has stemmed from the fields of speech processing (Dell, 1986; Levelt, 1989, 1999), interaction (Gass, 2002; Long, 1985; Pica & Doughty, 1985; Swain, 1985), discourse analysis (Kasper, 1985; Tarone, 1981), language learner strategies (LLS) (Cohen et al., 1996; Nakatani, 2006; O'Malley et al., 1985; Oxford, 1990), communication strategies (CS) (Dörnyei & Scott, 1997; Færch & Kasper, 1983; Poulisse, 1990; Tarone, 1981), task-based research (Bygate et al., 2001; Gilabert, 2004, 2007; Robinson, 1995; Garcia Mayo, 2007) and oral proficiency testing (Lumley & O'Sullivan, 2006; O'Sullivan, 2000; Purpura, 1999; Swain et al., 2009).

This study draws from three of these areas: LLS, CS and task-based research, since it is concerned with examining strategies and spoken production measures across different oral communication tasks. It also aims to see how task features and proficiency influence the former variables. These areas will be briefly introduced here to point out gaps in each field and justify the need for this study. More detailed explanations of each field and further references are offered in the following chapters of the thesis.

0.2 Justification for the study

LLS research began by observing what good language learners do (Rubin, 1975; Stern, 1975; Wong-Fillmore, 1979) in order to teach their strategies to less successful learners. The most common conceptualization of LLS has been learners' behaviours and/or thoughts which they apply to help regulate the learning of the target language. Therefore, LLS are cognitive in nature (O'Malley & Chamot, 1990; Macaro, 2006). Apart from many studies which have investigated general approaches to language learning, a substantial body of research exists for the different skills (see Cohen & Macaro, 2007 for a review). Research on the writing process has been particularly abundant (Manchón, 2009; Victori, 1999) as well as listening (Bacon, 1992; Goh, 2002; Vandergrift, 2003) and reading (Anderson, 1999; Ikeda and Takeuchi, 2006; Oxford et al., 2004). However, research on speaking strategies or oral communication strategies has been scarcer (Cohen et al., 1996; Nakatani, 2006; O'Malley et al., 1985).

In one respect, oral communication strategies have been analyzed alongside strategies used in the other language skills in questionnaires (Huang and Van Naerssen, 1987; Politzer, 1983; Politzer & McGroarty, 1985) especially the widely used SILL developed by Oxford (1990). The use of self-report questionnaires has been particularly popular as strategies are not always directly observable. Yet, as these questionnaires did not focus on speaking, they have only been helpful in reporting the general strategic behaviour in language *learning*, involving strategies such as "I looked for opportunities to practise" rather than strategies employed in language *use*, such as "I used a more general word because I couldn't think of the specific one". Furthermore, LLS questionnaire studies have only been helpful in reporting strategies as relatively stable aptitudes or traits with respect to general language learning (Tseng et al., 2006). They have not usually taken into account that learners may adjust their strategic approach depending on the situation or task, as suggested by an increasing amount of research in L2 (Cohen et al., 1996; Hsiao & Oxford, 2002; Macaro, 2006; Oxford et al., 2004; Phakiti, 2003) and L1 (Bråten & Samuelstuen, 2004; Hadwin et al., 2001). There is a need, therefore, for more task-based strategy research in the LLS field.

Whereas CS research has actually examined language use strategies and compared them on different tasks, this field has tended to focus on specific subsets of strategies, such as the use of fillers (Dörnyei, 1995), holistic strategies (Littlemore, 2001), repair mechanisms (Gass, 2002) or reduction and achievement strategies (Færch and Kasper, 1983; Poulisse, 1990), but few attempts have been made to consider and integrate the whole range of strategies learners display in oral communication (Dörnyei and Scott, 1997; Nakatani, 2006). To sum up, more studies are needed that focus on a wide range of oral communication strategies and which use instruments that can be administered in relation to specific tasks.

In task-based research, spoken performance has been investigated either in terms of the type of interaction that occurs between participants, which is broken up into different strategies for meaning negotiation such as comprehension checks and clarification requests (Long, 1981; Pinyana, 2005) or in terms of linguistic measures of spoken production: complexity, accuracy and fluency (Skehan, 1998a; Gilabert, 2004). These studies have often ascribed their findings to the particular design features of the task undertaken, such as its cognitive or interactional dimensions, which can make the task more or less difficult, as well as to learner factors. However, very few studies so far have attempted to examine the relationship between spoken performance and strategies (Purpura, 1999; Swain et al., 2009) in undertaking different tasks. Therefore, the present study will measure spoken production and strategies across three oral communication tasks to analyze the interplay between the two factors.

Certainly, one important criticism of LLS questionnaires is their validity as instruments measuring strategy use (Chaudron, 2003; Cohen et al., 1996; Cohen & Macaro, 2007; Dörnyei, 2005; Tseng et al., 2006). Yet, despite calls for studies to use data triangulation methods to test validity (Gao, 2007; Phakiti, 2003), very few studies (Bråten & Samuelstuen, 2007; Victori et al., 2009) have done so. One of the reasons why data triangulation has not been carried out is because of the difficulty associated with analyzing strategy use. Strategies can be both consciously and unconsciously set in motion and, moreover, some are observable and others are not. Therefore, tracing actual strategy use and comparing it with perceived strategy use, as measured by questionnaires, is a complex process. This study attempts to fill in this gap by triangulating data obtained from questionnaires with other observable or measurable methods.

Finally, one of the factors that has been most often investigated in relation to learners' strategy use is proficiency. However, findings concerning the quantity and type of strategies used by high and low proficiency learners have so far been mixed, possibly due to the different contexts and methods used in analyzing strategy use (see Cohen & Macaro, 2007 for a review of studies). Grenfell and Harris (1999) concluded that proficiency is not a sole determiner of strategy use. Therefore, it is still not clear which proficiency levels use which strategies and why. Consequently, another rationale for using task-based strategy research is to have better control over the context, eliminating confounding variables and examine strategy use and proficiency more reliably.

This study attempts to fill in the aforementioned gaps in second language research in several ways. Firstly, it develops a task-based strategy questionnaire for learners to report their perceived strategy use immediately after completing a task. Secondly, it compares both perceived strategy use and spoken production across three different tasks and between low and high proficiency levels. In terms of strategies, a broad view of strategies, similar to Nakatani's (2006), is taken, operationalising oral communication strategies as *the conscious thoughts or behaviours a learner employs in order to engage in oral communication.* Fourthly, a strategy questionnaire is validated by using data triangulation and finally the relationship between strategies and spoken production is examined.

In sum, this piece of research was undertaken to examine the following areas:

- across-task differences in spoken production and perceived strategy use
- between-proficiency-group differences in spoken production and perceived strategy use
- the validity of an oral communication strategy questionnaire
- the potential of an oral communication strategy questionnaire to predict spoken performance

This study contributes to previous research in several ways. Firstly, the findings contribute to the new direction taken in LLS research towards investigating task-based strategies (Cohen et al., 1996; Oxford et al., 2004) and extend previous research by examining strategy use, not only in the context of one task but across different oral communication tasks. Furthermore, the study forges a link between strategy use and spoken production in oral communication, fields which have traditionally been investigated separately, and finally, the study contributes further information about the role of proficiency in task-based strategy use and spoken production. Last but not least, it provides new evidence concerning the validity of strategy questionnaires, by triangulating strategy data collected on a self-report oral communication strategy questionnaire with strategy data identified in task transcripts and learners' stimulated recall comments.

0.3 Research questions

In order to achieve the objectives described above the following research questions were posed:

Research Question 1 is concerned with *differences in spoken production across tasks* for EFL learners. It is divided into the following parts:

> RQ 1.1 Are there differences across tasks in *spoken production* (measured in terms of complexity, accuracy, fluency and self repair) for *high proficiency learners*?
>
> RQ 1.2 Are there differences across tasks in *spoken production* (measured in terms of complexity, accuracy, fluency and self repair) for *low proficiency learners*?

Research Question 2 is concerned with *differences in perceived strategy use across tasks* for EFL learners. It is divided into the following parts:

> RQ2.1 Are there differences across tasks in *perceived strategy use* (measured by an oral communication strategy questionnaire) for *high proficiency learners*?

RQ2.2 Are there differences across tasks in *perceived strategy use* (measured by an oral communication strategy questionnaire) for *low proficiency learners*?

Research Question 3 is concerned with *differences in oral communication between proficiency groups* of EFL learners. It is divided into the following parts:

RQ3.1 Are there differences *between low and high proficiency* learners' *spoken production* (measured in terms of complexity, accuracy, fluency and self repair) on each task?

RQ3.2 Are there differences *between low and high proficiency* learners' *perceived strategy use* (measured by an oral communication strategy questionnaire) on each task?

Research Question 4 is concerned with the *difference between perceived and actual strategy use* of EFL learners across three oral communication tasks.

RQ4. *Does perceived strategy use (measured by an oral communication strategy questionnaire) reflect actual strategy use (measured in task performance and according to stimulated recall comments) for low and high proficiency learners?*

Research Question 5 links RQ2 and RQ3. It considers *the predictive value of the Strategy Questionnaire in determining proficiency level*. In other words, what is the relationship between perceived strategy use and spoken production.

RQ5. *How well does perceived strategy use on the Strategy Questionnaire (measured as five strategy groups) predict spoken production (measured as eight spoken production measures) ?*

0.4 Organisation of the thesis

This section provides an overview of the organisation of this thesis, which is divided into seven chapters. The first three chapters lay the groundwork for the study, describing the theoretical background and research carried out so far in relevant fields. This is followed by the four chapters which describe the study: its method, the results obtained, their interpretation and the conclusions reached.

Chapter 1 describes how language learners produce speech. The underlying cognitive mechanisms which give rise to speech are described by drawing on L1 speech production models, with particular emphasis on Levelt's modular theory (Levelt, 1989, 1993; Levelt et al., 1999). The way in which L2 researchers have drawn on this model to explain the characteristics which are particular to L2 oral communication is then highlighted.

Chapters 2 goes on to introduce one of the characteristics of L2 oral communication, which is the use of strategies. The ways in which two fields of strategy research, language learner strategies and communication strategies, have deconstructed strategies are described, with special attention being paid to data collection methods. In language learner strategy research strategies have been mainly examined via learners' perceptions, whereas in communication strategy research they have been measured by researchers identifying them in task-based contexts. Some limitations in these fields are discussed which to some extent justify the approach taken in this study and lead to a review of related studies that have explored strategies in the context of tasks and/or have considered proficiency level.

As much of strategy research considers task as pivotal in understanding oral communication, Chapter 3 turns to the area of task-based research. Within this field, tasks have been investigated not only in terms of the interactional strategies learners employ but also in terms of the complexity, fluency and accuracy (spoken production) of their speech. Firstly, the construct of task is defined including particular criteria for identifying an activity as a task. Two influential cognitive theories (Robinson, 2001; Skehan, 1998a) are described, which, drawing from previous task-based research, dissect tasks according to certain features and predict how these features influence the complexity, fluency and accuracy of speech. This chapter then ends with a review of studies which have investigated the cognitive and interactional task dimensions most relevant to the tasks employed in this study.

Chapter 4 explains the methodology undertaken in this study to examine strategy use and spoken production on three oral communication tasks. Firstly, the instruments are described, including the preliminary stage for developing and piloting the Strategy Questionnaire (SQ), the three tasks with their particular features and the Reflective Questionnaire for examining learners' perceptions of the tasks. This is followed by a description of how the 48 participants were selected and assigned to low and high proficiency groups and how data was collected, from video recordings of task performances, responses on the strategy questionnaire and audio recordings of stimulated recall sessions. Finally, the data analysis is explained, including the statistical analysis of the quantitative data as well as the transcription of tasks and procedures for identifying and coding spoken production measures and strategies in the qualitative data.

Chapter 5 presents the results of the study and answers to the research questions posed. Firstly, across-task comparisons are made for spoken production and perceived strategy use. This is followed by between-proficiency-group comparisons. Next, results concerning the validity of the SQ are presented followed by additional results regarding pre-task planning time, task duration and learners' perceptions of the tasks. Finally, the results regarding the potential of the SQ for predicting spoken production measures are presented.

Chapter 6 analyses and interprets the results presented in the previous chapter. Firstly, the validity of the SQ is addressed in order to take into account both PSU and ASU in the subsequent interpretation of strategy use. This is followed by an analysis of spoken production measures and strategies across tasks and between proficiency groups. The chapter ends with an analysis of the relationship between strategy categories and spoken production measures.

Finally, in Chapter 7, the main conclusions of the study are reached. After acknowledging the limitations of the study, some pedagogical implications are described and future research directions are proposed.

Chapter 1

Speech Production

This chapter sets out the theoretical grounding of this study, the purpose of which is to gain an understanding of the underlying psycholinguistic mechanisms involved in second language oral communication. Such an approach has been justified by other researchers (Kormos, 2006; Skehan, 1998a) as much of second language acquisition and speech production are psychological processes.

> "By being familiar with the mental processes involved in producing L2 speech, teachers can understand the problems their learners have to face when learning to speak, ..." (Kormos, 2006: xvii)

Research into first language speech production is an extensive and autonomous field within cognitive psychology and it is drawn upon here to further our understanding of L2 speech. Several theories exist which explain first language speech production but the one which will be highlighted is Levelt's modular theory (Levelt, 1989, 1993; Levelt, et al., 1999). It is particularly relevant to this study as it has been used to explain L2 speech production (de Bot, 1992; Poulisse & Bongaerts, 1994), as well as being widely cited to explain L2 strategies, L2 spoken production measures and task influences. Communication strategies (Dörnyei & Kormos, 1998) have been explained by the model, self-repairs (Kormos, 2000) and task based studies (Gilabert, 2004, 2007; Yuan & Ellis, 2003) have used it to explain across-task differences in complexity, fluency and accuracy. More recently, in a review of task-based studies, particular task features have been linked to different processing stages (Skehan, 2009), based on findings for complexity, accuracy and fluency of L2 speech. Therefore, Levelt's model provides the framework for understanding L1 speech production, as well as the distinctions between L1 and L2 speech. This will then lead to a description of the main features of L2 speech.

1.1 First language speech production

Although research into speech production has become an extensive field, which has become more and more accessible through digital technologies, the technical means for studying speech processing, such as recording devices, only became available in the latter half of the 20th century, so research was initially more prolific on written language. This is why speech was originally seen in the same way as writing, reflected in the teaching of speech in the classroom, taught through sentence patterns and scripted dialogues (Bygate, 2003). Marked differences between written and spoken language have been discovered. Firstly, discourse analysis and corpus-based approaches to speech production have identified a number of oral genres and sub-genres, which are quite distinct from those of written discourse. Secondly, developmental studies have shown that there are distinctions between the written and spoken language of any particular individual, and thirdly, many social and psychological differences have been found to underlie the differences in processing for writing and speech.

From a purely linguistic standpoint, L1 speech has certain characteristics. It is mostly effortless, fast and can be done in parallel with other activities such as watching television, driving a car or listening to music (Brown & Yule, 1983). Speech is like this as a result of speakers' efforts to facilitate their speaking within the time constraints imposed on them by the nature of oral communication: 1) syntax tends to be less complicated than in written language as phrases tend to be linked by coordination (and, or, but) rather than subordination (if, when) and ellipsis[7] is prevalent, 2) instances of ungrammatical utterances are common and 3) pauses, repetition and false starts are rather frequent, as well as fillers and hesitations.

[7] Ellipsis is the omission of elements in an utterance which can be inferred from the context.

These observable phenomena have been studied from a cognitive perspective to understand the underlying speech processing mechanisms, which is the position taken in this study. Cognitive theories view linguistic knowledge as part of other cognitive faculties and work with information processing models to account for how linguistic knowledge is manifested through performance. Nevertheless, alternative perspectives exist such as nativist theories like Chomsky's Universal Grammar (Chomsky, 1986), which uphold that linguistic knowledge is represented in a unique faculty in the brain.

The common consensus within cognitive linguistics, at present, is that language production in multi-faceted: generated, encoded and articulated at different interlocking levels of processing (Levelt, 1989). These conclusions have been reached through years of investigation, firstly through observation, then by experimental techniques, for example reaction-times studies[8], and later by neuroimaging. Speech errors or slips of the tongue (for example spoonerisms[9], tip-of-the-tongue[10] phenomena and malapropisms[11]), albeit infrequent in L1 speech, have been the focus of such research and have provided the empirical data to support speech processing models. People with speech disorders, for example with types of aphasia[12], have also provided valuable insights into the workings of the speech process. The systematic analysis of speech errors, using such methods, has explained whether apparently separate functions fail independently or in unison, and so whether these functions are derived from the same process or from different ones. Further analysis can reveal which levels in speech

[8] Reaction time studies measure the time a participant takes to react to a stimulus, such as the time taken to say the word represented in a picture.
[9] A Spoonerism is an error in which word initial consonants, vowels or morphemes are switched. This type of error is named after the Reverend William Archibald Spooner (1844–1930) who was prone to such errors, for example "You were fighting a liar in the quadrangle." (lighting a fire).
[10] Tip of the tongue (TOT) phenomena is the instance of knowing the word one wants to say but being unable to recall it.
[11] Malapropism is the misuse of a word, particularly because of a similar sound, for example "we live in an effluent (affluent) society".
[12] Aphasia is an acquired language disorder. There are many types of aphasia, such as anomia, the inability to recall a word name.

processing are more closely linked, which form of encoding is passed between them and which levels are more prone to damage.

1.2 Speech production models

Several models of speech processing have been put forward (Butterworth, 1985; Dell, 1986; Donald, 1991; Fromkin, 1971; Garrett, 1990; Levelt, 1989; Levelt et al., 1999; Mackey, 1970) to explain how humans produce language, a highly complex process, at such a fast rate with the minimum of error. These models follow two main trends according to Kormos (2006): the spreading activation theory (Dell, 1986) and the modular theory of speech processing (Levelt, 1989).

> "Researchers working in the spreading activation paradigm assume that speech processing is executed in an interactive network of units and rules, in which decisions are made on the basis of the activation levels of the so-called nodes that represent these units and rules. Traditional modular theories, on the other hand, postulate that the speech encoding system consists of separate modules, in which only one way connections between levels are allowed." (Kormos, 2006: 3).

Both spreading activation and modular models assume four levels of knowledge: semantic (word meaning), syntactic (phrase building, word-order rules), morphological (word-building, affixation) and phonological (phonemes, phonological rules) levels but the models differ in their description of how these processes work and how they are interrelated. Although other theories exist, the focus in this study will be on Levelt's modular theory as it is based on extensive empirical findings and even incorporates aspects of other theories.

1.2.1 Spreading activation

In the spreading activation model (Dell, 1986) the mental lexicon is a network of interconnected units or *nodes,* such as concepts, words, morphemes, phonemes and syllables. Sentence production occurs by spreading activation, in which the category with the highest activation at each knowledge level is selected first. Activation spreads within each level, therefore, any component can be activated from different sources. Activation also spreads from one level to the next. It can be bidirectional with activation spreading down from words to morphemes and so on, top-down in speech production, and bottom up in speech perception, where it spreads up from sound to syllable to word and so on. Monitoring is assumed to be performed in the same way for one's own speech as for another's, an aspect which Levelt also assumes for monitoring. Levelt's model is called modular but it should be recognised that Dell's model may also be considered modular in the sense that it includes a hierarchical network of nodes. However, unlike Levelt's unidirectional model, where certain processing must occur at a higher level before a lower level and the input or information which activates each processing component is unique, Dell's model allows for bi-directional interaction between processing levels and activation by input from different sources.

1.2.2 Modular theory

Levelt (1989) published a major monograph "Speaking: From Intention to Articulation" where he put forward his theory of L1 speech production (from conceptual preparation to the initiation of articulation) based on empirical data on error analysis of L1 adult speakers. As the model integrates and develops particular aspects of previous research, as Levelt et al. (1999) themselves acknowledge, it has a sound psycholinguistic basis grounded in empirical research which bestows it with greater explanatory power. Levelt et al. (1999) further developed the model by investigating reaction time/latencies and thereby expanding the methodological approach in the field, traditionally based on speech errors. This was a necessary measure for two reasons. Firstly, the test that a model is correct is that it accounts not only for infrequent speech errors but that it explains the normal process itself. Secondly, reaction time studies measure the real time course of a mental activity and can lead to real time process models, which can predict outcomes and the time taken by different components in the process. The model can account for the main observations in the domain of speech errors. A schematic representation of the most recent version (Levelt et al., 1999) is provided in Figure 1.1 and can be referred to in the following sections.

The model accounts for speech processing from conceptual preparation to grammatical encoding, lexical selection, morphological and phonological encoding and phonetic encoding before articulation can be initiated. However, it does not extend further than the beginning of articulation and Levelt et al. (1999) admit that it is incomplete and needs further development. In parallel to the aforementioned processes, there is output monitoring involving the speaker's normal speech comprehension mechanism. The model involves the stages of processes (in oval boxes) listed above and the nature of information passed between them (arrows) or the output of each stage: lexical concepts, lemmas, morphemes, phonological words and phonetic gestural scores executed during articulation.

Levelt argues that speech processes are indeed modular and act relatively autonomously within the system. The latest version of the model (Levelt et al., 1999) includes five main processing components: *conceptual preparation, grammatical encoding, morpho-phonological encoding, phonetic encoding* and *articulation,* and three knowledge stores: *mental lexicon*, *syllabary* and *knowledge of the internal and external world.*

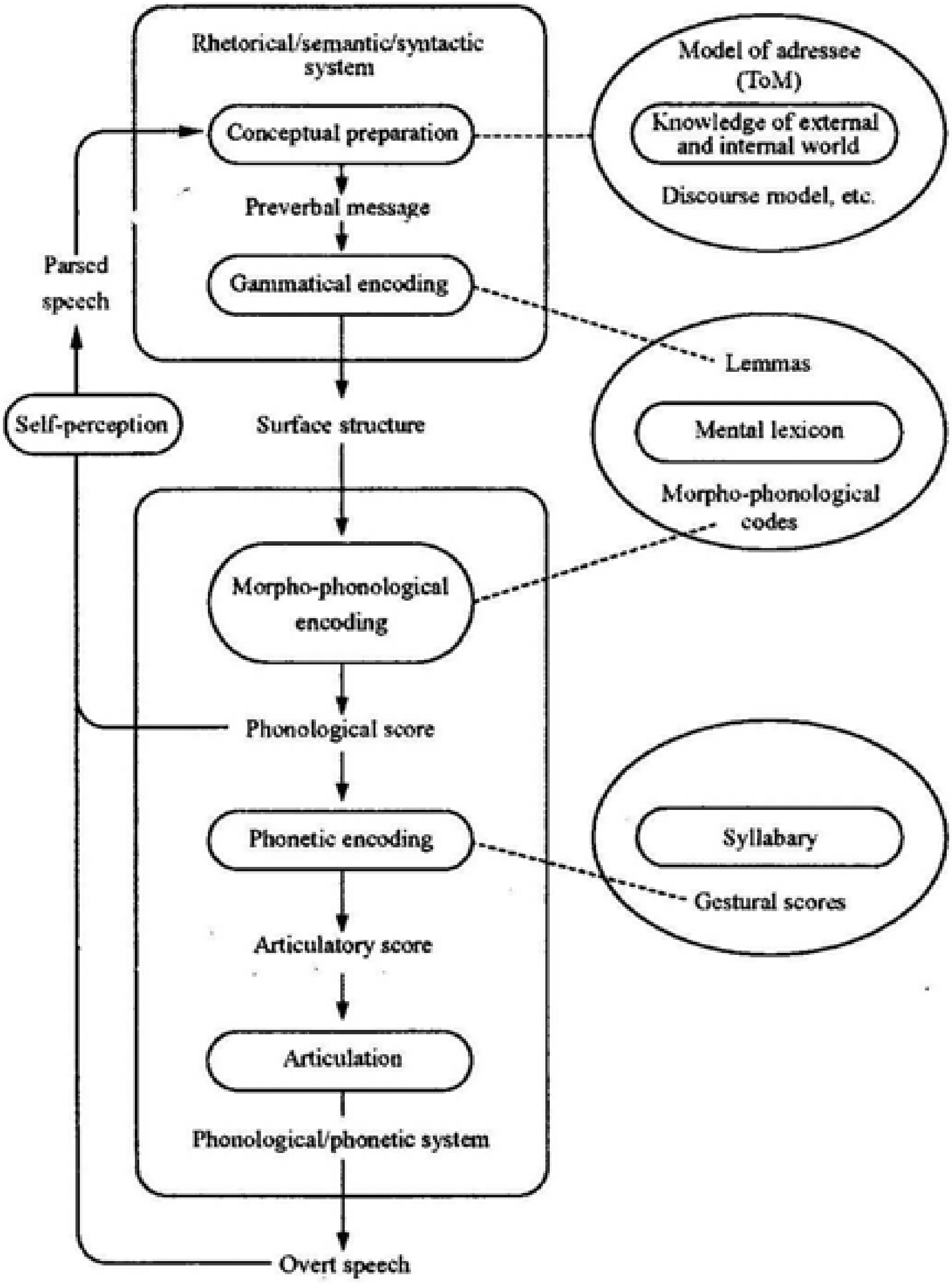

Figure 1.1 Levelt's (1999) blueprint of the speaker (based on Kormos, 2006: 8)

In speech production, according to Levelt's model, a person decides what to say (conceptual preparation), encodes this message in the form of language (grammatical, morpho-phonological and phonetic encoding) and then articulates the message (articulation). What is unique to Levelt's model is that in speech perception a person perceives speech through the *acoustic-phonetic processor*, decodes speech linguistically by the parser and interprets the meaning by the conceptualising module. Speech perception and production are integrated into one comprehensive system, which makes it possible to connect discourse and psychological aspects of language to each other. Perception and production are linked to the three knowledge stores and interaction between the processing components and knowledge stores produces speech.

Levelt makes several assumptions in his model: 1) that *each component is a specialist*, in other words, it doesn't share functions with another component and only begins processing when it receives the characteristic input, 2) *processing is incremental*, which means that as soon as processing of a chunk of language in one component has finished and passed on to the next component, processing in that component will continue with the next in-coming chunk, even though processing in the following component has not been completed and 3) *parallel processing takes place*, with the processing components working simultaneously, which is only possible because much of the processing is *automatic*. These features, incremental, parallel and automatic, account for a speaker being able to articulate a message extremely rapidly, within the time constraints of oral communication, and also mean that articulation of an utterance can begin long before a speaker has completed planning the whole message.

Conceptual preparation generates the message through macro-planning and micro-planning. Macro-planning is the elaboration of the communicative intention, expressed as speech acts such as requesting, asking a question or giving a warning.

Micro-planning is deciding what structure to give the semantic representations associated with the communicative intention: the perspective of message, the new and old information in the message, the propositional content, the mood and tense. The outcome of macro-planning and micro-planning is finalising the message for expression as the *preverbal message*. This preverbal message is not linguistic in form, but contains the necessary information for converting meaning into language.

The preverbal message is the output of conceptual preparation and input of the grammatical encoding, which encodes the message grammatically, and to do so retrieves information from the mental lexicon. If the preverbal message is to be recognised for grammatical encoding it must contain lexicalisable chunks which are recognised by corresponding lemmas[13] from the mental lexicon. Lemma retrieval occurs when the meaning of that lemma best matches the semantic information of the preverbal message. Once a lemma is selected it becomes available for grammatical encoding, which creates the appropriate syntactic environment for the word (in the case of a verb, transitivity, tense, person, number and mood). Hence, Levelt assumes semantic activation occurs primarily by form activation and that the mental lexicon is a mediator between conceptualising and encoding the message.

The output of grammatical encoding is the surface structure which is "an ordered string of lemmas grouped into phrases and sub-phrases" (Levelt, 1989: 11). This is further processed by morpho-phonological encoding. The first step in this process is to retrieve information from the mental lexicon (morpho-phonological codes) about the morphological make up, metrical shape and segmental make up of a lexical item. In phonological encoding the morphemes are accessed first, then features such as stress

[13] Lemmas contain syntactic information of lexical entries.

and pitch and then the phonemes of the morpheme. The final result is the phonological score (internal speech).

Levelt's model only partially accounts for phonetic encoding and the initiation of articulation. Phonetic encoding acts on the phonological score by drawing on the gestural scores in the syllabary, a repository of highly learnt gestural scores for the frequently used syllables of the language (Levelt et al., 1999). It is at this point just before overt articulation that the speaker experiences internal speech. The gestural score is finally executed by the articulatory system. The functioning of the articulatory system goes beyond Levelt's model and is not the focus of the present study, but, in short, it consists of a computational neural system that controls a highly complex motor system (lungs, larynx and vocal tracts).

So far, a short description of the processes in speech production has been made, however, monitoring, which runs in parallel to these processes, is another important part of speech production and will be described in the following section.

1.3 Monitoring

As will be seen throughout the following chapters, monitoring is an important aspect in L2 oral communication as it determines if learners notice deficiencies in their own speech or other's, which in turn affects how the discourse develops. Some researchers (Gilabert, 2007; Kormos, 2006) argue that Levelt's is the best account of monitoring so far.

Levelt drew from other theories of monitoring and spreading activation to elaborate his own *perceptual loop theory.* In Levelt's model the *monitor* is located within the *rhetorical/semantic/syntactic* system at the conceptual preparation stage. As mentioned previously the same knowledge stores (mental lexicon, syllabary, knowledge of the external and internal world) are available for both perception and production. Therefore, the same parser (speech comprehension system) is used for decoding one's own speech as well as another's. Also, the same conceptual preparation process which interprets another's utterance generates the speaker's own message. This parser is in turn connected to the mental lexicon. Monitoring of one's own overt speech occurs, as is made apparent by self-repairs, but monitoring of internal speech, covert monitoring, also occurs, so the speaker can correct a mistake in the speech process before it is articulated. In Levelt's perceptual loop theory, three monitor loops or direct feedback channels for inspecting the outcome of the processing components exist, although they are not included in Levelt's diagram of the model. The first loop compares the preverbal message with the speaker's original intention, the second loop monitors internal speech before articulation (covert monitoring) and the third and final loop monitors the utterance after articulation. When an error is perceived in any of these three loops an alarm signal is sent out which triggers the production mechanism for a second time. In such cases, the speaker can either ignore the mistake and continue, they can alter the preverbal message or they can replace it with a different one.

To sum up, the relevance of Levelt's model (1989, 1993, 1995, Levelt et al., 1999) to this study is that it describes the different stages in speech production and perception, which provides a theoretical basis for explaining the influences on performance measure (complexity, accuracy, fluency and strategies) examined in this study. Due to its use as a theoretical framework to account for bilingual speech production (de Bot, 1992; Poulisse & Bongaerts, 1994) it has been widely cited in L2 research and, therefore, results described within this framework may be more easily comparable to the work of others.

1.4 Second language speech production

While L2 speech production shares many of the characteristics of L1 speech, as outlined in the model above, there are some important differences. First of all, and most obviously, learners' knowledge of the L2 is not as broad as the L1. Lexical and grammatical knowledge is poorer as specific information associated with grammatical or lexical items, such as semantic, syntactic, morphological or phonological information, may be missing, as well as the relationships between different items. This results in more errors than those occurring in L1 speech and also a more frequent need for speakers to change their original plan or intended message, if they lack the linguistic resources to execute it. L2 speakers, therefore, use strategies to compensate for limitations in lexical knowledge (Færch & Kasper, 1983; Poulisse, 1990) or to avoid L2 grammatical structures that they are unsure of. Otherwise, they may use words erroneously and produce ungrammatical utterances.

Secondly, the degree of automatic information processing is lower in the L2 so L2 speakers are less fluent. Speech rate is slower and more hesitant, which may be due to more serial processing as the learner has to pay attention to grammatical and phonological encoding phases. Studies have provided evidence of a higher level of hesitation phenomena (repetitions, corrections, filled pauses, slips of the tongue) in the L2, as well as slower articulation rate, longer pauses and shorter runs (Lennon, 1990; Raupach, 1987; Towell, 1987; Weise, 1982).

Thirdly, the presence of L1 traces exists in L2 speech, either accidentally as unintentional code switching, or on purpose, intentional code switching (Poulisse & Bongaerts, 1994). Code switching may occur at the phonological, lexical, syntactic and pragmatic level. It occurs because L2 knowledge is incomplete but also because of the influence of the speaker's complete L1 system. Unintentional code switching may occur because of L1 transfer[14], which is more common in low proficiency learners. Intentional code switching may occur to solve a communication problem by, for example, *foreignising*[15], *L1 translation*[16] or *code switching*[17] due to the lack of a particular lexical item in the speakers linguistic repertoire or for psychological or social reasons, for example to mark the speakers' identity, to emphasize a part of the message or to make asides (Poulisse & Bongaerts, 1994).

As these differences are manifested in L2 speech compared to L1 speech, any model of L2 speech production needs to have the explanatory power to account for them. de Bot (1992) attempted to do this by drawing on Levelt's model of first language speech production, which he claimed could also explain second language production. As Levelt's model had a solid grounding in years of empirical research, de Bot made as few changes as possible to adapt it to L2 speech.

One adaptation is that the decision to speak in one language or the other is placed in conceptual preparation, as it is determined by the speaker's knowledge of the situation, the interlocutors and their knowledge of language. Poulisse and Bongaerts (1994) assume that conceptual preparation is partly language specific, so the preverbal message already contains language-specific information, which activates a separate module for formulation and, therefore, different procedures are applied to phonological and grammatical encoding of L1 and L2, which, as will be seen, explains how the L1 and L2 are generally kept separately and are not mixed up.

It is also assumed that languages are accessed in parallel. In this way, two speech plans can be formulated simultaneously, one for the language being spoken and

[14] L1 transfer is the incorporation of a feature of L1 into the L2 knowledge system.
[15] Foreignising is using an L1/L3 word by adjusting it to the L2 phonology.
[16] L1 Translation is translating literally a lexical item, an idiom, a compound word or structure from L1/L3 to L2.
[17] Code switching is including L1/L3 words with L1/L3 pronunciation in L2 speech. (Dörnyei & Scott, 1997: 188).

one for the active language (the language not being spoken but which is the one in regular use). This conceptualisation is important as it explains overt phenomena particular to L2 speech. The availability of two speech plans makes it easy to stop encoding one speech plan and continue with another, which makes code switching possible.

A major question in L2 speech production research has been whether the mental lexicon stores words of several languages, in other words, that there is a common lexicon for all languages or whether there are separate lexicons for each language. This has been the focus of a vast number of studies (see Kroll & Sunderman, 2003, for a review). Research on the bilingual lexicon has accumulated evidence through reaction time studies to give strong support to the *non-selective lexical access hypothesis,* which claims that lemmas are activated in parallel. Lemmas carry syntactic information in the mental lexicon (Levelt et al., 1999). When confronted with a word, for example, in a picture naming task, the *selective lexical access hypothesis* predicts that a lemma from one language is activated first followed by the lemma in another language. However reaction time studies have shown that words from more than one language compete for activation in production and perception, supporting the *non-selective lexical access* view.

If it is assumed that multiple linking exists between lemmas and that there is interaction between L1 and L2 lemmas, L2 lemmas are connected to their L1 cognates, which explains L1-L2 interference. L1 and L2 lemmas are in cross-linguistic competition but activation is not equal. There is a threshold level of activation or proficiency for competition to occur. The most regularly used language is the most active and the most difficult to suppress but if it is deactivated it takes much longer to activate again.

L2 speakers, especially more advanced ones, are particularly good at keeping languages apart when they want to. In order to explain this, while still accounting for code switching, de Bot (1992), Poulisse (1993) and Poulisse and Bongaerts (1994) adhere to Paradis's (1987) subset hypothesis, maintaining that within the mental lexicon elements from each language form different subsets, each of which can be activated in its entirety when chosen for production. As they assume that the mental lexicon is represented as a network from which words are accessed through spreading activation (Dell, 1986), L1 and L2 lexical items belong to different subsets which are activated to different extents, depending on the language being spoken. Poulisse and Bongaerts (1994) explain intentional and unintentional code switching with this hypothesis. For example if the speaker wants to say "She told me the story" the macro-plan during conceptual preparation is the same for both L1 and L2 but if the speaker wants to speak in L2 the micro-planning would involve *tagging* the conceptual information for the L2 language so that the preverbal message may then be encoded in the appropriate way for the L2. Simple exchange of this tag results in code switching.

de Bot explains phonological interference by proposing that the articulator is shared. In other words, shared forms at the phonological level of different languages tend to be co-activated. A common set of sounds and pitch patterns stored in the syllabary are drawn upon to produce overt speech. Some sounds and patterns may be language specific, but especially for beginner L2 speakers many sounds will be used for both languages and errors will occur because the phonological store for the L2 is incomplete or not sufficiently specified. de Bot's model suggests that the further into the speech production process non-target language alternatives are active, the more competition there will be between languages. Research into L2 speech shows that these non-target language alternatives are indeed available, well into the production process, at the conceptual level, at the lemma level and possibly all the way to the phonological level.

Summing up, in L2 speech production, a speakers' knowledge of the L2 is incomplete, speech processing involves more serial processing steps and the L1 is also active, creating certain competition with the L2. These factors mean that learners struggle to conceptualise, formulate and articulate messages in their L2, compared to L1 with the result that their speech is less accurate, less fluent and less complex. It also means that speech proves more problematic for L2 speakers and in response to these problems they use strategies. How learners use these strategies to overcome problems when speaking a foreign language is the focus of the following chapter.

This chapter has described overt features of L1 speech by comparing it to writing. It has explained these features from a cognitive perspective in terms of Levelt's model of speech processing in order to gain an understanding of the different stages involved (conceptual preparation, lexical retrieval, grammatical, morpho-phonological and phonetic encoding through to articulation and speech perception). Levelt's model then provided the framework for describing the distinguishing features of L2 speech processing compared to L1: the need for L2 speakers to change their original intended message, lower automatisation of L2 speech processing and the presence of traces of L1. These features are brought about because the speaker's knowledge of the L2 is narrower and their L2 speech is influenced by L1. An understanding of such processes is essential with regards to this study, as it will be shown that differences in strategy use or in fluency, accuracy and complexity of speech, elicited by different tasks, may be interpreted according to variations in conceptual preparation, lexical retrieval, grammatical, morpho-phonological and phonetic encoding and monitoring.

So far, only the theoretical background to speech production has been presented without reference to the language learner or the context of communication. Hence, in the following two chapters these areas will be developed. Firstly, strategy research will be addressed to examine the part strategies play in L2 oral communication and then task-based research will be discussed to study the role of context in determining strategy use and the complexity, fluency and accuracy of speech.

Chapter 2

Strategies

This chapter discusses two areas of research which are relevant to L2 oral communication: language learner strategies (LLS) and communication strategies (CS). Both are relevant to this study on oral communication as the two perspectives complement each other, providing a more comprehensive picture of oral communication. The former field has been concerned with strategies learners use to learn a language across all skills: reading, writing, listening and speaking, and it is in this latter skill that it overlaps with CS research, whose focus has been on strategies used only in oral communication. The two fields have differed in their methodologies. Where CS research originated from identifying observable phenomena in L2 speech, such as leaving a message unfinished or creating a non-existing L2 word, predominantly identified in transcripts of spoken performance, LLS research has always taken into account both observable as well as internal thought processes which are not necessarily observable, such as evaluating yourself or managing your nerves, and has tended to rely more on self-report methods such as questionnaires.

Firstly, the importance of strategies within second language learning will be discussed. The next part of this chapter describes LLS in the historical context of strategy research and discusses the challenges that have faced strategy researchers, particularly the issue of defining strategies, as well as criticisms aimed at this field. This is followed by factors which influence strategy use, with a particular emphasis on proficiency and tasks. In the next part of the chapter, the focus is on CS and the three main perspectives (psycholinguistic, interactional and integrative) from which they have been studied. Limitations of CS research are discussed followed by a focus on research that has investigated proficiency and task in relation to CS.

2.1 Strategies within second language learning theory

Strategy researchers became influential within the field of psychology in the 1970's when language learning theory was moving away from behaviourist theory (Brooks, 1960) or Universal Grammar (Chomsky, 1986) and moving towards more social theories of learning. According to behaviourist theories language is a psycholinguistic phenomenon to be manipulated by drilling (repetition) and stimulus response. In contrast, Chomsky's theory is a linguistic theory of the innate principles of grammar common to all languages, which determine linguistic behaviour. Neither of these theories take into account social or pragmatic aspects of learning, a new perspective which was proposed by Hymes (1972) in his article "On communicative competence". Hymes distinguishes communicative competence from Chomsky's linguistic competence, claiming that effective performance is determined not only by linguistic competence (linguistic universals or grammar rules) but also by knowledge of the appropriate *use* of these rules in a particular social context. It was a notable shift in perspective in language learning theory, moving from a focus on what learners learn (product-orientated approach) to how learners learn (process-oriented approach). This new perspective sparked off more and more interest into strategies.

Since Hymes (1972), other researchers (Halliday 1973; Munby, 1978; Savignon, 1983; Widdowson, 1983) have examined the idea of communicative competence. However, Canale and Swain (1980), Canale (1983) and Bachman (1990) have been key in developing and extending the notion. Canale and Swain's (1980) seminal model of communicative competence, includes strategic competence as well as sociolinguistic[18],

[18] Sociolinguistic competence "requires an understanding of the social context in which language is used: the roles of the participants, the information they share and the function of the interaction" (Canale & Swain, 1980: 29).

grammatical[19], and discourse[20] competence (Canale, 1983) as one of its four components. *Communicative competence* is the learner's ability to distinguish the appropriateness of both the form and meaning of an utterance in a given situation and the component of *strategic competence* is the ability of the learner to recognise and repair breakdowns in communication by using appropriate CS, "verbal and non-verbal strategies that may be called into action to compensate for breakdowns in communication due to performance variables or to insufficient competence" (Canale & Swain, 1980: 30).

Later, Bachman (1990), whose interest was in performance and measurement in language testing, extended previous work and made strategic competence a central part of his theory, an executive function for making a final decision (on wording, phrasing, and other productive and receptive means) for negotiating meaning. He renamed communicative competence as 1) *language competence,* divided into *organizational competence,* (grammatical and discourse, or textual, competence) and *pragmatic competence* (sociolinguistic and illocutionary competence) and 2) *strategic competence*, which operated in terms of metacognitive principles with assessment, planning and execution phases. Later again, Bachman and Palmer (1996) refined this framework defining strategic competence as:

> "a set of metacognitive components, or strategies, which can be thought of as higher order executive processes that provide a cognitive management function in language use" Bachman and Palmer (1996: 70).

Douglas (1997) also discussed the importance of the strategic component in the testing of speaking and includes three types of *processes* in his model of speaking in

[19] Grammatical competence is "knowledge of lexical items and of rules of morphology, syntax, sentence-grammar semantics and phonology" (Canale & Swain, 1980: 29).
[20] Discourse competence concerns cohesion and coherence and is described as the ability to connect sentences in discourse and to form a meaningful whole out of a series of utterances.

academic contexts: metacognitive strategies, language strategies, and fundamental cognitive strategies (Chapelle & Douglas, 1993; Douglas 1997).

The notion of strategic competence is found in another influential area of foreign language education, the Council of Europe's *Common European Framework of Reference for languages: Learning, teaching, assessment* (CEFR) (Various authors, 2001). It lists a series of *can do* statements, describing a student's ability in using a foreign language i.e. their communicative competence, which is defined in the CEFR as linguistic, sociolinguistic and pragmatic competence. Interestingly, strategic competence clearly underpins the three competencies defined, as this excerpt from the CEFR illustrates:

> Language use, embracing language learning, comprises the actions performed by persons who as individuals and as social agents develop a range of **competences,** both **general** and in particular **communicative language competences**. They draw on the competences at their disposal in various **contexts** under various **conditions** and under various **constraints** to engage in **language activities** involving **language processes** to produce and/or receive **texts** in relation to **themes** in specific **domains**, activating those **strategies** which seem most appropriate for carrying out the **tasks** to be accomplished. The monitoring of these actions by the participants leads to the reinforcement or modification of their competences. (Various authors, 2001), [the underlined section is my emphasis].

Strategy use seems to be viewed in a broad sense, not only in terms of repair in communication breakdown, as communication strategies, but as an executive or metacognitive function, planning, monitoring and evaluating the reception, production and mediation of language. More recently, Fulcher (2003) expanding on Bachman and Palmer (1996), includes strategic capacity (achievement strategies and avoidance strategies) in his framework for describing speaking test scores and Swain et al. (2009)

have examined strategic behaviour on the speaking part of the TOEFL[21], which shows that the inclusion of strategies as an essential part of oral communication remains valid up to the present day. These authoritative sources have established the importance of strategies in language learning and are firm evidence that strategies remain a critical component of oral communication, firmly grounded within the notion of communicative competence.

2.2 Language Learner Strategies

2.2.1 Definition and classification

Strategies in language learning have been called *learner strategy* or *learning strategy*, often used to refer to the same concept but sometimes the following distinction is made: *Learner strategy* (McDonough, 1999; Wenden & Ruben, 1987) is a broader term in which the focus is on the individual and *any* strategy that the individual uses for producing the target language (a production strategy), for communicating in the target language (a communication strategy)[22] or for processing input in the target language (a learning strategy). *Learning strategy*, in contrast, is used when the focus is only on processing input to develop linguistic knowledge (Cohen et al., 1996) and is, therefore, construed in a narrower sense. In this study the term *language learner strategies* (LLS) will be used in its wider sense with the focus on the learner as an active participant in the learning process to encompass the array of production, communication and learning strategies they may use. Table 2.1 provides examples of LLS definitions. What definitions have in common is the conceptualisation of strategies as behaviours

[21] TOEFL – Test of English as a Foreign Language

[22] Production and communication strategies are sometimes referred to as *language use* strategies (Tarone 1981, Cohen, Weaver & Li, 1998), production strategies being “attempts to use existing L2 knowledge efficiently and clearly with a minimum of effort” (Tarone, 1980: 419, cited in Ellis, 1994) whereas communication strategies are attempts to deal with problems in communication that have arisen during speech.

(techniques, steps or specific actions). However, definitions differ in terms of whether they include thoughts or mental processes and whether they include the element of consciousness as a factor in strategy use.

Table 2.1

Definitions of Language Learner Strategies

Researcher	*Definition*
Rubin (1975: 43)	techniques or devices which a learner may use to acquire knowledge.
Wenden and Rubin (1987: 6)	language learning behaviors learners actually engage in to learn and regulate the learning of second language
O'Malley and Chamot (1990: 1)	special thoughts or behaviors that individuals use to help them comprehend, learn or retain new information.
Oxford (1990: 1 & 8)	steps taken by students to enhance their own learning... ...specific actions taken by the learner to make learning easier, faster, more enjoyable, more self directed, more effective and more transferable to new situations.
Chamot (2004: 1)	the conscious thoughts and actions that learners take in order to achieve a learning goal.
Cohen (1998: 5)	(second language learning and second language use strategies)... are the steps or actions consciously selected by learners either to improve the learning of a second language, the use of it, or both

Descriptions of exactly what LLS are have been developed from over 40 years of research work but the concept of *learning strategy* is not limited to language learning. In fact, it stems from the fields of education and cognitive psychology where the idea of learning to learn or improving study or thinking skills has been traced back to the 19th century. Much research has been carried out in this field by some leading experts (see for example, Dansereau, 1978; Dansereau, 1984; Weinstein & Hume, 1998; Weinstein & Mayer, 1986; Weinstein & Underwood, 1985), which has lead to this more recent definition:

> "Learning strategies include any thoughts, behaviours, beliefs or emotions that facilitate the acquisition, understanding or later transfer of new knowledge and skills." (Weinstein, Husman & Dierking, 2000: 727).

These researchers view strategies as skills or behaviours that learners apply rather than self-regulation (Pintrich, 2000; Zimmerman, 1998, 2000), which is an individual difference or inherent trait of an individual, not subject to change. They distinguish between three characteristics of strategies: that they are goal directed, intentional and require effort. This suggests that learning strategies can be learnt, are variable, may fall into disuse and depend on learners' attention and application of them.

Early research on LLS, as mentioned, began in the 1970's from the studies on good language learners (Rubin, 1975; Stern, 1975; Wong-Fillmore, 1979). Rubin (1975) observed that good language learners could be characterised as willing and accurate guessers, they used techniques to communicate, they were good at managing inhibitions, they were willing to make mistakes, they focused on form by looking for patterns and analyzing, they looked for practice opportunities, monitoring their own speech as well as that of others and they paid attention to meaning. Stern (1975: 31) listed the top-ten strategies of the good language learner according to his personal experience and a review of the literature at that time:

1) A personal learning style or positive learning strategies
2) An active task approach
3) A tolerant and outgoing approach to the target language and empathy with its speakers.
4) Technical know-how about how to tackle a language
5) Strategies for experimentation and planning with the object of developing the new language into an ordered system and/or revising this system progressively.
6) Constantly searching for meaning.
7) Willingness to practise.
8) Willingness to use language in real communication.

9) Self-monitoring and critical sensitivity to language use.
10) Developing the target language more and more as a separate reference system and learning to think in it.

Two early studies (Cohen & Aphek, 1981; Hosenfeld, 1977 & 1979) were important in establishing that strategies could not only be identified by observation but also by asking the learner, which provided a more complete picture of the strategies involved. Hosenfeld described grammar transformation and reading strategies using learners' retrospective accounts and Cohen and Aphek (1981) observed students speaking in the classroom and interrupted the class to ask students for the rationale behind what they had just done.

Much of this initial research involved identifying and describing the strategies good learners use with the purpose of teaching them to less successful learners. The rationale behind this approach was that it had immediate practical applications for enhancing second language acquisition. Since then four books have been particularly influential in the field: *The Good Language Learner* by Naiman et al., (1978), *Learner Strategies in Language Learning* by Wenden and Rubin (1987) and later, *Learning Strategies in Second Language Acquisition* by O'Malley and Chamot (1990) and *Language Learning Strategies*: *What every teacher should know* by Oxford (1990). These key researchers developed original LLS research through empirical investigation and established classification systems (O'Malley & Chamot, 1990; Oxford, 1990; Rubin, 1981; Wenden, 1991) as well as grounding LLS in a cognitive theory of SLA (O'Malley & Chamot, 1990).

Rubin's (1981) classification, as seen in Table 2.2, distinguished between direct strategies which contribute directly to language learning, for example clarification monitoring, guessing and indirect strategies which did not contribute directly but were involved in language learning, such as creating opportunities for practice. Each of the eight broad strategy categories subsumed more specific strategies.

O'Malley and Chamot's (1990) contribution to LLS research was particularly important as their classification of strategies was placed within a general framework of cognitive theory, Anderson's Adaptive Control of Thought (ACT), an information processing model of L2 learning (Anderson, 1981, cited in O'Malley & Chamot, 1990). O'Malley and Chamot's classification of strategies falls into three broad categories according to the level and type of information processing involved: *metacognitive*, *cognitive* and *social/affective* strategies (see Table 2.2).

Metacognitive strategies are "higher order executive skills that may entail planning for, monitoring or evaluating the success of a learning activity." (Brown et al., 1983, cited in O'Malley & Chamot, 1990: 44). Metacognitive strategies have an executive function. They oversee, regulate or manage language learning through the processes of planning, monitoring and evaluating and are applicable to a wide variety of situations. Examples of metacognitive strategies for oral communication would be *planning* what to say, *monitoring* how well you understand your interlocutor or how well you speak or *evaluating* how well you spoke afterwards.

Cognitive strategies are "the steps or operations used in learning or problem-solving that require direct analysis, transformation or synthesis of learning materials" (Wenden & Rubin, 1987: 23), cognition being the process of obtaining knowledge from input and manipulating it to achieve conceptual understanding and enhance learning. Cognitive strategies are more limited by the particular learning task at hand. Types of cognitive strategies for oral communication would be *transfer* - relating the task to already acquired prior knowledge, *task familiarity*, or *summarising* – summarising parts of the discourse to ensure the information has been retained.

Table 2.2

Types of classifications of Language Learner Strategies

Rubin (1981: 124-126)	*O'Malley & Chamot (1990: 198-199)*	*Oxford (1990: 18-21)*	*Stern (1992: 263)*	*Chamot et al., (1999: 15-17)*
Direct Strategies	**Metacognitive Strategies**	**Direct Strategies**	**1.Management and Planning Strategies**	**1. Planning**
clarification/	advance organisation	**1. *Memory strategies***	1. decide what commitment to make to	
verification	advance preparation	creating mental linkages	language learning	**2. Monitoring**
monitoring	organizational planning	applying images and sounds	2. set himself reasonable goals	
memorization	selective attention	reviewing well	3. decide on an appropriate methodology,	**3.Problem-Solving**
guessing	self-monitoring	employing action.	select appropriate resources, and monitor	
inductive inferencing,	self-evaluation	**2. *Cognitive strategies***	progress	**4. Evaluating**
deductive reasoning	self-management	practicing	4. evaluate his achievement in the light of	
practice		receiving and sending messages	previously determined goals and expectation	**5. Remembering**
	Cognitive Strategies	analysing and reasoning		
Indirect Strategies	resourcing	creating structure for input / output.	**2. Cognitive Strategies**	
create opportunities	grouping	**3. *Compensation strategies***	1. Clarification / Verification	
for practice	note taking	guessing intelligently	2. Guessing / Inductive Inferencing	
production tricks	summarizing	overcoming limitations in speaking	3. Deductive Reasoning	
	deduction	and writing	4. Practice	
	imagery		5. Memorization	
	auditory representation	**Indirect Strategies**	6. Monitoring	
	elaboration	**4. *Metacognitive strategies***		
	transfer	centering your learning	**3. Communicative-Experiential Strategies**	
	inferencing	arranging and planning your	circumlocution	
		learning evaluating your learning	gesturing	
	Social and Affective Strategies	**5. *Affective strategies***	paraphrase	
	questioning for clarification	lowering your anxiety	asking for repetition and explanation.	
	cooperation	encouraging yourself		
	self-talk	taking your emotional temperature	**4. Interpersonal Strategies**	
		6. *Social strategies*		
		asking questions	**5. Affective Strategies**	
		cooperating with others		
		empathizing with others		

Social-affective strategies are ways in which learners interact with others or control their affective state to assist learning. Examples of social and affective strategies for L2 speaking tasks would be *cooperation* with peers to decipher task instructions or *self-talk* to reduce anxiety by using mental relaxation techniques. O'Malley and Chamot (1990) recognised that this set of strategies were less important from a cognitive standpoint, but important from the second language learning perspective, where they are considered equally as important as metacognitive and cognitive strategies.

After studying LLS in different contexts (ESL & EFL) Chamot and O'Malley (1994) drew up a list of core strategies thought to be useful for students learning English in academic settings, and the *CALLA* (Cognitive Academic Language Learning Approach) was developed, an instructional guide which incorporates strategy instruction for English into the language curriculum. Chamot et al. (1999) refined O'Malley & Chamot's early classification into a Metacognitive Model of Strategic Learning which highlights the four underlying recursive metacognitive processes (planning, monitoring, problem solving and evaluating) and the inherent memory strategies involved which oversee strategy use.

According to these researchers "a strategy may be used in more than one process depending on the task and how the strategy is applied" (Chamot et al., 1999: 14). Thus, strategies are viewed as functioning at different levels of cognitive processing at the same time. For example the strategy *imagery* involves all levels: planning, monitoring, problem solving, evaluating and remembering. This model was used as the basis for *The Learning Strategies Handbook* (Chamot et al., 1999), which, like the *CALLA*, provides learners with guidelines for strategy use. Both of these instruction manuals, among others (Brown, 2002; Ellis & Sinclair, 1989), are products of research which, from its beginnings, has advocated that learners can be taught strategies.

Another key researcher of the time was Oxford (1990) who developed the SILL (Strategy Inventory for Language Learning) which expands on O'Malley & Chamot's classification. Its ESL/EFL version is a 50 item, 5-point Likert scale questionnaire which has been widely used (Oxford, 1996a; Oxford 1996b) by strategy researchers. Following Rubin (1981), Oxford classified strategies as direct and indirect strategies with three strategy groups within each category (see Table 2.2). Direct strategies are involved with manipulating the target language directly (memory, cognitive and compensation) whereas indirect strategies (metacognitive, affective and social) support and manage learning without involving language use directly. Oxford's SILL was used extensively in the 1990s, illustrated by the 50+ published papers and over 10,000 learners assessed by it (Oxford, 1996a).

Hsiao and Oxford's (2002) comparative study of three classification systems: O'Malley and Chamot (1990), Oxford (1990) and Rubin's (1981), as seen in Table 2.2, concluded through confirmatory factor analysis that Oxford's (1990) 6-category system was more accurate in accounting for the variety of strategies reported by language learners. Their findings supported claims that strategies could be grouped and that the use of particular strategies was related to the use of others in L2 performance. However, their findings rejected viewing strategies "as a dichotomy between direct and indirect dimensions" (Hsiao & Oxford, 2002: 378). They also suggested that some strategies should be reclassified, implying that there were inconsistencies in the categories that had been developed until then. This was because their confirmatory factor analysis showed, via goodness-of-fit indexes, that their model did not have a fully acceptable fit to the data. This brings us to some criticisms that have been aimed at strategy research and how they have been accounted for in this study.

2.2.2 Limitations of Language Learner Strategy research

Up to the 1990s, LLS research had made the claims that 1) good language learner strategies could be identified, 2) these strategies could be taught to less effective learners and that 3) strategies could be classified into broad categories. However, weaknesses in these claims have been acknowledged by researchers, to a greater or lesser degree since the 1980s, and as more and more research has been carried out.

Firstly, the identification of a good language learner implies that a strategy is either inherently good or bad. However, this claim has since been rejected by many researchers (for example, Cohen, 1998; Macaro, 2001; McDonough, 1995) as several findings have shown that this is not the case and that strategy use is determined by a number of different factors.

Macaro (in Cohen & Macaro, 2007) pointed out that what many of the good language learner studies were inadvertently doing was comparing high proficiency learners (the “good” strategies) with low proficiency learners (the “bad” strategies). In other words proficiency was an important factor in determining strategy use. It has also been by far the factor which has been investigated most.

In an early study, Vann and Abraham (1990) concluded that unsuccessful learners used a variety of strategies, just as successful language learners did, but the difference was not in the type of strategies used but how they were applied appropriately to the task at hand. Therefore, it was important to consider the task or context to assess whether strategies were effective or not.

Graham (1997) argued from her findings that, rather than advocating particular strategies as being good, such as top-down over bottom-up strategies for receptive skills (listening and reading), an interactive approach combining the two types of strategies was more effective. In other words, the appropriate combination of strategies was also important in determining whether strategies were effective or not, a view shared by other researchers (for example Hsiao & Oxford, 2002; Macaro, 2006).

Neither do results from Chesterfield and Chesterfield (1985) support the finding that strategies are good or bad, as in a study of interactive and learning strategies of pre-school and first graders, strategies seemed to be related to developmental stages in learning, with some strategies being more difficult to use than others. This implies that easier strategies will be learnt first and more difficult ones at advanced levels, and that different strategies are appropriate to different developmental stages of language learning.

Research on strategy use in different learning environments or with different groups of learners does not support the claim that strategies are good or bad either, as strategies seem to be context specific (Graham, 1997; McDonough, 1995; Oxford and Bury-Stock, 1995; Parks & Raymond, 2004; Wharton, 2000). The context, such as formal or informal education or culturally approved or disapproved behaviour, seems to be responsible for eliciting certain kinds of strategies.

Apart from some of the factors illustrated here, strategies have been investigated in relation to motivation (Dörnyei, 2001; Tragant, 2006; Tragant & Muñoz, 2000; Yang, 1999), learner style (Cohen, 2003; Littlemore, 2001), gender (Green & Oxford, 1995), attitude and beliefs (Cid, Grañena & Tragant, 2009; Horwitz, 1988; Victori, 1992, 1999; Victori & Lockhart, 1995; Wenden, 1987; Yang, 1999) and personality (Ehrman & Oxford, 1989; Wakamoto, 2000), all of which seem to have an influence on strategy use.

The second claim from strategy research assumes that strategies can be taught. However, strategy training or learner training has been criticized by some researchers (Gu, 1996; Kellerman, 1991; Rees-Miller, 1993). Kellerman (1991), referring to compensatory types of CS, dismissed strategy training because CS are known to exist in L1 and can be transferred automatically to L2. Rees-Miller (1993) pointed out that despite the popularity of LLS manuals for classroom teaching, research had not provided any causal evidence that a higher awareness of strategies led to more successful language learning, a view supported by Chaudron (2003), who claimed that research had produced mixed results. However proving the causal relationship between strategies and language learning is not a simple task as there is no direct linear relationship due to the contextual and individual differences, as mentioned above.

Despite these criticisms, researchers have continued to advocate explicit training within specific skills and training aimed at a student's proficiency level (Chamot et al., 1999; Cohen, 1998; Dörnyei, 1995; Grenfell and Harris, 1999; Nakatani, 2005, among others) or to improve general approaches to language learning (Nunan, 1997; Victori & Lockhart, 1995) in the light of findings of positive effects on performance, extent of strategy use or motivation (Tragant, 2006).

The third claim, that strategies can be classified into groups, has also been criticised, as the concept of strategy itself has been defined unclearly, imprecisely and inconsistently between different researchers. Firstly, classification of strategies is unreliable due to the "size-abstractness" dilemma (Stevick, 1990: 144), which is the fact that some strategies refer to phenomena that are larger than others. For example, for oral communication, *cooperation,* working together with peers, (O'Malley & Chamot, 1990; Oxford, 1990) is a larger concept and may entail the use of a combination of strategies compared to *word-coinage*, creating a non-existing L2 (Oxford, 1990), which is more specific. Secondly, the classification of strategies is unreliable due to the *internal-external* characteristic of strategies: the fact that they are described as either internal thoughts such as *avoiding communication* (Oxford, 1990) or external overt behaviour such as *circumlocution* (Oxford, 1990) or as both, making classification confusing and leading to categories filled with a mixture of concepts, as thoughts and actions are interrelated.

Researchers have tried to find solutions to these dilemmas. For example, Dörnyei and Skehan (2003) argued that a strategy cannot be defined as emotional, cognitive and behavioural at the same time and suggest defining a strategy as either a neurological process, cognitive operation or behavioural act involving motor skills. Macaro (2006), drawing from previous research, suggests that strategies should be described in terms of a goal, a situation and a mental action. However, none of these researchers provide examples for strategies described in the way they suggest. Cohen (1998) and Ellis (1994), among others, suggest distinguishing Oxford's compensation strategies as "language use" strategies, which are psycholinguistically different to other language learning strategies and also Oxford's other categories (metacognitive, cognitive, memory, social, affective). However, this distinction is not clear either, as the use of compensation strategies can promote language learning as well, and some *language learning* strategies, such as the cognitive strategy "summarising", cannot be separated from language use.

Thirdly, apart from the features mentioned above (size-abstractness, external-internal) the level of consciousness involved in strategy use has been in constant debate among researchers. As illustrated by the definitions in Table 2.1, according to Cohen (1998), Chamot (2004) and Oxford (1990) strategies are conscious, or in Oxford's case chosen by the learner which implies they are intentionally and therefore consciously selected. Cohen (1998) claims that strategies must be defined as conscious and that actions or behaviours which are employed unconsciously are processes, as "the element of consciousness is what distinguishes strategies from those processes that are not strategic" (Cohen et al., 1996: 4).

However, Bialystok (1990) pointed out that strategies may not always be under conscious volitional control. Part of the problem in defining strategies as conscious stems from the fact that the term *conscious* is itself multidimensional and has many different connotations. Examining the notion of consciousness, Schmidt (1990) deconstructs consciousness as *awareness*, *intention*, *knowledge* and *control* and within awareness is *noticing.* Furthermore, a strategy may be used consciously initially and then may drop from consciousness as it becomes automatised. Nevertheless, many of the experts in LLS in a recent survey by Cohen (Cohen & Macaro, 2007) agreed that strategies involve *some level of* consciousness.

Apart from the problems described above, a fundamental criticism of strategy research is that it is unable to explain the difference between "engaging in an ordinary learning activity and a strategic learning activity" (Dörnyei, 2005: 164), that is, descriptions of strategic learning cannot be distinguished from the normal non-strategic learning process. Dörnyei claimed that this is why some LLS researchers (for example, Tseng et al., 2006) turned to the notion of self-regulation instead, which is a more stable trait that learners either have or do not have.

However, although the concept of self regulation may explain trait-like strategies which are typical of an individual, it still cannot explain why individuals change their strategy use depending on particular situations or tasks. In an article entitled "Has Language Learning Strategy Research Come to an End? A response to Tseng et al. (2006)", Gao (2007) claims that for this reason LLS research cannot be abandoned, as LLS complement self-regulation; the level of self regulation determines the strategies employed. In fact, Gao (2007) cites several educational psychologists who recognise

LLS as a component of self regulation. Furthermore, it is pointed out that the notion of self-regulation already existed in the SLA field in similar terms such as metacognition (Wenden, 1998, 2002) and strategic competence (Bachman and Palmer, 1996) and has not elucidated more clearly what LLS are.

To sum up, the present consensus in strategy research seems to be that 1) strategies are neither good or bad but are deployed effectively or ineffectively in a particular situation, 2) strategy use and proficiency are linked, albeit not in a direct relationship due to different factors which are also involved, such as the task or learner factors 3) strategy training has had limited success but provides a learner-centred perspective and insights into the process of language learning and 4) strategies can be identified, despite difficulties with classification.

So far the concept of LLS has been described, the classifications systems produced through research presented. This information has provided the essential grounding for interpreting the findings concerning individual strategies or groups of strategies from different researchers in the field, which will be presented in the next sections. It is also fundamental for understanding how and why strategies are described and grouped as they are in this study, as will be seen in the following chapters.

Although this study cannot attempt to overcome all the limitations concerning strategies discussed, they have been presented to be taken into consideration in the interpretation of results. The most important point to emerge from this discussion of the limitations of strategy research, which are relevant to this study, is that research has shown a number of factors which influence strategy use, which suggests that the relationship between strategies and proficiency is non-linear. This also means that controlling for these intervening factors is most important when investigating strategy use and contextualisation is essential. In the following sections a brief summary of research findings concerning LLS between proficiency groups is made. This is followed by a more in-depth review of studies investigating between-proficiency group differences and across-task differences, as well as one study that compares perceived strategy use with actual strategy use.

2.2.3 Language Learner Strategies and proficiency

Early studies on the good language learner (Naiman et al., 1975; Ruben, 1975; Stern, 1975) suggested there was a link between proficiency and strategy use. Since then, proficiency has been the variable which has been investigated most in relation to learner strategies (for example, Chamot et al., 1999; Cohen, 1998; Green & Oxford, 1995; O'Malley & Chamot, 1990; Oxford and Nyikos, 1989; Takeuchi, 1993). However, mixed results have been obtained as to the frequency of strategy use and the types of strategies employed by different proficiency levels. This may, in part, be due to the different methods used for measuring proficiency (learners' self reports, teacher ratings or validated tests) or the different kinds of learners under study (learners in primary, secondary and tertiary education or adult learners). As such a large number of studies exist only a couple will be reviewed in this section to illustrate some of the claims made.

Some studies have shown that higher proficiencies use strategies more frequently (for example, Chamot et al., 1987; Green and Oxford, 1995; Griffiths, 2003; Oxford and Crookall, 1989; Vogely, 1995), implying that there is a linear relationship between strategy use and proficiency). A review of several SILL studies with such results can be found in Oxford (1996a).

However, other studies have found different results. Intermediate level students have been found to use more strategies than beginner or advanced proficiencies, suggesting that strategy use is curvilinear (Chaudron 2003; Oxford & Ehrman, 1995; Gardner et al., 1997; Phillips, 1991; Yamamori et al., 2003). Few or no differences in strategy use between proficiency levels were found in other studies (Bremner, 1999; Sanaqui, 1995; Wharton, 2000). These mixed results have led some researchers (Grenfell & Harris, 1999; Macaro, 2006; Tragant & Victori, 2006) to point out that a direct cause and effect relationship between strategy use and proficiency level cannot be assumed. This is because, as pointed out in the previous section, external factors such as task or internal learner factors such as learner style may also be significant in determining strategy use.

As for differences in the types of strategies employed, there have also been some discrepancies in findings. However, many studies both on general LLS and strategies used within particular skills, with adult learners, have found that higher level students use more metacognitive strategies (for example, Green & Oxford, 1995; Huang, 2004; O'Malley et al., 1985; Purpura, 1999; Rahimi, Riazi & Saif, 2008; Rossi-Le, 1989). Vandergrift (2003) found more metacognitive strategies used by higher skilled listeners, as did Victori (1999) for writing and Ikeda and Takeuchi (2006) for reading strategies. In fact, this has led some researchers (for example, Grenfell & Harris, 1999; Macaro, 2001) to postulate that high level learners are more effective because they exercise more cognitive control over monitoring and adjusting a combination of strategies.

Functional practice strategies (Bialystok, 1981; Huang & Van Naerssen, 1987) have also been reported, with higher proficiency levels seeking opportunities to use the language. In a qualitative study of student portfolios (Takeuchi, 2003) higher proficiencies reported that they valued accuracy over fluency in speaking. On the other hand, low levels have reported using strategies more in isolation, such as memorisation and vocabulary learning strategies (Griffiths, 2003; Takeuchi, 2003), and seem to emphasize fluency over accuracy .

So far some general findings have been summarised concerning LLS and proficiency. However, many of these studies have employed the SILL, which has general statements about language learning but does not focus specifically on speaking. In fact, most studies which have investigated strategies used in speaking have been from the perspective of CS, which are the focus of the following section, but fewer studies from the field of LLS have done so (for example, Cohen & Olshtain, 1993; Cohen et al., 1996; Huang, 2004, 2010; O'Malley & Chamot, 1990; Oxford, 1990). Nevertheless, two studies of most relevance to this thesis which have investigated LLS for oral communication and their relationship to proficiency (Huang and Van Naerssen, 1987; Nakatani, 2006) will be reviewed here.

Huang and Van Naerssen (1987) used a questionnaire and interviews to find out about the strategies of 60 university level Chinese EFL learners. The questionnaire contained a mixture of open and closed questions related to improving listening and speaking abilities, based on inventories by Rubin (1975) and Stern (1975). Frequency of strategy use was elicited and grouped according to formal practice, functional practice and monitoring. Proficiency was measured by an oral test with an interview format. Higher proficiency students reported more functional practice strategies, a finding which was reinforced by multiple regression analysis which showed that functional practice was the major predictor of proficiency. In other words, high proficiencies tended to look for ways to interact or communicate in the target language. Another difference was that the high levels reported taking risks in speaking more. There were no significant differences between proficiency groups in terms of formal practice or monitoring. In this study other LLS which were not directly related to oral communication were also included. For example, high proficiency learners practised reading more. In terms of skills practice, reading practice predicted oral proficiency better than speaking practice, which the authors claimed was because it was a more accessible source of input than speaking practice in an EFL context. One criticism that has been made (Khan and Victori, in press; Nakatani, 2006) is that general learning strategies rather than oral communication strategies were correlated with oral proficiency and that not enough oral communication strategies were included in the questionnaire. Furthermore, validity and reliability of the questionnaire was not measured. Interestingly, one of the future research directions the authors suggested taking was that their study serve as a basis for investigating LLS in the context of task. This was a direction taken up in the following study by Nakatani (2006).

Much more recently, Nakatani (2006) used questionnaire methodology to examine oral communication strategies of 62 female Japanese university students. This study was a development on the previous study for several reasons 1) the questionnaire's validity was examined statistically 2) more oral communication strategies were included and 3) strategy use was contextualised to a task. Nakatani developed the OCSI (oral communication strategy inventory) which consisted of 32 items for "coping with speaking problems" and 26 items for "coping with listening problems", with Cronbach alphas of .86 and .85 respectively. Factor analysis resulted in 8 factors for the speaking strategies (social-affective, fluency-oriented, negotiation of meaning while speaking, accuracy-oriented, message reduction and alteration, non-verbal strategies while speaking, message abandonment and attempt to think in English) and 7 factors for the listening strategies (negotiation for meaning while listening, fluency-maintaining, scanning, getting the gist, non-verbal strategies while listening, less active listener, word oriented). Participants completed the questionnaire immediately after performing a task (role-play), which is said to improve the accuracy of claims made on a questionnaire (Cohen, 1998; Victori, 2004; Victori et al., 2009). The roleplay was carried out in pairs, with a non-native speaker teacher acting as interlocutor.

A multiple analysis of variance (MANOVA) on the 15 factors showed there were differences between high and low levels for four factors. Three were for the speaking part: social-affective, fluency-oriented and negotiation of meaning and one for the listening part: fluency-maintaining. The high group used all these strategies significantly more. Social-affective strategies included trying to relax, taking risks and using fillers, among others. Fluency-oriented included paying attention to pronunciation and taking time to express oneself and negotiation of meaning included strategies such as comprehension checks, repetition and circumlocution. Among listening strategies, fluency-maintaining included strategies such as asking for clarification and paying attention. In brief in NS-NNS oral communication high proficiency learners reported using more strategies to interact and maintain the conversation.

As the study's focus was questionnaire design and comparing different proficiencies, strategy use across different types of oral communication tasks was not investigated, but Nakatani concluded that it was an area in need of investigation. Furthermore, Nakatani advocated validating perceived strategy use with actual strategy use in performance transcripts.

Despite some differences in design and content of these two questionnaire studies on oral communication, they do not contradict in their findings. In Huang and Van Naerssen's study the high oral proficiency level reported looking for ways to practise and use the language while in Nakatani's study the high proficiency group reported using more interactional types of strategies, when they actually used the language in an oral communication task. What both studies called for in their conclusions was the need to study strategies across different tasks.

2.2.4 Language Learner Strategies and tasks

The previous section illustrated two studies which used questionnaires to find differences in oral communication strategy use between proficiency groups, but strategy use across different tasks were not investigated. Although this has been a common area of study in CS research, fewer LLS studies have done so. However, learners may use different strategies, even within the same skill of speaking, for example to describe a picture compared to explaining what they had done the previous weekend. Both tasks have particular features which influence the kind of language and strategies used to perform them. Therefore, in order to assess the effectiveness of strategies used, they need to be considered in terms of the task. In this section, first, two questionnaire-based studies will be reviewed which have examined strategies across tasks. In the first one, reading strategies were compared and in the second one oral communication strategies. This is followed by a review of three studies which have emerged only more recently and which have correlated spoken performance *and* strategies in the same sample population, in line with the present study (Huang, 2010; Nakatani, 2010; Swain et al., 2009).

Firstly, Oxford et al. (2004) examined reading strategies of 36 adult ESL students. Students were put into high and low proficiency groups according to their scores on a reading test. A reading strategy questionnaire was adapted from Ikeda and Takeuchi (2000). An easy task and a difficult task were designed by means of an external test of reading difficulty. Participants completed the 35-item questionnaire after "no task", an "easy task" and a "difficult task" with a one-week gap between each session.

Results from repeated measures ANOVA showed that there were no significant main effects in aggregated strategy use across tasks or between proficiency levels. However there was an interaction effect between task and proficiency. In sum, on the difficult task the high proficiency group reported significantly lower aggregated strategy use compared to the low group. Oxford et al. (2004) interpreted this result by saying that the low group employed more strategies because the difficult task posed a greater challenge to them. In contrast, the high group did not find the difficult task much more challenging than the easy one and so did not need to use so many strategies.

In the analysis of individual strategies between groups, there were 2 out of 35 significant differences ($p< .05$) on the questionnaire on "no task" and the "easy task" and there were seven differences on the "difficult task". Oxford et al. (2004), in fact, used a $p< .1$ level of significance and reported a few more differences, which they focused on in their paper. Of the few differences found the general conclusion made was that more top-down strategies were used by the high group and bottom up ones by the low group. Nevertheless, results seem to suggest far more similarities between groups and across tasks than differences, a point which was not highlighted. This could have been due to similarity in the type of reading comprehension tasks employed or it may mean that within a particular language skill and in the short term learners do not vary their strategy use, regardless of the task. Strategy use may be linked to a learner's developmental stage in learning so differences would only be found in longitudinal studies.

Whereas Oxford et al. (2004) compared proficiency across different reading tasks, Cohen et al. (1996) compared strategy use on three different speaking tasks in a strategy training study with experimental and control groups. Participants were 55 intermediate EFL students who had had no previous strategy instruction. They were divided into an experimental group, who received 10 weeks of strategy-based instruction (SBI) and a control group, who followed the standard language course. In a pre-/post-test design, all participants were given three speaking tasks at the beginning of the ten-week period and the same three tasks at the end: a self description, a story retelling and a city description task. These tasks were recorded and assessed for improvements in spoken performance. Furthermore, participants completed a task-based strategy checklist at the end of each task. The checklist was divided into strategies used before, during and after speaking and contained items such as *rehearsal*, *note taking*, *self-encouragement*, *word coinage, attention to grammatical forms*, *reflection on task performance* and *plans for future learning*. Frequency of strategy use, reported on the checklists, was correlated with spoken performance ratings.

The results showed that there was no significant difference between experimental and control group in terms of overall spoken performance after ten weeks on the self-description and storytelling tasks, but there was a difference on the city description task. After examining spoken performance rating scales separately, it was found that the experimental group was rated better on grammatical accuracy for the city description task and on vocabulary for the self description task. The authors concluded that strategy training does favour language learning and may result in improved spoken performance. By examining the individual strategies used on each task, some correlations were found between strategy use and spoken performance but a complex picture emerged with the increase in some strategies benefiting spoken production or vice-versa. The conclusion made, however, was that strategy use seemed to be specific to the types of tasks performed.

Huang (2010) investigated LLS across numerous oral tasks, exploring three different modalities of reflection: written reflection, individual spoken reflection and group spoken reflection. Participants were 20 intermediate L2 learners who carried out oral tasks over a nine-week period and completed activities of reflection immediately after each one. Strategies were coded in transcriptions of the oral and written reflections of the learners and spoken performance was assessed by two native speaker raters, who evaluated the weekly speech dataset according to TOEFL speaking rubrics. In this study the task characteristics or proficiency effects were not investigated but the most noteworthy finding of relevance to this study was that different individual strategies and groups of strategies correlated either negatively, positively or not at all with raters spoken performance scores. This could mean that some strategies work against spoken performance, while others work in favour of it. However, the results provide added support to claims in both LLS and CS fields (Dobao, 2000; Macaro, 2006; Tragant & Victori, 2006) that the relationship between these two constructs (spoken performance and strategies) is non-linear.

In Swain et al.'s (2009) report, perceived strategy use and test scores across six different tasks and proficiency levels on the speaking test section of the TOEFL were examined. Participants were 30 international university students in Canada, who did six tasks individually, delivered over the Internet. The six tasks consisted of three task types: tasks 1 and 2 were independent speaking tasks related to personal experience, tasks 3 and 4 integrated reading, listening and speaking and tasks 5 and 6 integrated listening and speaking. Of importance to this study was that strategy use varied across the three task types with the more integrated tasks eliciting most strategy use. In addition, correlation analysis revealed no direct relationship between total strategy use and total speaking test scores. When individual strategies were correlated, cognitive and communication strategies correlated positively and metacognitive and affective strategies correlated negatively with spoken performance.

Nakatani (2010) examined strategies that facilitate oral communication by using several data collection techniques similar to ones used in this study (an oral communication strategy questionnaire, speaking test transcripts, retrospective comments). He found that in terms of actual strategy use (ASU), strategies equivalent to the conversation-flow maintenance strategies in this study were the best predictors of oral test scores (assigned by English NS raters). Production rate (number of words per c-unit) and signals for negotiation were also weaker predictors of oral proficiency. In terms of perceived strategy use (PSU), there were positive correlations between PSU (on the OCSI) and oral test scores for social-affective strategies (strategies while speaking) and fluency-maintaining strategies and non-verbal strategies (strategies while listening). As for Huang (2010), task and proficiency effects were not examined but the correlation of the aforementioned groups of strategies with oral communication was brought to light. However, Nakatani provides yet more evidence that *all* strategies do not correlate with more effective oral communication.

Although these studies have correlated spoken performance with strategies, what the present study adds to research in this field is to provide more multidimensional measures of the construct of spoken performance: complexity, fluency and accuracy (Skehan, 1998), rather than basing correlations on a single spoken performance measure based on more subjective rater evaluations. This allows more precise claims to be made about precisely which areas of spoken performance are associated with which strategies.

2.2.5 Data collection methods in Language Learner Strategy research

The following review of data collection methods highlights the advantages and disadvantages of the different approaches in strategy research in order to justify the use of data triangulation in this study by direct observation, the use of a strategy questionnaire and stimulated recall. Data on strategies has been collected in different settings, by direct observation in the classroom (Cohen & Aphek, 1981) or in experimental settings, either in the language laboratory (Cohen, 1998) or in interviews with the researcher (O'Malley & Chamot, 1990). It has also been collected using different methods: questionnaires (Oxford, 1990; Politzer & McGroarty, 1985), observations (O'Malley et al., 1985), interviews (O'Malley & Chamot, 1990), diaries (Carson & Longhini, 2002; Halbach, 2000), recollective narratives (Poulisse, 1990), think-aloud protocols (Anderson & Vandergrift, 1996) and strategy checklists (Cohen et al., 1996).

Oxford (1996b) provides a useful summary of these instruments along with their advantages and disadvantages. Table 2.3 shows an expanded version of Oxford's (1996b) table to include the type of data generated by each instrument (qualitative or quantitative) and highlighting how the data collection method predetermines the type of strategy data collected. Stimulated recall (Gass & Mackey, 2000), a more modern method of retrospective verbal report has also been added. As can be seen, all methods have advantages and disadvantages for collecting data on strategies, which is the reason data triangulation is often recommended.

Direct observation may reveal some observable strategies such as an appeal for help or gesture in oral communication but does not directly reveal unobservable strategies such as evaluating the activity or approximation (using a more general word when a specific word is unknown). In the latter case, for example, the observer

Table 2.3

Comparisons of strategy-assessment types (based on Oxford, 1996b: 38, with additions by Khan in italics).

Type of assessment	*Appropriate uses*	*Limitations of use*	*Type of data generated*
Strategy questionnaires	Identify "typical" strategies used by an individual; can be aggregated into group results; wide array of strategies can be measured by questionnaires.	Not useful for identifying specific strategies on a given language task at a given time. *Strategies are predetermined by the researcher.*	*Quantitative (for closed questions)* *Qualitative (for open questions)*
Observations	Identify strategies that are readily observable for specific tasks.	Not useful for unobservable strategies (e.g., reasoning, analyzing, mental self-talk) or for identifying "typical" strategies.	*Qualitative*
Interviews	Identify strategies used on specific tasks over a given time period or more "typically" used strategies; usually more oriented toward task-specific rather than "typical" strategies of an individual; depends on how interview questions are asked.	Usually less useful for identifying “typical" strategies because of how interviews are conducted, but could be used for either task-specific or "typical" Strategies.	*Qualitative*
Dialogue journals, diaries	Identify strategies used on specific tasks *chosen by the learner* over a given time period.	Less useful for identifying "typical" strategies used more generally.	*Qualitative*
Recollective narratives (language learning histories)	Identify "typical" strategies used in specific settings in the past. *Settings are chosen by the learner.*	Not intended for current strategies; depends on memory of learner.	*Qualitative*
Think-aloud protocols	Identify in-depth the strategies used in an ongoing task *usually chosen by the researcher.*	Not useful for identifying "typical" strategies used more generally	*Qualitative*
Strategy checklists	Identify strategies used on a just-completed task *chosen by the researcher.*	Not useful for identifying "typical" strategies used more generally *across all skills. Strategies are predetermined by the researcher.*	*Quantitative*
Stimulated recall	*Identify in-depth strategies used on a just-completed task chosen by the researcher.*	*Not useful for identifying "typical" strategies used more generally.*	*Qualitative*

may hear the word ‘car’ but the learner may have originally wanted to say ‘lorry’. Direct observation, however, if complemented with learner accounts, is a good method for checking whether learners actually do what they claim to do, comparing learners’ perceived strategy use with their actual use of strategies.

With the exception of direct observation, all methods rely on learners’ verbal reports. The assumption underlying this kind of introspective methodology is that it is possible to observe internal thought processes and that learners are able to articulate these thought processes to some extent. However, one criticism is that learners do not or cannot report fully (Block, 1998; Cohen, 1998; Victori, 2004; Victori et al., 2009). Strategies which have been learnt recently function as declarative knowledge[23] (Anderson, 1981, cited in O’Malley & Chamot, 1990) and can be verbalised, whereas strategies which have been used repeatedly become automatic, functioning as procedural knowledge,[24] and the learner loses the ability to verbalise them. Therefore, verbal reports will tend to provide an incomplete picture of a learner’s repertoire of strategies. Nevertheless, verbal report is one of the few methods of collecting data on mental processing available.

Stimulated recall is a method of data collection suitable for just-completed tasks and has proven very useful in cognitive psychology research. Within L2 research, it has been used to examine the composing process in writing (DiPardo, 1994; Manchón, 2009; Smagorinsky, 1994; Victori, 1999). Within L2 speaking it has been used in the study of speech acts (Cohen & Olshtain, 1993), strategy use, (Cohen et al., 1996), acquisition strategies (Lennon, 1989), spoken production (Mackey et al., 2000),

[23] Declarative knowledge (Anderson, 1983) is what we know *about* and constitutes static information in memory. It can usually be verbalised or ‘declared’.
[24] Procedural knowledge (Anderson, 1983) is what we know *how to do* and constitutes dynamic information in memory. It cannot be verbalised.

communication strategies, (Poulisse, 1990) and oral interaction (Swain & Lapkin, 1998).

In this type of verbal report learners are asked to recall what they do immediately after a task is carried out. They are supported or 'stimulated' to remember or 'recall' their thought processes as they are shown the video recording of themselves carrying out a task. Responses in stimulated recall may complement data collected on a strategy questionnaire, verifying questionnaire responses and also, possibly, providing a rationale for strategy use. Stimulated recall has been particularly suitable for obtaining in-depth qualitative data when studying strategies for speaking. In her study, Poulisse (1990) claimed that using this method nearly doubled the identification of compensatory strategies. In contrast, eliciting strategies by the *think aloud*[25] method is too intrusive for research on speaking as learners would have to simultaneously talk to carry out the task and think aloud, a problem not encountered with stimulated recall. Although stimulated recall does also have some drawbacks it is one of the ways to understand learners' mental processes which observation cannot capture. Grenfell and Harris (1999: 54) stated:

> "…it is not easy to get inside the 'black box' of the human brain and find out what is going on there. We work with what we can get, which, despite the limitations, provides food for thought."

Questionnaires and checklists are the two instruments which have been most frequently used in LLS studies as they are quick to administer and data is easier to quantify than with the other instruments. Unlike questionnaires, checklists are used immediately after a task is carried out, with the reasoning that if little time has elapsed learners will make more accurate claims (Chamot & Küpper, 1989; O'Malley &

[25] Think aloud is "human subjects' verbalisation of their thoughts and successive behaviours while they are performing cognitive tasks" (Ericsson & Simon, 1993)

Chamot, 1990; Oxford et al., 2004; Cohen et al., 1996). Checklists also differ from questionnaires in that questions in checklists all have the same format (yes/no answers or a rating scale) whereas a questionnaire can contain both open and closed types of questions (listing, categorising, ranking, scales, grids) or a mixture.

However, one drawback of questionnaires, as mentioned above, is that learners may not respond accurately, because they don't remember strategies or they may make false claims responding according to what they think is expected of them (social desirability bias). What is more, learners may not understand items if specialised metalanguage is used, or they may misinterpret questionnaire items if the wording of an item is ambiguous. Another drawback which has been brought to light more recently (Chaudron, 2003; Dörnyei, 2005; Macaro, 2006; Tseng et al., 2003) has been made against the assumption, initially made, that the more strategies used (adding up total scores on questionnaires) the better the language learner. Such claims assumed that all strategy use was effective. However, research has shown that strategy items are of a very different nature and how effective they are depends on the particular context. Therefore, a high overall score on the questionnaire does not necessarily equate with a high achiever. These problems can be addressed by carefully piloting questionnaires to ensure learners are interpreting items as intended, administering questionnaires immediately after a task to ensure learners remember what they have done and using data triangulation (with direct observation and stimulated recall) to validate questionnaire responses, which were all measures taken in this study.

Although many LLS studies have used questionnaires to investigate proficiency effects and, to a lesser extent, task in relation to strategies, none of them have actually validated learners' reports with actual strategy use, despite recognising that it is a necessary measure. In the following section one such validation study for L1 reading strategies will be summarised as it is comparable to the approach taken here.

2.2.6 Validating perceived strategy use

Perceived strategy use (PSU) and actual strategy use (ASU) have been compared in the area of L1 reading strategies (Bråten & Samuelstuen, 2007). Participants were 177 Norwegian secondary school children around 15 years old. They were given an expository style reading text on the topic of socialisation, which was assessed for difficulty by a readability score and found to be appropriately challenging. Participants completed a 20-item strategy questionnaire immediately after the task. The questionnaire had already been validated and assessed for reliability by statistical means and encompassed four groups of reading strategies obtained by factor analysis (memorization, organization, elaboration and monitoring). Of these 20 items only three were traced for actual strategy use: *I wrote down keywords and main points*, *I wrote a short summary of the most important ideas* (organisational) and *I underlined / highlighted important words and/or sentences* (memorisation). Bråten and Samuelstuen compared self reports (PSU) with traces of underlining, highlighting, summarising and note-taking strategies in the material (ASU) which had been provided to do the task.

Medium-level correlation (.3 - .5) was found between PSU and ASU, supporting the validity of self-reports in the L1 context. Furthermore, both PSU and ASU predicted performance on the same task and also on a different task, but data of traced strategies turned out to be a better predictor than self reports. One limitation with this study, however, is that only three of a possible twenty perceived strategies were traced.

Summing up, this section has provided essential background on LLS, by describing how they have been defined and classified and discussing limitations of research in this field. Studies relevant to the present task-based study, which have investigated between-proficiency group differences and across-task differences with a questionnaire, have been reviewed. Furthermore, data collection methods in strategy research have been discussed to point out the need for data triangulation and the suitability of stimulated recall and task observation as a complement to collecting oral communication strategy data with a questionnaire. Finally, a study in which data triangulation was carried out has been reviewed, comparing learners' responses to a questionnaire with actual strategy use found in traces in the task material.

2.3 Communication Strategies

Whereas the concept of LLS is quite broad, referring to the approach learners have in learning and using a language in general, crossing all the different language skills, CS are strategies related solely to oral communication. As mentioned earlier some LLS researchers included CS in their taxonomies (Oxford, 1990) whereas others regarded them as separate from learning strategies (Cohen, 1998; Tarone, 1981). This section, therefore, focuses on the perspective of CS research. Firstly, a brief historical introduction to CS research is provided in order to understand how research emerged and developed in this field before entering into more details of how CS have been defined and classified by different researchers, to understand the differences but also significant overlap in perspectives. In addition, relevant findings from research which has examined CS between proficiency groups and across tasks are presented and finally, some strengths and limitations of CS research are discussed.

As mentioned in the previous section CS were included in Canale and Swain's (1980) model of communicative competence, where the term *strategic competence*[26] was included as one of their sub competencies. After this, more importance was put on CS research. Váradi was one of the first researchers to identify communication strategies in the 1970s, although her work was not published until 1980. She was followed by Tarone (1977) and Færch and Kasper (1983), who published some important papers on CS in one volume. After that, a considerable number of studies focused on identifying and classifying CS (Bialystok, 1990; Bialystok & Kellerman, 1987; Dörnyei & Scott, 1997; DeKeyser, 1988; Færch & Kasper, 1983, 1984; Kumaravidelu, 1988; Paribakht, 1985, 1986; Poulisse, 1993; Tarone, 1981, 1985; Tarone & Yule, 1989; Willems 1987; Yule & Tarone, 1990) and other studies debated whether they could be taught (Dörnyei, 1995; Dörnyei & Thurell, 1991; Manchón, 1999; Rost & Ross, 1991; Tarone, 1984; Willems, 1987). Following these studies the Nijmegen project on Dutch second language learners of English provided a wealth of data on CS, describing factors related to CS use (Bongaerts & Poulisse, 1989; Kellerman, 1991; Kellerman et al., 1987; Poulisse, 1990; Poulisse et al., 1987; Poulisse & Schils, 1989) and proposing a new classification system with a theoretical grounding, as it placed CS within Levelt's (1989) model of L2 speech production. Bialystok also published a strategy taxonomy in 1990, which was particularly influential. It placed CS within her own theoretical framework of SLA. Further work on CS in the 1990s added to the conceptual analysis of CS and further examined the relationship between CS and task features or learner factors.

[26] Strategic competence is "verbal and non verbal strategies that may be called into action to compensate for breakdowns in communication due to performance variables or to insufficient competence" Canale & Swain (1980: 30).

2.3.1 *Definition and classification*

The term *communication strategy* was introduced by Selinker in 1972, as one of the five central processes involved in L2 learning. In Selinker's (1972) interlanguage theory, learner's errors were not seen as negative but positive efforts made by learners in an attempt to organise their *interlanguage*, their interim language in the process of second language acquisition. Selinker took the view that learners make positive efforts to control their learning, through the use of what he coined *communication strategies*, according to him, a central process in SLA. As the language learner's knowledge of the L2 is incomplete, their speech is characterised by CS, special techniques learners use to manage or overcome difficulties in oral communication due to these linguistic shortcomings. For example, if a speaker cannot think of a particular word, phrase, tense marker or structure they may use a CS to get around the problem such as saying "*you cut with it*" instead of using the word "*knife*". As Dörnyei and Scott (1997) point out, one only has to make a brief analysis of spontaneous L2 speech to see how common such CS are and how important they are in L2 communication.

Various definitions, as seen in Table 2.4, and their resulting taxonomies, as seen in Table 2.5, have emerged which have conceptualised CS in different ways (Bialystok, 1983; Bialystok, 1990; Canale, 1983; Færch & Kasper, 1984; Poulisse, 1987; Poulisse, 1993; Raupach, 1983; Tarone, 1981; Tarone & Yule, 1989; Yule & Tarone, 1991). As underlined in Table 2.4 the majority of definitions view CS as problem-solving devices.

Table 2.4

Definitions of Communication Strategies

Researcher	*Definition*
Tarone (1980: 420)	"mutual attempts of two interlocutors to agree on a meaning in situations where the requisite meaning structures do not seem to be shared"
Færch & Kasper (1983: 36)	"potentially conscious plans for solving what to an individual presents itself as a problem in reaching a particular communicative goal"
Stern (1983: 411)	"techniques of coping with difficulties in communicating in an imperfectly known second language"
Poulisse (1990: 88)	"strategies which a language user employs in order to achieve his intended meaning on becoming aware of problems arising during the planning phase of an utterance due to (his own) linguistic shortcomings"
Bialystok (1990: 138).	"the dynamic interaction of the components of language processing that balance each other in their level of involvement to meet tasks demands"
Corder (1981: 103)	"a systematic technique employed by a speaker to express his [or her] meaning when faced with some difficulty"

Table 2.5 shows that despite the existence of different taxonomies, the differences are in the terminology and categorisation, rather than in the actual strategies themselves (Bialystok, 1990). For example Tarone's (1977) *circumlocution* is Færch and Kasper's *paraphrase* and Bialystok's (1983) *description.* In addition Paribakht's (1985) distinguishes between different types of *circumlocution,* as does Willems for *paraphrase* and Poulisse for *reconceptualisation.* Among these taxonomies, researchers (Dörnyei & Scott, 1997; Ellis, 1994; Færch & Kasper, 1984; Nakatani and Goh, 2007) have traditionally distinguished between two main approaches: interactional and psycholinguistic. However, a third approach, the integrated approach, integrates these two perspectives. The following paragraphs will summarise these perspectives, highlighting the latter broader perspective, which is the one taken in this study.

Table 2.5

Various taxonomies of Communication Strategies (based on Dörnyei & Scott, 1997: 196-197) with addition of Problem Solving Mechanisms from Dörnyei & Kormos (1998)

Tarone (1977)	Færch & Kasper (1983b)	Bialystok (1983)	Paribakht (1985)	Willems (1987)
AVOIDANCE Topic avoidance Message abandonment PARAPHRASE Approximation Word coinage Circumlocution CONSCIOUS TRANSFER Literal translation Language switch APPEAL FOR ASSISTANCE MIME	FORMAL REDUCTION Phonological Morphological Syntactic Lexical FUNCTIONAL REDUCTION Actional red. Modal red. Reduction of propositional content -Topic avoidance -Message abandonment -Meaning replacement ACHIEVEMENT STRATEGIES _Compensatory strategies_ -Code switching -Interlingual transfer -Inter-/intralingual transfer - IL based strategies * Generalization * Paraphrase * Word coinage * Restructuring -Cooperative strategies -Non-linguistic strategies _Retrieval strategies_	L1-BASED STRATEGIES Language switch Foreignizing Transliteration L2-BASED STRATEGIES Semantic contiguity Description Word coinage NON-LINGUISTIC STRATEGIES	LINGUISTIC APPROACH _Semantic contiguity_ -Superordinate -Comparison * Positive comparison Analogy Synonymy * Negative comparison Contrast & opposit. Antonymy _Circumlocution_ -Physical description * Size * Shape * Color * Material - Constituent features * Features * Elaborated features -Locational property -Historical property - Other features -Functional description _Metalinguistic clues_ CONTEXTUAL APPROACH Linguistic context Use of L2 idioms and proverbs Transliteration of L1 idioms and proverbs Idiomatic transfer CONCEPTUAL APPROACH Demonstration Exemplification Metonymy MIME Replacing verbal output Accompanying verbal output	REDUCTION STRATEGIES Formal reduction -Phonological -Morphological -Syntactic -Lexical Functional reduction -Message abandonment -Meaning replacement -Topic avoidance ACHIEVEMENT STRATEGIES Paralinguistic strategies Interlingual strategies -Borrowing/code switching -Literal translation -Foreignizing Intralingual strategies -Approximation -Word coinage - Paraphrase * Description * Circumlocution * Exemplification - Smurfing - Self-repair -Appeals for assistance * Explicit * Implicit * Checking questions -Initiating repair

Table 2.5 (continued)

Various taxonomies of Communication Strategies (based on Dörnyei & Scott, 1997: 196-197) with addition of Problem Solving Mechanisms from Dörnyei & Kormos (1998)

Bialystok (1990)	**Nijmegen Group**	**Poulisse (1993)**	**Dörnyei & Scott (1995a, 1995b)**	**Dörnyei & Kormos (1998)** **Problem-Solving Mechanisms**
ANALYSIS-BASED STRATEGIES CONTROL-BASED STRATEGIES	CONCEPTUAL STRATEGIES Analytic Holistic LINGUISTIC/ CODE STRATEGIES Morphological creativity Tran sfer	SUBSTITUTION STRATEGIES SUBSTITUTION PLUS STRATEGIES RECONCEPTU-ALIZATION STRATEGIES	DIRECT STRATEGIES *Resource deficit-related strategies* * Message abandonment * Message reduction * Message replacement * Circumlocution * Approximation * Use of all-purpose words * Word-coinage * Restructuring * Literal translation * Foreignizing * Code switching * Use of similar sounding words * Mumbling * Omission * Retrieval * Mime *Own-performance problem-related strategies* * Self-rephrasing * Self-repair *Other-performance problem-related strategies* * Other-repair INTERACTIONAL STRATEGIES *Resource deficit-related strategies* * Appeals for help *Own-performance problem-related strategies* * Comprehension check * Own-accuracy check *Other-performance problem-related strategies* * Asking for repetition * Asking for clarification * Asking for confirmation * Guessing * Expressing nonunderstanding * Interpretive summary * Responses INDIRECT STRATEGIES *Processing time pressure-related strategies* * Use of fillers * Repetitions *Own-performance problem-related strategies* * Verbal strategy markers *Other-performance problem-related strategies* * Feigning understanding	**RESOURCE-DEFICIT** ***Lexical*** message abandonment message reduction message replacement code switching approximation use of all purpose words complete omission foreignising word coinage literal translation restructuring circumlocution semantic word coinage direct appeal for help indirect appeal for help ***Grammatical*** grammatical substitution grammatical reduction ***Phonological and Articulatory*** Retrieval -Tip-of-the-tongue phenomena use of similar-sounding words Mumbling **PROCESSING TIME PRESSURE** ***Pauses*** *Non-lexicalised pauses* unfilled pauses umming and erring sound lengthening *Lexicalised pauses* fillers ***Repetitions*** self repetition other repetition **OWN PERFORMANCE** ***Self correction*** error repair appropriacy repair different repair rephrasing repair ***Asking check questions*** comprehension checks own-accuracy checks **OTHER PERFORMANCE** ***Meaning Negotiation*** asking for repetition asking for clarification expressing non-understanding asking for confirmation interpretative summary guessing other repair feigning understanding

2.3.1.1 Interactional approach

From the interactional standpoint or linguistic view, strategies are described in terms of negotiation of meaning, due to problems that have already manifested during the course of the communicative interaction. Such research has mostly been in an entirely different field known as Interaction research and has generally been considered independent of CS research (see for example, Pica, 1994; Gass, 2002 for reviews). It takes a product-orientated approach, describing CS in discourse terms and according to conditional relevance[27] (see Sperber & Wilson, 1987). Unlike the psycholinguistic view which does not consider the engagement of the interlocutor, the interactional view included discourse strategies, which are listener-orientated and require the cooperation of an interlocutor.

Research in this field has revealed much about the nature of interaction and has shown that strategies for meaning negotiation could facilitate SLA, as they occur at the key moments when learners need to receive feedback, directing their attention to problematic L2 form-meaning relationships and give learners opportunities to modify their output.

Working with NNS-NS data, Long (1981) found that when NNS indicated difficulty in following a conversation, NS adjusted their message so that they would be understood better. Long (1983) argued that this type of negotiation leads to essential *comprehensible input* which was necessary for SLA. Long identified two types of interactional strategies, those that avoid or prevent problems arising, such as *selecting salient topics*, *treating topics briefly* or *avoiding topics* and those that repair problems

[27] By *relevance* it is meant whatever allows the most new information to be transmitted in that context on the basis of the least amount of effort required to convey it. As Skehan and Foster (2001) point out, language, unlike any other skill, such as playing tennis, driving or algebra, can work well even if it is not performed correctly. The meaning is evident even if the form is incorrect. This prioritisation of meaning according to Givon (1985) is a natural phenomenon and explains how pidgins are so easily created. Others (Corder, 1973; Selinker, 1972) say that it explains why second language learners never attain native-like proficiency.

that have arisen, including *clarification requests*, *confirmation checks* and *tolerating ambiguity*. Generally, more attention has been paid to the latter group of strategies. Signals for negotiation are illustrated in the following examples from the NNS-NNS corpus in this study:

(1) Comprehension checks: Any expression a speaker uses which checks that the other has understood their preceding utterance.

*SAN: fence is like er er is like a protection of the house.

*JUD: oh ok .

*SAN: **do you get it?**

(2) Confirmation checks: Any expression that a speaker uses to confirm that they have understood or heard the other's utterance correctly.

*CLA: er I think it's a mom sitting on a on a chair and she's kind of holding a dog and that means that +/.

*KAS: **a dog ?**

*CLA: yes and I think that means that maybe...

(3) *Clarification requests:* Any expression that the speaker uses to ask for clarification of other's preceding utterance.

*JUD: I don't have it because er in my in my: picture it's like if the light goes er goes by right o@e sea@e if you have the light here.

*SAN: the light ?

***SAN: what do you mean the light ?**

*JUD: or the sun or +/. **[comprehensible input]**

*SAN: oh !

Swain (1985) later argued that comprehensible input was not sufficient but *comprehensible output* was also necessary. In other words, it was not only important for learners to receive comprehensible input but they also needed to be pushed to produce comprehensible output. When the NS signalled a need for clarification, the NNS reformulated their initial utterances, producing more comprehensible output or pushed output. If both interlocutors are language learners such exchanges provide both learners with opportunities for comprehensible input and pushed output.

*DAN: not like a metal wall or something.
*SER: and: and can you describe it to me? **[clarification request]**
*DAN: no well +/.
*SER: it's made by: wood +/? **[confirmation check]**
*DAN: it's like sticks**. [pushed output]**
*DAN: it's made by er +/.
*SER: like er wood?
*DAN: yes.

Pica (1994) explained the importance of negotiation of meaning strategies by showing that they promote SLA in three ways. Firstly, learners obtain comprehensible input. When communication breakdowns occur, modifications made to the conversation split up the input into parts that learners can process more easily, facilitating comprehension and allowing learners to attend to form. Secondly, negotiation provides learners with feedback on their own L2 output, as more competent interlocutors frequently reformulate their problematic utterances, expressing what they think was meant in another way and, in doing so, raising awareness to a particular problem. Finally, negotiation pushes learners to adjust, manipulate and modify their own output. It can be seen from this section that negotiation of meaning strategies play a significant role in oral communication, which justifies including them in studies examining strategy use.

Within CS research, Tarone's perspective is interactional, as illustrated in the definition in Table 2.4. She provided the first classification of CS, most of which were later incorporated into other researchers' taxonomies, as can be seen in Table 2.5, including those working from a psycholinguistic perspective. Tarone claimed that "CS are seen as tools used in a joint negotiation of meaning where both interlocutors are attempting to agree as to a communicative goal" (Tarone, 1980: 420). Tarone divided strategies into five main categories: *intra-language based, interlanguage based, appeal for assistance, mime* and *avoidance.* She distinguished between CS, which were for language use, and LLS, which were for developing linguistic and sociolinguistic competence. Tarone's work involved describing CS and identifying factors which affect strategy choice such as L2 proficiency, personality, learning situation and the nature of task.

2.3.1.2 Psycholinguistic approach

The psycholinguistic view is concerned with a *non-linguistic* approach. CS are classified according to the internal cognitive processes underlying them. In other words, observable behaviours are described according to their underlying mental processes and grouped together according to these inherent similarities. This perspective is justified by the claim that examining overt behaviour without considering underlying mental processes leads to inconsistent taxonomies, which seems to have been reinforced by the different product-oriented classification schemes that have emerged.

Færch and Kasper (1983) divided CS into two broad categories: *reduction strategies* and *achievement strategies,* based on the location of CS within a general model of speech production consisting of two phases: planning and execution. During the planning phase the speaker selects the rules and items necessary to achieve a communicative goal and during the execution phase this plan is executed through verbal behaviour to achieve the goal. CS are believed to be placed within the planning phase of speech production. For Færch and Kasper CS are characterised by problem orientation and consciousness. Learners express CS consciously because they lack the L2 resources to express the intended meaning or they cannot access these L2 resources.

Reduction strategies involve changing the original communicative goal, for example, by avoiding language the speaker is unsure of, omitting a word or phrase during an utterance and continuing as if it had been said or completely abandoning a message. Reduction strategies are divided into *formal reduction* and *functional reduction* strategies. Formal reduction involves avoidance of L2 rules the learner is uncertain of whereas functional reduction involves avoidance of speech acts or topics.

Achievement strategies involve sticking to the original goal but finding an alternative means of reaching it by using any available means. They are further divided into *compensatory* and *retrieval* strategies. Compensatory strategies involve replacing the original plan with a strategic one, for example, *word coinage*[28] or *code switching*[29] whereas retrieval strategies occur when learners persevere with their original plan by trying to retrieve the item required.

Bialystok (1983) initially divided strategies into L1-based, L2-based and non-linguistic strategies, as detailed in Table 2.5. However, these were later (Bialystok, 1990) redefined along the distinction between analysis and control, grounded in cognitive psychology. Bialystok argued that CS are a result of the cognitive mechanisms that operate on mental representations in linguistic processing. Within her cognitive framework the two components of language processing, *analysis* of linguistic knowledge and *control* of linguistic processing, give rise to two types of CS: *knowledge-based* and *control-based* strategies (see Table 2.5). In knowledge-based CS the learner adjusts the content of the message by exploiting knowledge of the concept, as in giving a definition or using a circumlocution, whereas in control-based CS the

[28] Word coinage is creating a non-existing L2 word based on a supposed rule, for example *representor* for *representative*.
[29] Code switching is using a L1 word with L1 pronunciation.

learner holds the initial information constant and manipulates the means of expression by integrating resources outside the L2, such as in the use of gesture or the use of L1.

The Nijmegen project (Bongaerts & Poulisse, 1989; Kellerman, 1991; Kellerman et al., 1987; Poulisse, 1990) using the same theoretical framework as Bialystok, developed another psycholinguistic model through an extensive study on CS, reported in several papers by Bongaerts, Kellerman and Poulisse. They developed a context-free process-oriented taxonomy. Three fundamental conditions are reflected: 1) its *psychological plausibility*, strategies being compatible with what is known about language learning in terms of language processing, cognitive processing and problem-solving behaviour 2) *parsimony*, a preference for a taxonomy with as few categories as possible and 3) *generalisability* across tasks, proficiency level, languages and learners. This means that no strategy should be uniquely associated with a certain task, as in a product-orientated approach.

The resulting simple taxonomy (see Table 2.5), according to the researchers, reflects the nature of mental processing involved in the production of CS. It consists of two *archistrategies* called *conceptual* and *linguistic code,* which Kellerman describes as:

> "Learners can either manipulate the concept so that it becomes expressible through their available linguistic (or mimetic) resources, or they can manipulate the language so as to come as close as possible to expressing their original intention." Kellerman (1991, cited in Ellis, 1994: 401)

The conceptual archistrategies are broken down into *analytic* and *holistic*, and the linguistic ones into *transfer* and *morphological creativity*, where the dimensions constitute poles on a continuum rather than discrete options. Within these categories, many strategies are included which can be traced to other taxonomies and back to Tarone (1977). Therefore, the Nijmegen categories reflect the common features between discrete strategy types from other taxonomies. Conceptual strategies may involve an *analytic* process, identified as *word coinage*, *description*, *paraphrase* or *circumlocution* in other taxonomies. They may also involve a *holistic* process, for example, the use of a superordinate, coordinate and subordinate term, identified as *approximation* in other taxonomies. The linguistic code archistrategies may be *transfer* strategies, such as *borrowing, foreignising* and *literal translation* or they may involve *morphological creativity,* such as saying *surprended* instead of surprised.

Poulisse (1993) later placed compensatory strategies within Levelt's (1989) model of speech production (see Chapter 1, Figure 1.1), which allowed more detailed psycholinguistic analysis of CS than was previously possible. The consequent adjustments resulted in three categories: *substitution*, *substitution-plus* and *reconceptualisation* strategies, as seen in Table 2.5. *Substitution* occurs during the encoding of the preverbal message when a lemma is substituted for another or omitted completely (*code switching*, *approximation*, *use of all purpose words*, *complete omission*). *Substitution-plus* strategies involve the substitution of a lemma but also accompanied by a modification, by application of grammatical or phonological encoding (*foreignising, word coinage, literal translation*) and usually results in an incorrect word and *reconceptualisation* involves a larger change to the preverbal message at the conceptual preparation stage, for example as in *circumlocution,* where more than a single chunk is altered or changed completely.

2.3.1.3 Integrated approach

The third standpoint in CS research integrates psycholinguistic and interactional perspectives, in an attempt by some CS researchers to overcome the limitations within the psycholinguistic view. In other words, the exclusion of strategies involved in negotiation of meaning, repair or the use of discourse markers, which are widely used by speakers as they deal with problems arising in the execution phase of an utterance. Therefore, these strategies were included in other taxonomies (Canale, 1983; Dörnyei & Scott, 1997; Rost & Ross, 1991; Savignon, 1983; Willems, 1987) in an attempt to integrate problem-solving devices "to the various pre- and post-articulatory phases of speech processing" (Dörnyei & Kormos, 1998: 350).

Canale's (1983) framework, although among one of the earliest, was also the broadest as it divided CS into 1) strategies to compensate for disruptions in communication due to speakers' lack of L2 linguistic resources and 2) strategies to enhance the effectiveness of communication. The former set of strategies involve negotiation of meaning: learners mutual attempts to avoid or repair impasses in their conversations, whereas the latter set of strategies constitute non-problem solving behaviour, involved in maintaining communication and gaining time to think. Since then, the former (compensatory) strategies have been studied extensively in CS research whereas the latter strategies, which enhance communicative effectiveness, have been investigated much less (Clennell, 1995; Dörnyei & Kormos, 1998; Dörnyei & Scott, 1995; Nakatani, 2006; Olshtain & Cohen, 1989).

Clennell (1995) investigated strategies in an information-gap task and a discussion task, grouping strategies into *overcoming lexical problems*, *collaborative facilitation* and *message enhancement* strategies. Olshtain and Cohen (1989) looked at strategy use in speech acts and the way learners learn about what constitutes good performance.

In Dörnyei and Scott (1995) and Dörnyei and Kormos (1998) an integrated taxonomy of CS was presented, based on the wealth of existing taxonomies that were available (see Table 2.5), which included strategies related to the planning or prearticulatory stage of speech, such as those described so far within the psycholinguistic view, but also those problems which arise during communicative interaction, described within the interactional view. These strategies were called *problem-solving mechanisms*. Like Poulisse, Levelt's model of speech production was used to classify strategies, except that a wider range of strategies were considered, as seen in Table 2.5. Their perspective included three types of problem management: *direct*, *indirect* and *interactional*, according to how strategies resolve the communication problem and achieve understanding and four types of communication problem which are related to different phases of speech processing and are illustrated below: 1) resource deficits 2) processing time pressure 3) own performance problem 4) other performance problem.

Resource deficit problems occur during planning and encoding of the pre-verbal message, processes illustrated in Levelt's model (see Figure 1.1) and may be resolved by lexical, grammatical or phonological problem-solving mechanisms.

> "*lexical problem-solving* mechanisms handle the frequent inability to retrieve the appropriate L2 lemma that corresponds to the concepts specified in the preverbal plan; *grammatical problem-solving mechanisms* deal with the insufficient knowledge of the grammatical form and the argument structure of the lemma, as well as the word-ordering rules of the L2... and (c) *phonological and articulatory problem-solving mechanisms* help to overcome difficulties in the phonological encoding and articulatory phases caused by the lack of phonological knowledge of a word or connected speech" (Dörnyei & Kormos, 1998: 357).

Processing-time pressure also occurs during planning and encoding of the pre-verbal message and is resolved by stalling strategies. These strategies are related to the fact that L2 speech is much slower, requires more serial processing and attention, and therefore more processing time than L1 speech. Therefore, lexicalised pauses including fillers such as *well* and *let me see* and non-lexicalised pauses, unfilled or filled, with sound lengthening or umming and erring are the strategies used to gain time for processing. *Own performance problems* occur after the message has been encoded, during monitoring the internal speech or during articulated speech and are resolved by different types of self-repair (error repair, appropriacy repair, different repair, rephrasing repair) or check questions (comprehension checks, own accuracy checks). *Other performance problems* occur during post-articulatory monitoring or in the parser (speech comprehension system) and are resolved by negotiation of meaning strategies such as asking for repetition, expressing non-understanding, interpretative summary and feigning understanding.

In Nakatani (2006), a study described in the previous chapter, an integrated approach was also taken as both compensatory and interactional strategies (comprehension checks, clarification requests) were included in a strategy questionnaire. However, a further set of strategies, rarely investigated in the field of CS, metacognitive strategies, were also included. Metacognitive strategies have traditionally been investigated in LLS research, and are considered to be key factors in learners' self-regulatory processes as they plan, monitor and evaluate the learning task.

Summing up, the different conceptualisations and categorisations of CS, ranging from a narrow (Poulisse, 1990) to a broad approach (Dörnyei & Scott, 1997) have been described. This background information will serve as a guide for interpreting and comparing the findings from the review of studies presented in Section 2.3.3.

2.3.2 Limitations of Communication Strategies research

Although CS are a component of strategic competence and have been essential in understanding second language speech production, one main criticism has been that despite over two decades of research, the field has generally not helped in explaining second language acquisition. One limitation concerns the scope of research from the psycholinguistic perspective, which has primarily been concerned with problems at the lexical level (Bialystok, 1990; Chen, 1990; Færch & Kasper 1980; Kumaravidelu, 1988; Manchón, 1989; Poulisse, 1990; Tarone, 1981), ignoring that learners can use CS to overcome grammatical problems or at the pragmatic or sociocultural levels.

As for the interactional perspective, several criticisms have also been made. Aston (1986) claimed that identification of negotiation sequences is not always clear and that researchers may be making the wrong interpretations when identifying episodes of negotiation. For example, Hawkins (1985) showed from retrospective comments that speakers sometimes signalled comprehension in the negotiation, when in fact they had not understood.

Foster (1998) showed that classroom learners did little negotiating. Other researchers have found instances of unsuccessful negotiation, where the particular communication problem is not resolved but the interlocutors give up the negotiation in order to continue the conversation or instances have been recorded where learners have been pushed to produce modified output, but have not done so (Aston, 1986). Also, many forms and structures of language are redundant and will never become the focus of negotiated interaction, as learners will adhere to Grice's (1975) conversational maxims such as brevity, communicating effectively but not necessarily grammatically. Little research exists showing that negotiation leads to grammatical development. In general these findings contradict the claim that negotiation of meaning promotes SLA.

Despite these limitations, interaction studies have provided theoretical frameworks for analysing a part of discourse and there are many findings that indicate that negotiation is involved in some aspect of SLA.

Further criticisms are that, particularly from the interactional perspective, CS research has been based on analysis of transcribed oral interaction so learners' intentions or underlying goals have not always been considered. Therefore, there is a need for more studies which consider learner's intentions through retrospective methods. Secondly, a great many studies have been in experimental settings or between NNS-NS dyads, so that firm conclusions about strategies used in NNS-NNS communication, which is the norm in the EFL classroom, cannot be drawn. Strategies have been shown to differ qualitatively and quantitatively with the setting and depending on the interlocutors (DeKeyser, 1991; Lafford, 2004).

In order to address some of these limitations in this study, firstly, as broad an approach as possible was taken to investigate strategy use across oral communication tasks and proficiency groups. Therefore, the description of strategy items on the strategy questionnaire drew from both the studies by Nakatani (2006) and Dörnyei & Scott (1997) to include compensatory strategies occurring in the planning stage of speech processing, interactional strategies occurring during articulation and the unfolding discourse and hierarchical metacognitive strategies which oversee the processes of oral communication. According to Bachman and Palmer (1996) and the CEFR authors (2001) strategic competence is characterised by its metacognitive nature, involving more global planning, monitoring and evaluation of the communicative event. In terms of research, examining CS from this extended perspective may be more revealing of processes involved in SLA and developing such strategic competence in learners will make them more communicatively effective with the resources already at their disposal.

Secondly, data obtained from identification of strategies in task transcripts by the researcher was triangulated with learners self reports on a questionnaire and in stimulated recall sessions. Finally, NNS-NNS oral communication was investigated in an EFL classroom setting to be able to draw practical conclusions for EFL language teaching.

2.3.3 Communication Strategies across tasks and proficiency groups

As for LLS studies, studies on CS have predominantly investigated proficiency, too (for example, Bialystok, 1983; Chen, 1990; Corrales & Call, 1989; Dobao, 2002; Jourdain, 2000; Liskin-Gasparro, 1996; Manchón, 1989; Paribakht, 1985; Poulisse & Schils, 1989; Poulisse, 1990; Ting & Phan, 2008) but in contrast to LLS studies, these studies have generally been task-based. Furthermore, researchers have often manipulated tasks in experimental settings to elicit particular strategies (Dörnyei, 1995; Littlemore, 2001). As a detailed review of all the CS studies which have investigated proficiency and task factors is beyond the scope of this thesis, this section first summarises the trends among findings related to proficiency and reviews a recent study. It then reviews three studies in depth to illustrate findings regarding proficiency and task effects on CS use.

Firstly, findings concerning proficiency, in terms of frequency of CS use, have generally provided evidence that lower proficiency learners use more CS, which has been explained by the fact that they encounter more problems in oral communication due to their more limited command of the L2 (Chen, 1990; Labarca & Khanji, 1986; Liskin-Gasparro, 1996; Paribakht, 1985; Poulisse, 1990; Rossiter, 2005; Yoshida-Morise, 1998). However other studies have shown no significant differences in CS use (Corrales & Call, 1989; Ting & Phan, 2008) between proficiency groups.

Evidence has also been found which suggests that different proficiency levels can be distinguished by the type of CS they select. For example, Bialystok's (1983) study showed that low proficiency learners used more L1-based strategies compared to L2-based strategies, which has been supported by the findings of others (Liskin-Gasparro, 1996; Manchón, 1989; Paribakht, 1985; Ting & Phan, 2008). Khanji (1996) found low proficiency learners used repetition and message abandonment, intermediate learners used transliteration, semantic contiguity and code switch and advanced learners used topic shift and semantic contiguity. Some of these researchers have claimed that CS are linked to developmental stages in language acquisition.

In an integrated approach to CS including psycholinguistic (Færch & Kasper, 1980), interactional (Tarone 1980) and discourse (Clennell, 1995) perspectives, Ting and Phan (2008) examined proficiency effects on CS of 10 high and 10 low Malaysian undergraduates on a NNS-NNS discussion task about dating at university. They did not find differences in the total number of CS identified for low and high groups, contradicting findings from other researchers. Restructuring[30] was the strategy used most by both proficiency groups, which was about 30% of the total number of strategies identified, as in Lafford (2005) and Ting and Lau (2007). What is unique about this study is the broad approach taken, which allowed for the identification of lexical repetition for clarification, emphasis and topic maintenance, which were also commonly used strategies. Furthermore, high proficiency learners were found to use tonicity[31] more compared to low proficiency learners, a strategy studied in Clennell (1995), to enhance communication. As found in other studies, low proficiency learners used L1 strategies more (code switching).

Other studies which have investigated the effects of both proficiency and task (Corrales & Call, 1989; Dobao, 2002; Poulisse, 1990) have shown that task has a more dominant effect on CS selection than proficiency. These studies are detailed below.

In a study by Corrales and Call (1989), intermediate and advanced Spanish ESL learners lexical CS were examined on two tasks: answering comprehension questions about a reading passage and a simulated telephone call. They also compared CS at the

[30] Restructuring was defined as "The speaker reformulates the syntax of the utterance".
[31] Tonicity was defined as "The speaker uses stress and pitch to mark key information or to differentiate given from new information".

beginning and end of a 5-week period of intensive study. CS were identified in transcripts and classified as process oriented (transfer and overgeneralisations) and task-influenced strategies (circumlocution, code switching, appeal for assistance and avoidance).

In terms of proficiency, results showed no statistically significant difference in the level of strategy use between the intermediate and advanced groups. In terms of task, the more open unstructured telephone conversation task elicited more transfer strategies (literal translation and foreignising) and in terms of time, the intermediate group used more task-influenced strategies at the end of the 5-weeks but not such a marked difference was found for the advanced group. The researchers explained that the results related to proficiency in terms of developmental stages, claiming that CS peak at a certain stage and then decline as learners develop greater L2 proficiency.

In a psycholinguistic study by the Nijmegen group reported in Poulisse (1990) differences in lexical compensatory strategies were investigated across different tasks and between proficiency groups. Participants were three groups of 15 Dutch ESL learners at three different L2 proficiency levels. They performed four different tasks: 1) a concrete picture description task, 2) an abstract figure description task, 3) a story retelling task where participants listened to a story in Dutch and retold it in English with the help of picture prompts and 4) an oral interview. Retrospective comments were collected for the story retelling and oral interview tasks (the more natural tasks) as the prediction of strategies to be used was more difficult on these tasks as problems could not be predetermined or could be more easily avoided during the tasks. Lexical compensatory strategies were identified in task transcripts and coded according to the Nijmegen group's classification system described above (Table 2.5).

Proficiency level findings were compared for the picture description, story retelling and oral interview tasks. Less proficient learners used more lexical compensatory strategies. The type of strategies used most by all proficiency levels were analytical (word coinage, circumlocution) and the strategy used least was morphological creativity. Therefore, the type of compensatory strategy selected was generally not related to proficiency level. However, there were some differences in the realisation of strategies with high proficiencies providing more properties in analytical strategies in the picture description task. Also, the nature of the task had a marked effect on the type of compensation strategies selected, overruling proficiency effects. The photo description task resulted in more analytic strategies such as word coinage and circumlocution, which are effortful and lengthy strategies. This was explained by the task requirements, which demanded that all the lexical problems be solved, the time constraints, which were unlimited, and the lack of context. Learners had to describe the pictures with no interlocutor present, so they made the extra effort to make sure they were understood. In contrast, in the oral interview and story- retelling more holistic strategies such as approximation, non-verbal strategies and transfer strategies such as foreignising or literal translation were elicited. In these tasks the task requirements did not demand all strategies to be perfectly comprehensible as an interlocutor was present, so learners could check if they had been understood and some problems could go unresolved if they were considered of little relevance to the discourse. Also, these tasks were more cognitively complex, so less attention was available for producing more effortful processing strategies. Furthermore, time constraints were imposed by the constraints of conversational rules (for example of turn taking) in the oral interview and the discourse mode in the story retelling, which may also have prevented the use of lengthier circumlocution strategies.

What is particularly convincing about this study is the explanation of the results underlying strategy use. Poulisse (1993) later claimed that in choosing which CS to use, speakers adhere to the general principles of communication, particularly the Cooperative Principle and the Least Effort Principle (Grice, 1975). In other words, speakers will use a CS which is comprehensible and requires the least effort first. Poulisse's (1993) reconceptualization strategies (circumlocution) are the most comprehensible but require the most effort in terms of speech processing, therefore the use of these strategies only occurs when economy has to be sacrificed in order to achieve clarity.

Poulisse tested these predictions and found that learners did indeed adhere to the above two principles. In the interactive task, learners could make sure they were being comprehended because they could see the reactions of their interlocutor or check comprehension verbally and, therefore, used substitution strategies (for example, *code switching, approximation, use of all purpose words)* but in a non-interactive task, carried out in a language laboratory, learners used reconceptualization strategies, because they could not interact to make sure they were being understood. Therefore, in this type of task they had to sacrifice economy to ensure clarity. If a choice has to be made learners weigh up the importance of the communicative goal and choose either economy (maybe avoiding the problem) or clarity (circumlocution).

In a study on interactional strategies by Dobao (2002), 15 Spanish students at three different proficiency levels (elementary, intermediate and advanced) did three different tasks: a picture story narrative, a photograph description and a ten-minute conversation and took part in retrospective interviews afterwards, identifying in transcripts where they had had communication problems. CS were identified in transcripts and coded according to Tarone (1977, 1981), as described previously in Table 2.5.

Results revealed that elementary students used most CS, which supports the general trends found in CS research so far. However, advanced students also used a lot of CS, more than the intermediate students, who used the least. Dobao explains this by claiming that the advanced learners were highly motivated and in making more efforts to express themselves they came across more communication problems which they had to resolve. This was supported by the fact that these learners produced more language and referred to more actions and objects. In contrast, intermediate learners were more careful and just expressed the essential information.

As for differences in the types of CS used, elementary learners used more avoidance and transfer strategies than the intermediate and advanced learners, which supports previous research (Bialystok, 1983) and fewer paraphrase strategies than the advanced learners. The explanation for this was that the former strategies require less effort whereas the latter are more cognitively and linguistically demanding and may be beyond the L2 resources of the elementary learners. Advanced learners used more paraphrase than intermediate learners as they had more L2 resources to be able to use these strategies. They also used slightly more transfer strategies because, as explained above, in attempting to express more complex language they came across more lexical problems that they could not resolve. What is unique about Dobao's study is that she relates strategy use to language production measures (the number of words and amount and specificity of detail), which enriches our understanding of the complexity of the relationship between CS and proficiency.

In sum, low proficiency learners generally use more CS than high proficiency ones and different types of CS may be preferred by learners at different proficiency levels, with low proficiency levels preferring L1-based and avoidance strategies. However, the most important points that emerge from these findings relevant to this study is that 1) the way learners choose to approach a task, which can be revealed from spoken production measures, also determines the quantity and quality of CS used 2) task has an overriding effect on CS use compared to proficiency and 3) the type of CS chosen on a particular task may be governed by conversational principals which are determined by the communicative features of the task demands. In this study one of the aims, therefore, is to compare different proficiency levels to present further evidence for the kinds of strategies each proficiency group employs but also to measure spoken production in the same population of learners performing the same tasks in order to provide support for why certain strategies are being used by one proficiency group and not the other.

Chapter 2 has been concerned with LLS and CS and their role in oral communication. In the first part, LLS were described and research developments were summarised. Limitations of LLS research were considered and data collection methods reviewed. This led to the conclusion that strategies should be investigated in context, with researchers more recently advocating task-based studies. Proficiency emerged as a decisive factor in strategy use, possibly linked to learners' developmental stage in SLA. Furthermore, because of the psychological nature of strategies, triangulation of data via different data collection methods seemed to be essential for obtaining reliable and valid results.

In the second part of Chapter 2 the discussion converged on strategies employed in oral communication and the various conceptualisations of CS; interactional, psycholinguistic and integrated perspectives were discussed. CS research, which unlike LLS research has been predominantly task-based, shows that proficiency is involved in determining CS use, too, but also that the task has an even greater influence, possibly through particular requirements that the task imposes on the oral communication. Limitations of CS research were identified which pointed to employing broader frameworks for identifying strategies, considering learner's intentions and performing research in more authentic NNS-NNS settings. As both LLS and CS fields of study have pointed to understanding task demands and characteristics as a crucial step in understanding oral communication, this will be the focus of the following chapter.

Chapter 3

Task-based research

Task-based language learning is another rich area of language teaching and research which is relevant to this study. Several books have been published concerning teaching (for example, Ellis, 2003; Lee, 2000; Nunan, 1989; Willis, 1996) and research (Bygate et al., 2001; Garcia Mayo, 2007; Skehan, 1998a), which illustrates the central importance of tasks in the foreign language classroom and SLA research.

The use of tasks in the classroom lies on strong theoretical and pedagogical bases. From a psycholinguistic perspective, by carrying out tasks learners notice gaps in interlanguage, test hypotheses about language, receive feedback, confirm or reject hypotheses and restructure them (Swain, 1995). From an interactional viewpoint tasks provide learners opportunities for noticing gaps in interlanguage during meaning negotiation (Long, 1985, 1989) and from a sociocultural perspective, group work on tasks fosters interaction in which participants can co-construct knowledge (Donato, 1994).

From a research perspective, tasks elicit meaning-based samples of language which are used to examine how SLA occurs and how best to teach and test with tasks. Pica (1997, cited in Ellis, 2005) argues that in the field of task-based studies the relationship between teachers and researchers is more highly compatible than in other fields, as they pursue the same aims. Both are concerned with finding appropriate tasks that lead to most effective language learning and manipulating tasks to focus learners' attention, to varying extents, either on form or meaning. It is, maybe, for these reasons that research on the impact of task variables on spoken performance has become so prolific in recent years.

In this study tasks provide the context in which strategy use and spoken production are examined and, as seen in previous chapters, this context plays a strong role in shaping oral communication. The aim, therefore, in this chapter is to define the concept of task, summarise the various ways in which tasks have been classified and then focus on how various tasks dimensions have been identified and examined. Findings from interactional and cognitive perspectives of tasks are included as they have both contributed to our knowledge of the interplay between task dimensions and negotiation of meaning strategies, in the case of interaction studies, and task dimensions and spoken production, in the case of cognition. In terms of this study such research has informed both the types of tasks employed and the interpretation of results regarding strategy use and spoken production. What this chapter does not cover, however, is task-based teaching methodology or syllabus design, which is not the focus of the study.

3.1 Definitions of task

Ellis (2003: 4-5) and Bygate et al. (2001: 9-10) list a number of definitions of task, of which so many can be found in the literature (Bachman & Palmer, 1996; Breen, 1989; Bygate et al., 2001; Crookes, 1986; Long, 1985; Nunan, 1989; Prabhu, 1987; Skehan, 1998b; Willis, 1996, among others) stemming from communicative language teaching and SLA research fields. Only a few definitions will be presented here to help understand the concept as used in this study. According to Ellis (2003) definitions of task differ in the following respects: 1) the scope of activity that a task encompasses, 2) the perspective from which a task is viewed (for example, from the teacher, learner or tester), 3) the authenticity of a task (a real-world task, such as making an airline reservation, is situationally authentic whereas a pedagogic task, such as a spot-the-difference task, is interactionally authentic, artificial, but eliciting language behaviour which may arise in the real-world), 4) the linguistic skills required to perform a task, although tasks in both teaching and research have been predominantly geared towards oral skills (Bygate et al., 2001; Crookes & Gass, 1993; Klippel, 1998; Ur, 1981), 5) the psychological mechanisms involved in performance and 6) the task outcome, the solution learners arrive at once the task is completed, which is judged in terms of content and not merely language.

> "A task is a piece of work undertaken for oneself or for others, freely or for some reward. Thus examples of tasks include painting a fence, dressing a child... making an airline reservation... In other words, by 'task' is meant the hundred and one things people *do* in everyday life, at work, at play, and in between." Long (1985: 89).

Long provides a broad definition of task which doesn't necessarily involve language (painting a fence) whereas according to a narrower definition, such as the following by Nunan (1989), a communicative task is a pedagogical tool which promotes natural and communicative use of the target language:

> "a piece of classroom work which involves the learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right" Nunan (1989: 10).

Bygate et al. (2001) pointed out that most definitions were context-free but that definitions should differ according to the purpose for which the task is used, differentiating between pedagogical and research tasks and also suggesting that within each of these areas tasks could be defined according to whether they were concerned with teaching, learning or testing. Many other definitions of task, as well as Nunan's, emphasise that meaning is primary (Bygate et al., 2001; Lee, 2000; Skehan, 1998). Skehan's (1998) definition is included here as it is the one adopted for this study. Furthermore, it encompasses many of the features expressed in other definitions of task.

> "a task is an activity in which meaning is primary; there is some kind of communication problem to solve; there is some sort of relationship to

comparable real-world activities; task completion has some priority; the assessment of the task is in terms of outcome". Skehan (1998: 95)

In other words, as opposed to language drills, in tasks, language is used in context. Learners are required to convey meaning but also attend to form in doing so, and the extent to which learners attend to form or meaning varies with the kind of task undertaken.

3.2 Criteria for identifying tasks

In order to further elaborate on the above definitions of task, some basic criterial features for identifying a task, as described in Ellis (2003: 9-10), are summarised:

1) *A task is a workplan*

A task is the plan, in the mind of the teacher or in the form of materials, of what the learners will do. The resulting "task in process", however, may not match that intended by the plan.

2) *A task involves a primary focus on meaning*

The task engages learners in using language in a meaningful context rather than displaying it. Learners choose the resources they need to complete the task, in the workplan, does not specify the language to be used. Nevertheless, a task creates a semantic space and requires particular cognitive processes linked to linguistic options. Therefore, the task puts some constraints on learners but allows them to have the final choice of what resources they use.

3) *A task involves real-world processes of language use*

As described earlier a task may be found in the real world. In oral communication this could be interpreting a piece of art. A task may also be artificial, as in the spot-the-difference or narrative picture story tasks employed in this study. However, in all cases the language use involved (asking questions, clarifying or storytelling) will reflect those used in real life.

4) *A task can involve any of the four language skills*

A task may involve listening, reading, writing, speaking or a combination of all four skills, as in Swain et al. (2009) and may be monologic or dialogic.

5) *A task engages cognitive processes*

Cognitive processes such as selecting, classifying, ordering, reasoning and evaluating may be required to carry out the task, which will influence the strategic approach but not necessarily determine learners' actual choice of language.

6) *A task has a clearly defined communicative outcome*

The workplan specifies a clear non-linguistic outcome for the task. For example, in a spot-the-difference task the outcome would be that learners have to say which pictures are the same and which are different.

3.3 Task classification systems

Tasks have been classified in a number of ways and there is currently no shared consensus about how this should be done either for research or teaching. Tasks have been classified according to information flow (for example, split tasks, shared tasks, one-way or two-way tasks), according to learner activities (for example, role play, decision-making) or according to discourse domain (for example, descriptive, narrative). Tasks have also been described pedagogically according to the four language skills (reading, listening, writing, speaking) and grammar and vocabulary, which has been useful in designing traditional coursebooks.

Willis's (1996) pedagogical classification is based on tasks commonly found in textbooks and reflects the actions learners have to perform in doing a task: 1) listing, 2) ordering and sorting, 3) comparing, 4) problem-solving, 5) sharing personal experiences and 6) creative tasks.

A rhetorical classification distinguishes tasks according to discourse domains, (for example, narrative, report or description), which is common in language courses for academic purposes. Discourse domain has been shown to influence both negotiation of meaning strategies and spoken production. Swales (1990) has used the concept of genre to classify tasks rhetorically, examples of genres being recipes, political speeches, job application letters and medical consultations.

A cognitive classification of tasks is based on the cognitive processes that the tasks evoke. Prabhu (1987) distinguishes three types of activity: information gap, reasoning gap and opinion gap, arguing that when learners engage in such cognitive processes they become more open to learning.

A psycholinguistic classification of tasks is concerned with classifying tasks according to their potential for learning. Pica et al. (1993) based their classification on interactional categories, which, in interaction research, have shown to influence opportunities for interaction: interactant relationship, interaction requirement, goal orientation and outcome options. To illustrate with an information-gap task, for example, the task can have an interactant relationship that is *one-way*, one participant supplying the information or *two-way*, two participants supplying the information. It has an interactional requirement as information must be requested and supplied. Its goal orientation is *convergent*, as both participants must agree on a single outcome and its outcome options are *closed*, as there is only one possible outcome

It is also worth highlighting the distinction between *focused* and *unfocused* tasks, as much research has turned to examining focused tasks. Both focused and unfocused tasks are regarded as types of task, as they adhere to the criteria previously described. Unfocused tasks, however, are designed to promote communication with no particular language form in mind whereas focused tasks are designed to elicit reception, processing or production of a particular linguistic feature, such as past tense verb forms or relative clauses. Focused tasks aim, therefore, to promote communication as well as a focus on particular form-function-meaning relationships. The forms chosen by the researcher for focused tasks may not arise during negotiation of meaning in unfocused tasks, as they represent forms with low salience, for example, redundant grammar such as articles, connectors or verb forms, or they may be forms which are difficult to master. The theoretical justification for employing such tasks is that they promote noticing and modified interaction, drawing learners' attention to features which learners would otherwise ignore.

Tasks can be focused by designing them so that they may only be performed if a particular linguistic feature is used or by making the target language feature the topic of the task, for example, the task may require the participants to talk about conditionals and work out rules to describe how they are used. The *talking* about the language involves the same kind of real-world language use or cognitive processes as any other topic and so the talk is still meaning-centred. Ellis (1991) called these types of task CR (consciousness-raising) tasks. Pica et al. (2006) have explained the methodology behind the design of information-gap tasks for this purpose and have reviewed their role in research and teaching. In this study, however, three pedagogical unfocused tasks (see Section 4.2.2) are employed which satisfy the basic criteria described in the previous section.

3.4 Tasks and cognition

Some researchers have taken a cognitive perspective to study tasks, focusing on the psycholinguistic mechanisms learners engage in when undertaking them. By studying how attention to complexity, accuracy and fluency is affected during performance on easier or more difficult tasks, tasks may be chosen and sequenced more appropriately for the foreign language classroom and according to learners' stage of interlanguage development.

Two well-known cognitive theories on task difficulty (or task complexity or cognitive complexity) have been put forward by Robinson (2001) and Skehan (1998a) respectively. Both theories are similar in that they are grounded in the consensus in cognitive psychology that attention is limited, but they differ in their perceptions of how attention is spread and allocated, as will be explained in the following sections.

A considerable number of studies have been dedicated to empirical investigations of task difficulty, whose results have supported one or the other of these theories. Nevertheless the investigation of task difficulty is not an easy endeavour, as mentioned previously. What makes Task A more difficult than Task B depends on several inter-related factors and conclusive support for one theory or another does not yet exist. For this reason both theories are presented, as they have both contributed greatly to our understanding of how learners perform tasks.

3.4.1 Skehan's Limited Attentional Capacity Model

Skehan's (1998a) Limited Attentional Capacity Model subscribes to the view that there is one limited resource pool for attention in the mind (Van Patten, 1990) and so attending to one aspect of performance (complexity or accuracy or fluency) may limit the others. Skehan cites Van Patten's (1990) work to support this theory. Van

Patten showed that when learners paid attention to language forms they could not pay as much attention to content. In addition, when learners were free to choose how to allocate attention, they choose to pay attention to content over form. Therefore, limitations of attentional capacity result in trade-offs between attention to form and content, and these are manifested in speech, effecting fluency, accuracy and complexity.

As task difficulty is related to attention, with more difficult tasks requiring more attention than easy tasks, and content being prioritised over form (Van Patten, 1990), researchers reasoned that task difficulty would be manifested as inadequate attention to form resulting in dysfluency, inaccuracy and the use of simplified language encompassed in communication strategies in order to convey meaning. In other words, fluency is favoured over complexity. If the task is even more difficult, the lack of attention to form may lead to more errors and a drop in all three performance areas. Accuracy drops, as well as complexity and fluency, which is manifested as shorter utterances, simpler structures and more frequent and longer pausing.

Spoken production has been traditionally measured by rating scales, global or analytical in examinations (for example, UCLES, IELTS) but in task-based research, the aforementioned three-way distinction of complexity, accuracy and fluency (CAF), a more precise measure of linguistic performance, has been taken, which Skehan claims has been justified theoretically and empirically (Crookes, 1989; Foster & Skehan, 1996; Skehan & Foster, 1997). This construct has since been used in countless studies to distinguish between more or less proficient language users or as performance descriptors for written and spoken language (see Housen & Kuiken, 2009; Larsen-Freeman, 2009; Norris & Ortega, 2009; Pallotti, 2009; Skehan, 2009, for recent reviews which address the issues of the definition and operationalisation of CAF). Skehan (2001), therefore, argued that tasks could be sequenced to promote balanced development of these three areas and that a knowledge of task difficulty and task conditions was essential to be able to promote the development of each of these aspects of performance, separately or simultaneously.

According to Skehan and Foster (2001) complexity and accuracy are concerned with language form as shown in Figure 3.1. Complexity represents organisation of speech, the use of more elaborate language and variety of syntactic patterns. It is associated with willingness to restructure, risk taking, change, development or extension of existing resources and hypothesis testing with recently acquired language. Accuracy represents freedom from error, less risk taking and therefore more conservatism and control of existing resources or avoidance of error. Fluency is the capacity to cope with real-time communication. It is more idiom-based, it emphasizes meaning rather than rule-based language and reflects the effectiveness of the planning process in ongoing discourse. It represents “getting the task done” compared to complexity and accuracy which represent “language focus and development” (Skehan & Foster, 2001: 190).

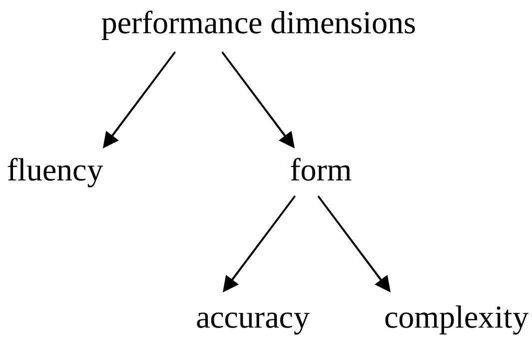

Figure 3.1 Theorising dimensions of performance, based on Skehan and Foster (2001:190)

3.4.1.1 Task features according to Skehan

Grounding his work in previous accounts of task characteristics from the field of communicative language teaching (Candlin, 1987; Nunan, 1989), Skehan (1998) proposed that task complexity could be assessed according to learner factors (intelligence, breadth of imagination, personal experience) but also according to language, cognition and performance factors, as detailed in Table 3.1. Skehan's (1998) classification of task characteristics, as well as claims by researchers before him were based on intuitive observations of tasks in the absence of research support. In his framework, Skehan distinguishes between code complexity, cognitive complexity and communicative stress.

Table 3.1

Task complexity as proposed by Skehan (2001: 194-195)

Code Complexity	*Cognitive Complexity*	*Communicative Stress*
Linguistic complexity and variety	Cognitive familiarity	Time pressure
Vocabulary load and variety	Familiarity of topic	Scale
	Familiarity of discourse genre	Number of participants
	Familiarity of task	Length of text used
		Modality
	Cognitive processing	Stakes
	Information organization	Opportunity for control
	Amount of computation	
	Clarity of information	
	Sufficiency of information	

Code complexity is concerned with the linguistic demands of the task, whether a wide repertoire or density of structures and vocabulary is required. A task requiring more complex sentences with subordination or embedded structures and less common lexical features will be more difficult, and more so, if a lot of such features are required.

Cognitive complexity is concerned with the cognitive demands of the task content. Complexity may be due to the level of cognitive familiarity. For example, if participants have prior knowledge of the topic, discourse genre or task, the task will be easier than if all this information were new. Also, complexity may be due to the level of cognitive processing required, for example, if the information is highly structured, as in recounting a story, the task may be easier than a problem-solving task where attention to several pieces of information is required at the same time. Also, complexity may be due to the amount of information which is already provided, because if some information is missing or hidden the task will be more difficult to do.

Communicative stress concerns the type of pressure the task may impose on participants due to the length of time available to do the task, the number of participants involved in the communication, the length of texts involved, the mode of communication (through reading, speaking, listening or writing or a combination of skills), the stakes, such as doing an exam (high stakes) compared to an informal chat at the end of a class (low stakes) or how much participants can control or change the task implementation.

3.4.2 Robinson's Multiple Resources Attentional Model

Robinson's (2005) Multiple Resources Attentional Model considers that attention is spread over *multiple specific resource pools* for processing stages and modalities (visual, auditory, vocal, manual), based on Wickens (1984, 1989). According to this view, form and meaning need not always be in competition for attentional resources. This explains how attention-demanding activities can be carried out more easily at the same time if they draw on different modalities than if they draw on the same modality. As exemplified by Gilabert (2007) if someone is having two conversations at once they draw on the same (vocal) resource pool, so competition for these resources occur and performance is impoverished, but if a person is driving and singing at the same time, as they are drawing on different resource pools (manual and vocal), competition for attention will not happen. Therefore, when tasks are made complex simultaneously along different dimensions which draw from different resource pools, there should be no competition for attention. In this view, there is some flexibility to capacity limitations but each resource pool still has its limitations.

Robinson, therefore, claims that learners can access multiple and non-competing attentional pools. He makes the following predictions for monologic and interactive tasks based on the assumption that functional complexity is accompanied by structural complexity (Givon, 1985, 1989), in other words, the need to produce a more complex message leads to a more linguistically complex message: 1) in simple monologic tasks fluency will be high and accuracy and complexity low, 2) in complex monologic tasks fluency will be low and accuracy and complexity high, 3) in simple interactive tasks fluency will be high and accuracy and complexity low, as more negotiation of meaning in the form of more clarification requests and comprehension checks reduce the length of utterances and 4) in complex interactive tasks fluency will be low as well as complexity (due to even more negotiation of meaning) while accuracy will be high.

3.4.2.1 Task features according to Robinson

Robinson proposes a triadic framework for investigating the effects of different task dimensions on performance and learning. His framework is grounded in the Cognition Hypothesis of L2 learning and stems from the perspective of task-based syllabus design, which instead of designing tasks according to linguistic criteria claims that “pedagogic tasks should be developed and sequenced to increasingly approximate the demands of real-world tasks” (Robinson, 2005:1). As seen in Table 3.2, Robinson distinguishes between three categories 1) *task complexity* or the cognitive features of the task, which make a task intrinsically more or less difficult, 2) *task conditions* or interactional factors determined by the participation conditions or relationship between participants, which determine the type of interaction that unfolds and 3) *task difficulty* or the learner factors such as motivation, anxiety, confidence, working memory capacity, intelligence or aptitude, which determine the extent of difficulty faced by the learners in performing the task. According to Robinson, it is the task complexity features that are essential in choosing, designing and sequencing tasks for a language course, as task conditions and task difficulty often cannot be predetermined before a language course begins and so, in his view, these aspects are less important.

Task complexity is further sub-divided into resource-directing and resource-dispersing dimensions. This is an important theoretical distinction as the former make conceptual/linguistic demands on the learner whereas the latter make performative/procedural demands, as illustrated below. Each dimension is viewed as a continuum along which a feature is relatively more or less present or absent.

Table 3.2

A triad of task complexity, task condition and task difficulty factors (taken from Robinson, 2005: 5)

Task complexity (cognitive factors)	*Task conditions* (interactional factors)	*Task difficulty* (learner factors)
(a) resource-directing	**(a) participation variables**	**(a) affective variables**
e.g.±few elements	e.g.open/closed	e.g. motivation
±Here-and-Now	one-way/two-way	anxiety
±no reasoning demands	convergent/divergent	confidence
(b) resource-dispersing	**(b) participant variables**	**(b) ability variables**
e.g.±planning	e.g.same/different gender	e.g.working memory
±single task	familiar/unfamiliar	intelligence
±prior knowledge	power/solidarity	aptitude

The *resource-directing dimension* includes the *number of elements* in a task. If more elements have to be referred to simultaneously, for example in a storytelling task, it requires more mental effort in terms of attention and memory resources than if few elements have to be referred to. The same applies to describing events happening now *[+ Here and Now]*, the knowledge of which is shared by participants, compared to describing events that happened elsewhere or at another time [+There and Then]. For example, a classroom task may typically include some type of non-verbal input (a picture, a diagram or a map) which has to be communicated verbally to the interlocutor. If the task allows the speaker to see the input during communication [+ Here and Now], numerous studies (for example, Gilabert 2004; Robinson, 2005) have shown that it is easier than if the input is removed [+There and Then] and speakers have to communicate the information relying on memory. Similarly, tasks which have *reasoning demands* or require justification to support statements are more cognitively demanding than those requiring mere description.

If a task is made more complex in these resource-directing dimension, it means that the learner requires more mental effort to express the more complex concepts involved, which in turn *directs* their attention to aspects of the L2 linguistic system that will permit them to convey this complexity. This directed attention to the linguistic code promotes noticing of linguistic forms, which may lead to interlanguage development (Robinson & Gilabert, 2007; Robinson, 2005; Schmidt, 2001). For example, the requirement to refer to a past event [+There and Then] is likely to direct attention to past tense verb forms and time expressions, reference to more than one element is likely to direct attention to the use of relative clauses to distinguish between the elements, for example, *the girl who is wearing sunglasses*, and greater reasoning may lead to more subordination with the use of connectors such as *so* or *because*. Robinson, therefore, predicts that increasing complexity in the resource-directing dimension will lead to a loss of fluency but may facilitate accuracy and complexity as the learner is directed to particular features of the linguistic code.

In *the resource-dispersing dimension*, if a task is made more complex it does not direct learners to the language code, but removing *planning time*, doing a task without *prior knowledge* or increasing the number of tasks which have to be carried out simultaneously (*single task*) has the effect of *dispersing* attention and memory resources, which also affects performance. Increasing cognitive complexity in this dimension, therefore, is also important for improving performance as it simulates more realistic communication which is often unrehearsed, occurs in novel circumstances and is carried out while doing something else. However, it also means that all three aspects of performance, complexity, accuracy and fluency will be affected negatively, resulting in poorer performance as learners attention is dispersed across several non-linguistic aspects of production, meaning less attention is available to access and formulate the L2.

In an attempt to incorporate more task variables and refine the existing dimensions, Robinson and Gilabert (2007) have since expanded the framework in Table 3.2. For task complexity (column 1) in the resource-directing dimension, reasoning demands have been divided into *spatial, causal and intentional reasoning* and the dimension of *perspective taking* has been added. In the resource-dispersing dimension the amount of *task structure*, the *number of steps* the task has and the *independency of steps* have been added.

For task conditions (column 2) in participation variables, the *number of participants*, the *number of contributions* required and the *amount of negotiation* required are added dimensions. As for participant variables, the dimensions that have been added are whether participants are of the same *proficiency*, whether they share *content knowledge* and whether they share *cultural knowledge*.

For task difficulty (column 3) affective variables which have been added are whether learners are *open to experience*, how well they *control emotion*, and their *willingness to communicate*. Among ability variables intelligence has been replaced with *ability to reason*, *mind-intention reading*, *field dependence/independence*[32] and *ability to switch tasks*.

To sum up, Robinson's and Skehan's models of task difficulty make different predictions concerning spoken production. Skehan and Foster (2001) argue that fluency may correlate with either complexity or accuracy, but not both and that there is a natural tension between complexity and accuracy, which are in competition for resources or that there are trade-offs between these two dimensions. According to them, increasing task demands in the resource-directing dimension affects both fluency and complexity or fluency and accuracy negatively. In contrast, Robinson argues that fluency contrasts with complexity and accuracy and that increasing task demands in this dimension degrades fluency only and that accuracy *and* complexity will be enhanced. In the resource-dispersing direction, Skehan and Robinson's predictions are in agreement, as all three aspects would be affected negatively by increasing task demands.

This study draws on Robinson's (2005) framework of task features to describe the tasks employed, as it seemed the most systematic, including both cognitive and interactional features of tasks and distinguishing clearly between them. Furthermore, not only is the framework theoretically motivated but the task features it encompasses have been examined by a substantial body of empirical research.

[32] Field independence is a cognitive style where learners act analytically whereas in field dependence learners act holistically.

3.5 Research into task dimensions

Initially, within SLA research tasks were employed as instruments in early descriptive studies and later on in more theoretically-based ones. Only even later did they become a research area in their own right. Much of task-based research has been motivated by the Input (Krashen, 1985) and Interaction (Long, 1983) hypotheses. These theories have fuelled research which has examined how input (modified, unmodified and interactionally modified) is best for comprehension. Other task-based studies have taken a Vygotskian perspective of language learning, that is, viewing learning as socially constructed. Learners co-construct knowledge by interacting with others, performing functions that they cannot perform alone. With time these functions are internalised and learning involves progression from inter-mental to instrumental, a shift from object and other-regulation to self-regulation. Studies on scaffolding[33] and collaborative learning have emerged from this perspective (Donato, 1994; Swain & Lapkin, 1998). A number of studies have more recently examined the effectiveness of focused tasks as described above. However, the research which is most closely connected to this study is research on task dimensions themselves, which has examined how they affect the nature of the language used in performance, either in terms of spoken production measures (fluency, accuracy and complexity) or meaning negotiation strategies. In the following sections findings from studies will be highlighted which have investigated the cognitive and interactional dimensions of the tasks employed in this study.

[33] The concept of scaffolding comes from the Vygotskian perspective and refers to the support by adults, peers, or more capable others that is provided when learners have gaps in their thinking or in problem solving, and which aids cognitive development.

3.5.1 Cognitive dimensions of tasks

In this section particular cognitive dimensions of tasks will be described and research findings from studies which have investigated these dimensions summarised. Although research into many of the task features listed in Robinson's (2005) framework has been carried out for both spoken and written production, the focus here will be on oral tasks and the dimensions which distinguish the three tasks in this study, which are the number of elements, reasoning demands and prior knowledge. Findings concerning the effects of these task dimensions on the complexity, accuracy and fluency of speech or strategies are of particular relevance to this study. Results from the studies reviewed are summarised in Table 3.3.

3.5.1.1 Number of elements

It has been claimed that increasing the number of elements that have to be manipulated during a task and the kind of relationship between them influences cognitive complexity (Brown et al., 1984). Robinson (2001) compared the effect of the number of elements in a map task on CAF and some interactional strategies. Participants were L1 Japanese language learners. The tasks were a map with few elements [- elements] (which was of a small area containing few landmarks) and a map with many elements [+ elements] (which was of a larger area with more landmarks). One learner held a map with points A and B on it and had to give directions to another who drew the route on an empty map. More fluency was found on the [- elements] task and more lexical complexity and interaction (comprehension checks, clarification requests) on the [+ elements] task. No differences were found in accuracy or structural complexity, which did not fully support Robinson's hypothesis that accuracy and complexity would increase on the more complex task. However, learners had more prior knowledge of the [- elements] task, which could have also contributed to greater fluency. In addition, according to Robinson, the interactive nature of the tasks may have interfered with learners attempts to be more structurally complex, particularly on the more complex task, where listeners were more concerned with checking that they were following the directions correctly.

Michel (2008) also examined the effect of manipulating the number of elements in a decision-making task on CAF. Monologic and dialogic tasks were also compared. Participants were Dutch L1 speakers and L2 learners. The [- elements] task involved matching up two pairs to go on a date while the [+ elements] task involved matching up three pairs. No significant differences in complexity or accuracy were found but fluency (faster speech rate) was higher on the [+ elements] task, even in the interactive condition, contradicting the above results from Robinson. These results also contradicted results from Michel et al. (2007), where a task with [+ elements] elicited more accuracy and more complexity but less fluency. Gilabert (2007) also found that a map task with [+ elements] elicited more accuracy and self-repair.

In sum, studies on the number of elements have shown mixed results (see Table 3.3 on p.112). As these studies have differed in the types of tasks used or in the interactive conditions (monologue or dialogue), it is difficult to generalise from the results or reach firm conclusions as to the effects of this dimension on spoken performance.

3.5.1.2 Reasoning demands

Increasing the reasoning demands of a task is also believed to increase cognitive complexity (Prabhu, 1987). Robinson (2005) compared the effect of increasing reasoning demands in an interactive picture-sequencing task on turn taking and uptake of written input. Participants were 21 pairs of Japanese L1 learners of English. The tasks were three picture stories which varied from easy [- reasoning] to difficult [+ reasoning]. In the [- reasoning] task it was easy to justify the sequence of the pictures whereas in the [+ reasoning] task more reasoning was required. One learner had to tell the story so that their interlocutor could sequence the pictures correctly. Findings showed more turn taking, suggestive of more interactional strategies, and more uptake of written input in the [+ reasoning] task.

Niwa (2000) also examined reasoning demands in a monologic picture-sequencing task in relation to individual differences. Participants were Japanese learners of English who did four tasks which varied from easy to difficult in terms of reasoning demands. Although the focus of this study was individual differences, [+ reasoning] seemed to result in lower fluency for learners who scored high on intelligence, aptitude and working memory. Gilabert (2007) in a monologic decision-making *fire chief* task found no effects on learner self-repairs in the [+ reasoning] task. Baralt (2009), in a study of reasoning demands and convergent/divergent tasks, found less interaction (fewer turns) and fluency (more false starts) but more complexity (words per utterance) in the [+ reasoning] condition.

In sum, the effects of increasing reasoning demands have also been mixed. Comparing studies is complex as different measures have been used, making it difficult to generalise. However, it may be that increasing reasoning demands decreases fluency (Baralt, 2009; Niwa, 2000).

3.5.1.3 Prior knowledge

Prior knowledge of a task's topic has been found to affect task performance. Lange (2000) examined decision-making tasks. A task on the topic of prison was compared to a task on the topic of a heart transplant. The tasks only differed with regards to the topic, as in both tasks participants had to choose the most deserving candidate, in the former task, to release from prison and in the latter, to offer a heart transplant to. Lange found greater amounts of talk on the prison task.

Pinyana (2009) studied learners' oral self-assessments across five different discussion tasks performed in pairs. The tasks differed only in the topics provided (cosmetic surgery, music, risk sports, the Oscars, cannabis). Pinyana, in her qualitative analysis, found that learners identified some topics as problematic because "they lacked expertise in the topic or that they would rather talk about another topic" (Pinyana, 2009: 241). Although the focus of this study was self assessment rather than spoken performance, learners assessed their own performance in terms of topic knowledge, the presence or lack of L2 resources and motivation to talk about the topic, all of which determined their performance. Teachers' also rated learners' performance lower when the topic was unfamiliar to learners.

Gass and Varonis (1984) found less negotiation of meaning if the topic was familiar. Bygate (in Bygate et al., 2001) examined the effect of task repetition on performance of narrative and interview tasks and found task repetition provides task background knowledge and increases fluency and complexity. However, no significant effects were found on accuracy. All in all, these studies provide evidence that prior knowledge of a task favours fluency.

Table 3.3

Summary of findings on cognitive task dimensions

Task dimension	*Author & Year*	*Task*	*Measures*	*Relevant Findings*
Number of elements	Robinson, 2001	Interactive map task	CAF Interactional strategies	[-elements] + fluency [+elements] + lexical complexity, + interactional strategies
	Michel, 2008	Interactive & monologic	CAF	[+elements] + fluency
	Michel et al., 2007	Interactive & monologic	CAF	[-elements] + fluency [+elements] + accuracy, + complexity
	Gilabert, 2007	Monologic map task	CAF	[+elements] + accuracy, + self-repair
Reasoning demands	Robinson, 2000	Interactive picture sequencing & storytelling	turn-taking uptake of input	[+ reasoning] +turn-taking, +uptake of written input
	Niwa, 2000	Monologic picture sequencing & storytelling	CAF & IDs: intelligence, aptitude working memory	[+ reasoning] – fluency: for learners with high ID scores for intelligence, aptitude, working memory
	Gilabert, 2007	Monologic fire chief task	Self-repairs	self-repair: no significant difference
	Baralt, 2009	Interactive discussion	CAF	[+ reasoning] – interaction, -fluency + complexity
Prior knowledge	Robinson, 2001	Interactive map task	CAF	[+prior knowledge] + fluency
	Lange, 2000	Decision-making	Amount of talk	[+prior knowledge] + amount of talk
	Pinyana, 2009	Discussion	Self assessment	[+prior knowledge] + self assessment
	Gass & Varonis, 1984	Discussion	Interactional strategies	[+prior knowledge] – negotiation strategies
	Bygate, 2001	Narrative & interview	CAF	[+prior knowledge] + fluency + complexity

3.5.2 Interactional dimensions of tasks

Interaction research, as described in the previous chapter, has investigated how certain task characteristics affect negotiation of meaning strategies, arguing that such strategies favour SLA. Several task characteristics have been studied: the level of information exchange (required or optional information exchange), information flow (one-way or two-way), goal orientation (open or closed), the topic, discourse mode and cognitive complexity. In this section, the focus is on the three key task dimensions which characterise tasks in this study: level of information exchange, information flow and goal orientation. Results from these studies are summarised in Table 3.4 on p.118.

3.5.2.1 Level of information exchange

Tasks may differ according to whether they require participants to exchange information or whether this exchange is optional. In *information-gap* tasks information exchange is a requirement as the information is *split* between participants and they can only complete the task successfully if they exchange this information. A typical example is the spot-the-difference task used in this study, where learners had a set of pictures which they were not allowed to show to each other (*split information*) and they had to exchange information about their pictures in order to work out if they were the same or different. In *opinion-gap* tasks, on the other hand, learners go beyond the information by supplying their own opinions, therefore this kind of information exchange is optional. Many tasks are compound in nature, such as *jigsaw* tasks, which involve required information exchange followed by optional information exchange. For example, in a job recruitment task where each participant holds information about a different candidate, learners may first have to exchange information about the different candidates (required information exchange) and then decide who is the most suitable for the job (optional opinion exchange).

Table 3.4 summarises some key studies on required and optional information (Foster, 1998; Nakahama, Tyler & Van Lier, 2001; Newton, 1991; Pica & Doughty, 1988). Overall, these studies provide evidence that more negotiation occurs on required information tasks. However, Foster (1998) found that learners in a classroom setting used fewer strategies than in an experimental setting, which she justified as learners not wanting to lose face in the classroom. Nakahama, Tyler and Van Lier (2001) found that information-gap tasks provided more instances of negotiation of meaning than conversation, but also that more discourse strategies were produced to maintain interaction and improve mutual understanding during conversation tasks, as well as learners taking longer and more complex turns. These studies have been important in pointing out that negotiation of meaning is only part of the strategic picture in oral communication and that although the required information dimension needs to be considered in designing tasks, other factors, such as the setting, or other types of strategies need to be considered.

3.5.2.2 Information flow

One-way and *two-way* tasks are both types of required information exchange. In the former information is held by a single participant and in the latter information is split equally between the participants. This dimension should be viewed as a continuum, as interaction can take place to varying extents depending on how the tasks are implemented (Gass & Varonis, 1985). For example, a university lecture would be a one-way flow of information with little or no opportunity to interact, listening to a story being told would also be one-way but with more opportunity to interact and, at the other end of the continuum, an information-gap task with information split evenly between participants would be a two-way task with equal opportunities for interaction by participants. Another way of viewing such tasks has been according to the level of reciprocity (Ellis, in Bygate et al., 2001). *Reciprocal* tasks require a two-way flow of information between speakers whereas *non-reciprocal* tasks require only a one-way flow of information from speaker to listener.

Table 3.4 illustrates some studies investigating this dimension. Although Long (1980), among others (Aston, 1986; Yule & McDonald, 1990), has found more negotiation on two-way tasks, this was not the case for other researchers (for example, Gass & Varonis, 1985). The mixed results obtained may be due to other confounding task variables, such as cognitive complexity, as in these early studies the one-way/two-way dimension was not isolated from other task variables. Therefore, it may be a simplification to conclude that a two-way dimension to tasks is a requisite for promoting negotiation of meaning.

3.5.2.3 Goal orientation

Another dimension of tasks which has been examined is whether a task is open or closed. In open tasks participants know that there is no pre-determined solution to the task whereas in closed tasks participants have to reach a single correct solution or set of solutions. This dimension may also be considered a continuum. Open tasks include discussions, debates, ranking or decision-making tasks (Ur, 1981) while closed tasks are spot-the-difference tasks, giving directions or discovering who committed a crime among a number of possible suspects. In support of closed tasks, Long (1989) claims that they are more motivating and challenging and that learners are less likely to give up. This may be due to the clearly stated goals of such tasks, which focuses learners' attention on reaching that objective. In open tasks learners can avoid difficult topics, treat them briefly or change topics and thereby avoid negotiating and the effort it entails.

Pica and Doughty (1988) found that closed tasks led to more negotiation. Berwick (1990) found more interactional moves on a closed task (a Lego reconstruction) compared to an open one (free discussion). Crookes and Rulon (1985) compared NS feedback to NNS feedback in a conversation (open) task, a one-way task and a two-way information-gap task (closed) and found that feedback was more frequent on the more closed tasks. Rahimpour (1997) found more fluency on the closed version of a narrative but no difference in complexity and accuracy. More recently, Lambert & Engler (2007) investigated the dimensions of goal orientation (open/closed) and information flow (shared/one way/two way) and found that information flow was more closely related to CAF changes than the goal orientation dimension. The shared task design led to more complexity whereas the one-way design led to more fluency and accuracy and the two-way design led to more accuracy.

According to Ellis (2003), the *divergent/convergent* distinction could also be considered a sub-category of open tasks. Convergent tasks require learners to reach a common solution whereas divergent tasks require them to defend opposing views. Closed tasks may lead to more negotiation of meaning, but open tasks which are divergent, such as a debate, lead to more complex language production than convergent tasks. Duff (1986) examined convergent and divergent tasks in a small scale study. The convergent task was a desert island task requiring participants to agree on what items to take with them and the divergent task was a debate about TV where students were assigned different viewpoints. Duff found that the convergent task led to more turn taking, shorter and less complex turns and more comprehensible input, but the divergent task led to more comprehensible output and more structural complexity. However, Ellis (2003) argued that Duff's results could also have been explained by the different discourse modes of the tasks: argumentative, in the case of the debate and discursive, in the case of the desert island task. Baralt (2009), more recently examined the divergent and convergent dimensions in terms of CAF and interactional measures and in this study the tasks did share the same discourse mode. She found no differences in interaction, except that more learners included personal anecdotes on the divergent task.

Most studies (Ellis, 2003) have shown that closed tasks lead to more negotiation of meaning, however it has been seen that other strategies which are used in other kinds of tasks, apart from negotiation of meaning, may also be beneficial to SLA. From this review of task-based studies, it can be concluded that the task features that have been found to promote negotiation of meaning are 1) tasks which require information exchange, 2) two-way information-gap tasks, 3) tasks with closed outcomes and 4) tasks which learners have prior knowledge of. These findings were an important consideration in choosing the three oral communication tasks in this study, with features that would elicit different levels of strategy use. Furthermore, in examining a wider range of task-based strategies and not limiting strategies to those involved in negotiation of meaning, this study addresses a gap in the literature.

3.5.3 Limitations of research into task dimensions

Although much research has been carried out whose findings have been indicative of a particular dimension influencing oral communication, fewer studies have manipulated tasks by isolating particular dimensions (for example, Gilabert, 2004; Michel et al., 2007; Robinson, 2001) and even then it has still not been possible to

Table 3.4

Summary of findings on interactional task dimensions

Task dimension	*Author & Year*	*Task*	*Measures*	*Relevant Findings*
Level of information exchange	Newton, 1991	Split & shared tasks	negotiation of meaning strategies	[+ required] +negotiation (on split tasks)
	Foster, 1998	Required & optional information exchange tasks	negotiation of meaning strategies	[+ required] +negotiation, +modified output -modified output in classroom compared to experimental setting
	Nakahama, Tyler and van Lier , 2001	Conversation & information gap	negotiation of meaning strategies	[+ required] + negotiation [+ optional] +discourse strategies (paraphrase), +longer complex turns, +negotiation of global problems and +range of opportunity for language use
Information flow	Lambert & Engler, 2007	Picture sequencing, decision-making, arranging a time	CAF	[+ shared] [+ open] +complexity [+ one way] +fluency [+ one way] [+ two way] +accuracy
	Long, 1980	Narrative, instructions, discussion	clarification requests confirmation checks comprehension checks	[+ two way] +meaning negotiation.
	Yule & McDonald, 1990; Aston, 1986	One-way/two-way tasks	negotiation of meaning strategies	[+ two way] +meaning negotiation.
	Gass and Varonis, 1985	Picture drawing & information gap	negotiation of meaning strategies	[+ two way] -meaning negotiation.
Goal orientation	Pica and Doughty, 1988;	Decision making & gardening	interactional strategies	[+closed] +meaning negotiation
	Berwick, 1990	Lego reconstruction		
	Crookes & Rulon, 1985	Conversation & information gap		[+closed] +feedback
	Rahimpour, 1997	Narrative	CAF negotiation of meaning strategies	[+closed] +fluency, +meaning negotiation
	Duff, 1986	Desert island & debate	CAF	[+convergent] + turn taking, +shorter turns, +meaning negotiation
	Baralt, 2009	Interactive discussion	CAF + interactional strategies	[+convergent] no significant difference in interaction

reliably account for all other confounding variables. As can be seen from the examples provided in this chapter the number of task variables that influence oral communication is potentially enormous. Furthermore, neither the level of interaction between different variables (for example between reasoning demands and goal orientation) is known, nor which variable contributes most to the effects observed. Taken together these variables make designing task-based research complicated, as there is no simple answer to the question of which task is best for language learning. Although, this study does not attempt to isolate task dimensions, it does take into consideration research findings in this area in the interpretation of the results and apart from using the measures of CAF to differentiate tasks it extends previous research by comparing a wider range of strategies, not only those involved in meaning negotiation.

Summing up, Chapter 3 has defined the concept of task and presented some basic criteria for identifying tasks. In doing so it was seen that there have been many different ways in which researchers and teachers have classified tasks. In task-based research, by taking a cognitive perspective, two models of attention have emerged: the Limited Attentional Capacity Model (Skehan, 1998) and the Multiple Resources Attentional Model (Robinson, 2001), which have been summarised and which are of particular relevance because they make different predictions about how particular task dimensions effect the complexity, fluency and accuracy of speech, as well as interactional strategies. From the work of these researchers two different frameworks for classifying task features have emerged. Particular emphasis was put on Robinson's framework because of its grounding in cognitive theory and because it was applied to the description of tasks in this study. Research on some cognitive and interactional task dimensions, which distinguish the tasks in this study, has been reviewed to shed light on the influence they have on spoken production and strategy use and, finally, some limitations of this field of research have been noted.

The chapters of this thesis, so far, have enlightened our understanding of speech production and oral communication in a foreign language. Theories of speech production (Levelt, 1989, Levelt et al., 1999) and cognitive theories of attention in L2 speech (Robinson, 2001; Skehan, 1998) have been drawn on to explain findings regarding strategy use and the complexity, accuracy and fluency of speech. Links have been drawn between three areas: language learner strategies, communication strategies and tasks. From the reviews of these studies, it has been seen that considerable overlap exists in these fields, with task and proficiency emerging as important dimensions in strategy use, on the one hand, and spoken performance / proficiency and strategies emerging in task-based studies, on the other hand. In the following chapters further evidence is gathered which attempts to address how strategy use and spoken production differ across three oral communication tasks and the role played by proficiency.

Chapter 4

Method

4.1 Design of the study

This chapter presents the methodological design of the study. Firstly, in order to collect data on learners' perceived strategy use, the preliminary stage of the study involved the development of a strategy questionnaire through extensive piloting and analyses of reliability and validity. Once a satisfactory instrument had been created the main stage of the study was undertaken.

In order to collect data on spoken performance a sample of twenty-four high and twenty-four low proficiency learners were recorded on video performing three communicative tasks. Learners performed tasks in pairs and completed the strategy questionnaire immediately after each one, in order to gather data on strategy use. From this sample of learners a sub-sample of four were chosen from each of the proficiency groups. This sub-sample, in addition to performing the tasks and completing the questionnaire, participated in stimulated recall sessions after each task.

A repeated-measures design was used in this study. The independent variables were *task* and *proficiency*. Task was the *within-subjects factor*, as the repeated-measures design involved examining the same participants across three different tasks: a picture story, an art description and an information-gap task. Proficiency was the *between-subjects factor*, as two different groups of participants with low and high proficiency levels were examined on each task.

The dependent variables were *perceived and actual strategy use* and *spoken production*. Perceived strategy use was operationalised as a list of 44 statements such as 'I spent a while thinking about what I was going to say' and 'I invented a word using a structure from English', which were rated by learners themselves on a 6-point scale on a strategy questionnaire for each task. Actual strategy use was measured in task performance transcripts and stimulated recall transcripts by the researcher. Spoken production was operationalised as fluency, accuracy, complexity and self repair for each task, as described in further detail in Section 4.5.3.

Given that participants were asked to carry out three tasks, *practice* and *carry-over effects* needed to be considered. Practice effects are produced by participants improving through repeated performance and carry-over effects are factors which affect performance in subsequent tasks, for example, the performance of an extremely difficult task first could reduce participants' motivation in subsequent tasks. To counterbalance such effects participants were assigned to one of three groups (A, B or C) in a Latin square design, as shown in Figure 4.1. In this way the sequence in which each group performed the tasks was different. As the between-subjects factor was proficiency, within each group, half of the participants were low and the other half were high proficiency students.

Table 4.1 *Latin square design*

Group	*First task*	*Second task*	*Third task*
A	Picture Story -Low	Art Description-Low	Information Gap-Low
	Picture Story –High	Art Description-High	Information Gap-High
B	Art Description-Low	Information Gap-Low	Picture Story-Low
	Art Description-High	Information Gap-High	Picture Story -High
C	Information Gap-Low	Picture Story-Low	Art Description-Low
	Information Gap-High	Picture Story -High	Art Description-High

The strategy questionnaire provided the data to group strategies into categories and compared learners' perceived strategy use across tasks and between proficiency groups. Transcripts of task performances and recall comments from the case studies produced data on actual strategy use and spoken production. Actual strategy use was then compared to perceived strategy use to examine the validity of the questionnaire and spoken production measures were compared across the three tasks and between groups.

4.2 Instruments

This section describes the main instruments used to elicit and measure perceived strategy use and spoken production across tasks. These instruments were a strategy questionnaire, three communicative tasks and a reflective questionnaire. Firstly, a substantial part of this section is dedicated to describing the development and piloting of the questionnaire, which is followed by an interpretation of the results and justification for the subsequent changes made. Secondly, the final questionnaire is presented along with the findings obtained regarding its construct validity, in terms of the grouping of strategy items into categories. Thirdly, the three communicative tasks are analysed in terms of their characteristics and, finally, a description of a short questionnaire which was used to gather information about learner's perceptions of the tasks is provided.

4.2.1. The Strategy Questionnaire

The strategy questionnaire was developed through various pilot studies. In total three versions were piloted with undergraduate students at the Universitat de Vic (UVIC) in 2005, 2007 and 2008, as will be explained in the next section. As a large number of strategy descriptions had been published, both in LLS and CS research, items for the questionnaire were chosen from existing taxonomies, rather than following a grounded approach. Hence, the questionnaire items were originally adapted from the LLS research, mainly from Victori (1992) and Victori and Lockhart (1995), but also from Cohen et al. (1996) and Oxford (1990), as well as Dörnyei and Scott (1997) from the area of CS.

Each version of the questionnaire was administered in the learners' L1, Catalan. Strategy descriptions were written in English first, translated to Catalan by the researcher and revised by an L1 Catalan speaker experienced in foreign language research. As for the sequence of items on the questionnaire, items were grouped together in chronological order to reflect the typical task process followed in the language classroom: before, during and after the task, as in Cohen et al. (1996). Participants were to respond to items on an even rating scale, in other words, one with no midpoint, to prevent respondents from choosing a neutral response, which often happens with Likert scales (Chaudron, 2003; Victori et al., 2009) and to force them into choose either end of the scale.

For each version of the questionnaire items were written following questionnaire construction guidelines as given in Dörnyei (2003) as far as possible. In other words, strategy descriptions were made as student-friendly as possible by avoiding technical language, simple sentences were used to aid comprehension of items, and parallel items were included to check whether respondents answered consistently. Unlike many LLS questionnaires which consist of general statements about strategy use, as the questionnaire in this study was to be used immediately after a task, items were worded in the past tense to make it clearer that they referred back to the particular task just performed.

4.2.1.1 The first pilot study

In the first pilot study, a total of 244 undergraduate students participated with various proficiency levels ranging from B1 to B2 on the CEFR. In this study they were considered representative of the population of EFL students at the UVIC, as they came from various degree courses, none of whom were specialising in English. The first version of the questionnaire (see Appendix B1) contained thirty-seven items on a four-point rating scale. The students completed the questionnaire after doing a communicative task in pairs. The task was an 8-frame picture story about a group of climbers who get lost on a mountain. Participants were asked to order the pictures together and then tell the story to the researcher. The task required participants to agree on a story and then describe the events together.

Data was collected over a two-month period in students' respective classroom hours. Teachers were given written instructions on how to administer the task and questionnaire in order to standardise the procedure as far as possible. To ensure participants responded according to their own perceptions and not according to what they thought was expected, they completed the questionnaire anonymously without conferring with other students. Also, students were reminded to respond according to the task they had just done and not according to their usual or typical strategy use.

The first aim of this pilot study was to examine the underlying structure of the questionnaire and to see if items could be grouped into factors by exploratory factor analysis, according to the inter-relations between them. The quantitative data from the 244 questionnaires was entered into the SPSS 11.5.1 for Windows statistical package to compute descriptive statistics and perform statistical tests for this purpose.

Results of the factor analysis showed that oral communication strategies could be defined by four distinct categories: Factor 1: Evaluating and Affective, Factor 2: Conversation-flow Maintenance, Factor: Compensation and Factor 4: Planning & Overmonitoring. The categories were labelled according to the nature of the individual strategies which loaded most strongly within each factor. The reliability of the questionnaire, measured by Cronbach's Alpha, was adequate[34] [α = .76, N=244] for the whole instrument. The four factors accounted for 34% of the variance and each had the following Cronbach Alpha values: α = .76 for Factor 1, α = .70 for Factor 2, α = .69 for Factor 3 and α = .64 for Factor 4.

[34] According to Pallant (2005) the Cronbach alpha of a scale should ideally be above .7.

Four volunteers from this sample population took part in a more qualitative study. They followed the same procedure as the larger sample except that they were recorded doing the task on video and took part in stimulated recall sessions immediately after completing the questionnaire. The stimulated recall sessions involved the learners verbalising what they had been thinking while performing the tasks. The aim of this was to examine whether perceived strategy use (PSU), measured on the questionnaire, reflected actual strategy use (ASU), measured in task transcripts and stimulated recall comments, and thereby identify consistencies or discrepancies on the questionnaire. The qualitative data from the sub-sample was compared to their quantitative data for this purpose. A total of 12 complete task transcripts (four participants across three tasks) and accompanying recall sessions were transcribed and coded. For each of the participants a coding sheet was devised (Gass & Mackey, 2000) where the task transcript was divided into excerpts according to the recall comments referring to them. These excerpts were then coded for the 37 strategies on the questionnaire. Inter-rater reliability was measured between two researchers, the second of whom coded 25% of the data following written guidelines. Percentage agreement over all the measures coded was 96%.

Table 4.2 summarises the qualitative analysis from the sub-sample. Of the thirty-seven strategies on the questionnaire, thirty-two (86%) were identified in the data. For fifteen items (41%) their extent of use was reflected on the questionnaire. Discrepancies were found in the extent of use for fourteen items (38%) and extent of use could not be confirmed for three items (8%). Recall comments pointed to multiple item interpretations, item interpretations alternative to the one intended by the researcher and an inability to assess strategy use accurately as possible sources of discrepancy.

Table 4.2

Consistency between perceived strategy use and actual strategy use (N=4) in the first pilot study

Strategy Description	*PSU versus ASU*
Factor 1 Evaluating and Person Monitoring	
34. I assessed how well I had done.	consistent
*37. I thought about the aspects I should improve...	unconfirmed
35 I identified my problems.	consistent
5. I tried to relax (breathing deeply, laughing etc).	unconfirmed
6. I encouraged myself to do the activity well	unconfirmed
20. I concentrated on the activity without feeling distracted	consistent
Factor 2 Conversation-Flow Maintenance	
15. I used exclamations and other typical English expressions.	discrepancy: PSU overestimated
*33.I was satisfied with the way I had completed the activity	consistent
*16. I tried to speak like a native speaker.	unconfirmed
13. I tried not to make mistakes	discrepancy: ASU differences not captured
*12.I used expressions I remembered	discrepancy: PSU overestimated
*14. When I realised I had made a mistake, I tried to correct it	discrepancy: ASU differences not captured
*22. I helped my conversation partner ...	discrepancy: PSU overestimated
Factor 3 Compensation	
*30. I used gestures to help my partner understand me.	consistent
*27. I used a word from my own language.	consistent
*26. I changed the topic	consistent
*28. I invented a word/phrase	consistent
*24. I asked my partner or someone else for help	discrepancy: ASU differences not captured
*25. I didn't finish my sentence.	consistent
32. I used a word from another language ...	consistent
*31. I used more general words ...	discrepancy: ASU differences not captured
Factor 4 Planning and Overmonitoring	
8. I thought about how to structure sentences before speaking	extent of use unconfirmed
9. I focused on grammar when I spoke	extent of use unconfirmed
*17. I only used language I was sure of	discrepancy: ASU differences contradictory
11. I focused more on how I spoke than what I was saying	discrepancy: ASU differences not captured
4. I thought about how to organise my ideas ...	unconfirmed
3. I spent a while thinking about what I was going to say.	discrepancy: ASU differences not captured
10. I avoided talking about topics ...	extent of use unconfirmed
*23. I adjusted my speech so that I would be understood ...	discrepancy: PSU overestimated
Unloaded items	
1. I checked that I had understood the instructions.	consistent
*2. I recognised the task as I had done a similar one before.	consistent
*7. I thought ... in Catalan and then translated it.	consistent
18. I summarised or repeated an idea I wanted to emphasize.	discrepancy: PSU overestimated
*19. I used words (like 'well', 'so') to fill pauses.	discrepancy: PSU overestimated
21. When my conversation partner spoke, I paid attention.	consistent
29. I used other ways of expressing what I wanted to say	discrepancy: ASU differences not captured
36. I asked someone to tell me how I had done.	consistent

Note. PSU – Perceived strategy use (*Measured in quantitative data from mean questionnaire responses)*
ASU – Actual strategy use *(Measured in qualitative data by strategy coding in task transcripts and recall comments)*

All in all, these results informed changes to the questionnaire to increase its reliability and validity. Although the Cronbach alpha for the whole instrument was adequate, the factors accounted for just 34% of variance in the data, values which could be improved. Secondly, content validity of the questionnaire seemed to be threatened by the discrepancies between PSU and ASU in the qualitative analysis. Ideally learners' interpretations of each questionnaire item needed to be examined in order to improve the reliability of items. Furthermore, in a related study (Khan, 2006) examining strategy variation across different tasks with the same questionnaire, few differences in strategy use were found, despite cognitive and interactional differences between tasks. One reason for this may have been that interactional strategies had not been included. Nakatani (2006), who included interactional strategies on his questionnaire, found some differences in these kinds of strategies, therefore they were added in an attempt to elicit more strategy differences across the tasks, which was one of the aims of the present study. Consequently, a second questionnaire pilot was undertaken including a wider range of strategies and item interpretation was examined by interviewing learners.

4.2.1.2 The second pilot study

For the second pilot, 331 undergraduates studying at the UVIC participated with proficiency levels ranging from A1 to C1 on the CEFR. Two low and two high proficiency students, who volunteered from the sample population and who were representative of the two proficiency groups to be investigated in the main study, took part in structured interviews.

The second version of the questionnaire (see Appendix B2) contained sixty-five items on a 4-point scale, an expanded version of the first. More interactional strategies were included. In this version each item was coded prior to piloting, according to the three categories of CS (direct, indirect and interactional) and the four types of communication problem (resource deficit, processing time pressure, own performance problem and other performance problem) proposed by Dörnyei and Scott (1997). Metacognitive strategies from the first version of the questionnaire were also retained to capture the planning, monitoring and evaluating of the task process.

The communicative task used was a 12-frame picture story called *The Honeymoon* (Fletcher & Birt, 1989), as seen in Appendix H1, which was also used in the main study (Section 4.2.2 provides a more detailed description of the task's features and administration). In the piloting of the first version of the questionnaire an 8-frame picture story had been employed, but had elicited small samples of spoken production in some cases, which meant learners had less opportunity for using strategies. Therefore four longer picture stories were piloted with 60 mixed-ability students. Both students and teachers perceptions of the tasks were gathered for each story with the Reflective questionnaire (RQ), also used in the main study (see Appendix G and Section 4.2.3, for a description). *The Honeymoon* was the task chosen because it was easy enough for even low proficiency participants to be able to produce some language in doing the task but also varied and interesting enough to be challenging for the high level students.

Some changes were also made to the task administration procedure, which were informed by the first pilot study. Participants took turns describing each picture in order to give each interlocutor an equal opportunity to speak. They were explicitly told that they had time to prepare, so that they wouldn't feel obliged to begin the task immediately and they were told to talk for about five minutes to ensure they would provide a minimum response.

The quantitative data was collected over a three-month period from November 2007 to January 2008. Participants did the picture story task and then completed the questionnaire during class time. The researcher supervised all these sessions herself and ensured that both the task and questionnaire were employed in a standardised way.

Structured interviews, as suggested in Block (1998), were conducted to establish the questionnaire content validity, in other words, to find out if learners were responding to the questions as the researcher had intended. The reasons or motivations behind the responses learners made could also be examined, as in Victori et al. (2009). These interviews were conducted during classroom hours. Participants were videoed doing the task in pairs. They then completed the questionnaire and were interviewed individually by the researcher in their L1. Item and scale interpretation was elicited, particularly for the strategies which did not involve overt behaviours and were more difficult to identify in task transcripts. Interviews were digitally recorded and the four twenty-minute (approx.) interviews were transcribed and translated into English by the researcher.

Once again, quantitative data analysis of the questionnaire was in the form of descriptive statistics and a factor analysis and the qualitative analysis of the transcripts of the structured interviews involved dividing transcripts according to the strategy item referred to on the questionnaire and assessing whether learners were interpreting the item as intended. Also interpretations of each point on the scale were grouped together.

Firstly, the qualitative data analysis is described. Summarising findings from the structured interviews, learners indicated which items were being interpreted in multiple ways or in ways alternative to those expected by the researcher. Transcript excerpts illustrating which questionnaire items were considered either problematic or unproblematic can be found in Appendix B3. Interviews also revealed the following insights about self-report instruments, some of which have been discussed before in the literature in this field (Barcelos, 2003; Cohen, 2003; Victori et al., 2009): a) learners could identify parallel items, b) learners found a few strategies difficult to distinguish between, c) the strategy descriptions tapped into a variety of sources of experience particularly concerning tasks, interlocutors, learning contexts and the strategies learners recognised as *typical* of them and d) learners reported that they were not always conscious of using particular strategies.

The interpretations of the 4-point scale, as gathered by the interviews with students, also provided valuable information about the real scale of magnitude that learners were using in describing strategy use. The researcher's question was "*What do you mean by a 0 (or a 1, 2 or 3)?*" regarding scale responses to each questionnaire item. Responses to this question for all the different questionnaire items and interviewees were gathered together and matched with the scale response they referred to. Table 4.3 illustrates the range of responses for each point on the scale.

When learners responded with a *0* (not at all), the bottom of the scale, they were sure that they didn't use that particular strategy and explained an alternative behaviour or revealed a negative attitude towards the strategy.

A *1*(a little) meant that the strategy was used once or twice in most cases, and in fewer cases, two or three times. It meant *not much* for most learners. It also often meant that the learner couldn't remember if they had used the strategy. In a couple of cases the learner hadn't used the strategy but had marked a *1*.

A *2* (quite a bit) was the most popular answer on the questionnaire and elicited the widest range of interpretations. It meant that the strategy was used more than two or three times in most cases. It meant that the strategy was used but not all the time or that

Table 4.3

Second pilot study: scale interpretation on second version of strategy questionnaire

Scale response	*Scale Interpretation*
What do you mean by a 3 (a lot)?	yes more than three times / more than three maybe four times more than five over several years it meant I concentrated fully quite a bit – no, a lot yes, this one yes / yes, I think so, yes. I do this, I did it here, I do it everywhere a lot sounds like you're obsessed
What do you mean by a 2 (quite a bit)?	it means I looked (at the pictures) but I didn't prepare it in detail I need a mid-scale point sometimes I did, sometimes I didn't / yes but I didn't want to spend too much time I was thinking of other things, so not a lot / I wasn't fully concentrating because I was tired, so not a lot / I was concentrating but I was waiting for my partner to speak / yes, but as you think of other things, not a lot / yes, but I was thinking of how to go on too / yes, doing it, but not all the time / because I didn't get obsessed about it. a few times, two or three / once or twice? three times, maybe /about two or three times /more than once, twice maybe / two, three times I did this 3 or 4 times Well, I find it difficult to put *a lot*, it's like *a lot*, two or three or up to five would be *quite a bit* maybe four or five.
What do you mean by a 1 (a little)?	can't remember / maybe, I don't know / possibly / it's possible, I can't remember very well / maybe yes... or not much / Ok so even though you don't remember you think you could have done it without realising. Yes no, but I'll say a *1 /* no, but I'm learning yes, a little but I didn't do it all the time maybe once, yes but not much / Once? Well, not much but one maybe / yes, I did this once / well, maybe at one point / yes I did this once, not much / maybe once not much maybe once or twice. two or three times / No maybe two or three times. And little what would that be? That would be not thinking about it as carefully. look and not prepare at all
What do you mean by a 0 (not at all)?	no no, because I don't like to. No I didn't. I did it as I was going along. No, no. I thought about the story but not how I would tell it. No, I wouldn't do it even if I had a dictionary next to me. Unconsciously I suppose I did, but it wasn't like I'm going to think of an expression and use it. No, I didn't do it. I said it all in one go and I didn't want to repeat or highlight anything.

Note: Responses are translations from Catalan the strategy was being used at the same time as learners were doing/thinking about other things. Learners responded with a *2*, if they had a negative attitude to a strategy. In other words, they didn't want to respond with a 3 (*a lot*) because it looked bad. Therefore, in these cases, a *2* could also mean that the strategy was used a lot.

A *3* meant more than 3 or 4 times. It was for strategies that learners felt typified themselves as expressed by the learner who said that a particular strategy had been used *over several years* and had often been noticed. In contrast to the bottom of the scale, which learners marked when they were confident or sure that they hadn't used a strategy, learners were reluctant to mark the top of the scale as for some strategies, *a lot* held negative connotations.

Concluding from the scale interpretation, learners' responses revealed that when learners could quantify their strategy use, the magnitude of the scale was from 0 to just over 5. It showed that the low end of the scale was for strategies that learners were certain they did not use or couldn't remember using and that high strategy use was represented by a *2* as well as a *3,* the top end of the scale. Learners' scale interpretation also revealed their negative or positive attitudes to certain strategies. They preferred to use some strategies and tried to avoid others, which biased their scale responses either towards the low or high end of the scale.

Secondly, results of the quantitative analysis showed that oral communication strategies could be defined by five distinct categories: Factor 1- Interactional, Factor 2-Compensation, Factor 3-Planning, Factor 4-Evaluating and Overmonitoring and Factor 5-Conversation-flow Maintenance. Four of these categories were the same or similar to categories from the first pilot study, and Factor 1 clearly encompassed the additional interactional strategies included in this second pilot. The Cronbach alpha was very high [α =.91, N=331] and the five factors, which accounted for 36% of the variance, had the following Cronbach alpha values: α = .87 for Factor 1, α = .86 for Factor 2, α = .73 for Factor 3 and α = .77 for Factor 4 and α = .74 for Factor 5.

These values had improved compared to the first version of the questionnaire. Nevertheless, as students themselves remarked, the questionnaire was too long. It had been lengthened to include interactional strategies but also to pick out the most reliable items for the final version. Hence, items on the questionnaire were retained according to an evaluation of the descriptive statistics, the factor analysis and structured interviews. Descriptive statistics revealed strategies which were rarely used or not used at all. Factor analysis detected items with low loadings on their respective factors, because they contributed little to the underlying construct and structured interviews pointed to items with problematic item interpretation. In these cases the items were deleted. The item changes made to the second version of the questionnaire are described in Table 4.4. As the pilot studies had only been based on the Picture Story task, the other tasks to be used in the main study were taken into consideration before removing a strategy. If it was believed that a strategy may be used on a different task type, it was not removed. In this way a total of twenty-one items were removed from the second questionnaire. Furthermore, the scale on the questionnaire was expanded from the original 4-point scale to a 6-point scale in order to capture more overall variance in strategy use.

Table 4.4

Item changes to the second version of the strategy questionnaire

Strategy Item	*Change made*	*Reason for change*
26. When I thought my partner didn't understand... I used simpler words.	Removed	Low factor loading Low mean use
59. When I had a problem with language... I repeated myself while I thought of what to say.	Removed	Low factor loading Low mean use
64. I asked someone how I had done.	Reworded to... 41. I asked someone to tell me how I had done.	Low factor loading Low mean use
51. When I had a problem with language... I used a word from another language.	Removed	Low factor loading Low mean use
34. When I didn't understand... I carried on as if I had understood.	Reworded to... 22. When I didn't understand my partner I carried on as if I'd understood.	Low factor loading Low mean use
58. When I had a problem with language... I said a series of incorrect words before getting the right one.	Reworded to... 39. I tried various incorrect forms before I got to what I wanted to say.	Low factor loading Low mean use
6. I made notes to help plan the task.	Reworded to... 4. I made notes to help me do the activity.	Low factor loading Low mean use
43. When I had a problem with language... I changed the subject	Removed	Low factor loading Low mean use
50. When I had a problem with language... I used more general or simple words ...	Reworded to... 40. I used a more general or simple word when I didn't know the specific one.	Low factor loading
14. I used language I was sure of.	Retained 10. I used English I was sure of.	Low factor loading
53. When I had a problem with language... I used non-specific words like 'thing', 'something'.	Removed	Low factor loading Low mean use
1 I recognised the task as similar to one I had done before.	Reworded to... 1. I recognised the activity because I had done a similar one.	Unloaded item
5. I looked up words in my dictionary/book.	Removed	Unloaded item Structured interviews
20. I made a mental note of a piece of language someone else used.	Removed	Structured interviews
4. I encouraged myself to do well.	Removed	Structured interviews
39. When I had a problem with language... I used a word which sounded the same...	Removed	Structured interviews
21. I went on for too long explaining something.	Removed	Structured interviews
22. I asked for help in English.	Reworded to... 27. I asked for help.	Structured interviews
24. I asked for help in Catalan/Spanish.	Reworded to... 27. I asked for help.	Structured interviews

Table 4.4 (continued)

Item changes to the second version of the strategy questionnaire

Strategy Item	*Change made*	*Reason for change*
28. When I thought the others hadn't understood... I explained or gave an example.	Reworded to... 16. When my partner didn’t understand me I explained in another way.	Structured interviews
41. When I knew I had made a mistake I just left it because there wasn't time.	Removed	Structured interviews
47. When I had a problem with language...I used a word from Catalan with English pronunciation.	Reworded to... 31. I used a Catalan / Spanish word but with English pronunciation.	Structured interviews
55. ...I translated a word, expression or structure.	Reworded to... 36. I translated literally from Catalan/Spanish.	Structured interviews
62. I assessed how well I had done.	Reworded to... 42. I thought about how I’d done in general.	Structured interviews
10. I focused on my pronunciation to try and sound like a native.	Removed	Structured interviews
12. I summarised or repeated an idea to highlight its importance.	Removed	Structured interviews
16. I corrected my partner.	Removed	Structured interviews Low mean use
19. When my partner spoke, I focused on what they said.	Removed	Structured interviews
20. I focused on language my partner used that I didn’t know.	Removed	Structured interviews
21. I spent too much time explaining something.	Removed	Structured interviews Low mean use
23. When I spoke I looked at how my partner was reacting.	Removed	Low factor loading
35. When I didn’t understand my partner... I asked questions to check that I had understood correctly.	Removed	Low mean use
44. I said something completely different when I couldn’t find the words I needed.	Removed	Low factor loading Low mean use
59. I repeated what my partner said until I thought of what I wanted to say.	Removed	Low factor loading Low mean use
8. I used set expressions I remembered.	Reworded to... 5. I used expressions in English that I remembered.	Structured interviews

4.2.1.3 The third pilot study

After the previous two pilot studies only the most robust items were left on the questionnaire for the third pilot study. The Strategy Questionnaire (SQ), as seen in Appendix A, now consisted of 44 items on a 6-point rating scale (0-5). To check its reliability it was administered to 375 students, whose English proficiency ranged from A1 to C1 on the CEFR, and, as for the second pilot study, they carried out *The Honeymoon* (Picture Story) task.

The quantitative data obtained was entered into SPSS 15 statistical package. To run a factor analysis a total of 330 participants were retained from the original sample of 375 according to the following criteria: 1) they had completed at least 90% of the questionnaire, 2) their L1 was either Spanish or Catalan, and 3) their ages were between 16 and 24.

The Cronbach alpha for the whole questionnaire was quite high [α = .90], showing that the questionnaire's internal consistency had barely been affected by the removal of the 21 items from the second version of the questionnaire. This suggests that the items on the final SQ reliably represent the underlying construct of oral communication strategies: *the conscious thoughts or behaviours learners employ in order to engage in oral communication*.

The SQ data was suitable for factor analysis as shown by the Kaiser-Meyer-Olkin value (KMO= .861), exceeding the recommended value of .6. Also, Bartlett's test for sphericity reached statistical significance (p= .000). Initial principal components analysis revealed the presence of 12 components with eigenvalues exceeding 1, explaining 64.3% of the variance. A further Parallel Analysis recommended retaining 6 of these components: the eigenvalues of these 6 components exceeded the corresponding criterion values for a randomly generated data matrix of the same size

(44 variables x 330 respondents). However, on examining the scree plot (see Appendix C) and extracting four, five and six factors, five factors which could be interpreted most reliably were retained. As shown in Table 4.5, these factors explained 44.5 % of the total variance.

Table 4.5

Total variance explained by the five factors on the Strategy Questionnaire

Factor	*Rotation Sums of Squared Loadings*		
	Total	*% of Variance*	*Cumulative %*
1	9.49	21.58	21.58
2	3.54	8.05	29.63
3	2.72	6.18	35.81
4	2.01	4.56	40.37
5	1.79	4.08	44.45

Extraction Method: Principal Component Analysis.

Cronbach alphas were: Factor 1 α = .91 (12 items), Factor 2 α =.87 (14 items), Factor 3 α = .62 (8 items), Factor 4 α = .72 (5 items) and Factor 5 α = .71 (4 items) for the 38 remaining items. These factors were labelled Factor 1: Interactional, Factor 2: Compensation, Factor 3: Conversation-flow Maintenance, Factor 4: Planning and Factor 5: Evaluating strategies, according to the individual items which loaded most strongly within them. Table 4.6 presents the strategies within each factor and their factor loadings.

Factor 1 was labelled *Interactional* strategies as all but one item were items that fitted into the previously described *Interactional* category of problem management in Dörnyei and Scott's (1997) taxonomy (see Chapter 2, Table 2.5), grounded in Levelt's (1989) model of speech production. These strategies occur during post-articulatory monitoring of one's own or the interlocutor's speech. Twelve items loaded onto this factor: Items 19 to 25 began with the stem *When I didn't understand my partner*:

Table 4.6

Factor loadings for the 44-item Strategy Questionnaire

Strategy	*Factor Loading* 1	2	3	4	5
Factor 1 Interactional (12 items) α =.909					
21. When I didn't understand ... I asked him/her to repeat...	.770				
20. When I didn't understand ... I asked for an explanation...	.758				
24. When I didn't understand ... I told him/her ...	.732				
18. When my partner didn't understand ... I repeated ...	.718				
15. When my partner didn't understand ... I asked questions ...	.702				
19. When I didn't understand ... I asked them to speak slower	.694				
14. When my partner didn't understand ... I spoke slower.	.685				
16. When my partner didn't understand ... I explained in another way...	.683				
25. When I didn't understand ...I repeated ... in my own way...	.669				
23. When I didn't understand ... I guessed ...	.622				
22. When I didn't understand ... I carried on as if I'd understood...	.448	.415			
32. I used an example or a description to express a word.	.356				
Factor 2 Compensation (14 items) α =.868					
29. When I had a problem ...I spoke in Catalan / Spanish ...		.714			
30. When I had a problem ...I invented a word ...		.667			
38. When I had a problem... I left out a word ...		.644			
36. When I had a problem ...I translated literally from Catalan/Spanish.		.636			
31. When I had a problem ...I used ... Catalan with English pronunciation		.622			
39. When I had a problem ... I tried various incorrect forms ...		.609			
28. When I had a problem ... I didn’t finish my sentence ...		.601			
37. When I had a problem ... I mumbled something		.585			
34. When I had a problem... I paused for a particularly long time ...		.556		.425	
17. When my partner didn’t understand...I explained in Catalan/Spanish.	.374	.521			
8. While speaking... I risked saying things...		.491			
35. When I had a problem... I started ... and then I restructured...		.454			
27. When I had a problem... I asked for help.		.408			
40. When I had a problem... I used a more general or simple word ...		.406			
Factor 3 Conversation Flow Maintenance (8 items) α =.624					
11. While speaking... I used gesture...			.648		
33. When I had a problem... I used gesture...		.357	.588		
12. While speaking... I maintained the conversation...			.539		
7. While speaking... I used words or phrases like "well", "let me see"...			.516		
26. When I had a problem... when I made a mistake I corrected myself...			.465		
5. While speaking... I used expressions...			.410		
1. I recognised the activity because I had done a similar one.			.339		
6. I avoided errors.		-.395	.323		
Factor 4 Planning (5 items) α =.718					
3. Before speaking... I thought about how I would explain...				.717	
2. Before speaking...I spent a while thinking ...				.702	
13. While speaking... I thought about how to structure sentences...				.614	
10. I used English I was sure of.		-.314		.383	
9. I focused on the activity without being distracted.				.338	
Factor 5 Evaluating (4 items) α =.707					
43. After speaking... I remembered specific problems I'd had.					.805
42. After speaking...I thought about how I'd done in general.					.730
44. After speaking...I thought about which aspects I had to improve ...					.699
41. After speaking...I asked someone to tell me how I had done.					.410

Item 19 (asking to speak slower), Item 20 (asking for clarification), Item 21 (asking for repetition), Item 22 (feigning understanding), Item 23 (guessing), Item 24 (expressing non-understanding) and Item 25 (interpretative summary). Items 14, 15, 16 and 18 began with the stem *When my partner didn't understand me*: Item 14 (speaking slower), Item 15 (comprehension check), Item 16 (clarification by circumlocution) and Item 18 (clarification by repetition). Item 32, (circumlocution), which is often classified as a compensation strategy, was the lowest loading strategy and may have loaded onto this factor instead of the *Compensation* strategies factor, because it is distinct from the other *Compensation* strategies. This distinction lies in the fact that it involves a larger change to the preverbal message at the conceptual preparation stage of speech processing, a distinction noted by other researchers, for example, it is distinguished from other strategies, as a *reconceptualisation* strategy, by Poulisse (1993).

Factor 2 was labelled *Compensation* strategies as the majority of items (11) had been previously coded as *direct* strategies, used to overcome a lack of L2 linguistic resources, *resource deficit* strategies, according to Dörnyei and Scott (1997). These strategies are employed mainly to overcome lexical deficits. Fourteen items loaded onto this factor. These strategies included four *L1-based strategies,* where learners use their L1 to overcome their resource deficits: Item 29 (code switching), Item 30 (word coinage), Item 36 (literal translation) and Item 31 (foreignising). They also included four *avoidance-based strategies,* in which the learner abandons trying to get their message across: Item 38 (omission), Item 28 (message abandonment) Item 37 (mumbling) and Item 27 (direct appeal for help). They also included four *L2-based strategies,* in which the learner continues with his/her original plan, using existing L2 knowledge to adapt the message: Item 39 (retrieval), Item 8 (risk taking), Item 40 (approximation) and Item 35 (restructuring). The remaining two strategies were Item 17 and 34. Item 34 (long pause) fits in with the L2-based strategies, as it doesn't involve overt use of L1, as well as compensating for resource deficits by providing the learner with more time to process information (Dörnyei and Scott, 1997). Item 17 (clarification by code switching), which is coded as an *interactional* strategy in Dörnyei & Scott (1997), fits with the L1-based strategies as it involves using the L1 to overcome the other participants' comprehension problems.

Items within Factor 3 were *Conversation-flow Maintenance* (CFM) strategies. Rather than Compensation strategies to overcome resource deficits, as in Factor 2, or Interactional strategies as in Factor 1, these strategies maintained or enhanced the conversation flow without resorting to L1. The top two loading items (Items 11 and 33) were parallel items that involved maintaining the conversation flow by using non-verbal means (gesture). The other six strategies were Item 12 (maintaining conversation), Item 7 (using fillers), Item 26 (self-repair), Item 5 (using expressions), Item 1 (task familiarity) and Item 6 (avoiding error). These strategies involve using existing L2 knowledge, or in the case of Item 1, prior task/topic knowledge, to aid comprehension and production (described as cognitive *transfer* strategies in O'Malley & Chamot, 1990).

Items in Factor 4 and 5 were both metacognitive in nature. They were indirect strategies which do not involve target language use directly, but which are involved in managing the communication task. In Factor 4 the top three items were *Planning* strategies: planning how to structure what to say before the task (Item 3), planning the content of what to say before the task (Item 2) and thinking about how to structure sentences while speaking (Item 13), an online planning strategy. Item 10 (I used English I was sure of) implies avoiding risks and Item 9 (I focused on the activity...), directed attention, both of which may involve a degree of foresight and planning, too.

Factor 5 was labelled *Evaluating* strategies. The four items loading onto this factor were the last four items on the questionnaire related to assessing the success of the learning activity: Item 41 (other evaluation), Item 42 (self evaluation), Item 43 (identifying problems) and Item 44 (aspects to improve).

For the above mentioned reasons the five categories obtained were considered plausible from a theoretical point of view. The five categories on the SQ were comparable to those already established in the strategy literature (Dörnyei & Scott, 1997; Nakatani, 2006; O'Malley & Chamot, 1990; Oxford, 1990). For example, Nakatani (2006), who also developed a strategy questionnaire for oral communication (OCSI), obtained categories drawn up by factor analysis which overlapped with the categories in this study, although categories were named differently. This gave further support to the validity of the items on the SQ.

To sum up, developing the SQ involved piloting three different versions. The first was administered to 244 students after they had completed a picture story task. Four of these students participated in stimulated recall sessions. Results informed changes to the SQ and the use of a different task in subsequent pilots. The second version of the SQ was expanded to include interactional strategies. It was administered to 365 students after the new picture story task. Four of these students took part in structured interviews, revealing their interpretations of the SQ items and scale. Results of the second pilot study led to the final 44-item SQ which was piloted with 375 students. The final pilot revealed that 1) there was a general consistency across the pilot studies in the categories of strategies obtained, which suggests that the SQ structure is fairly stable and has construct validity, with the variance explained by the factors increasing from 34% to 44%, 2) the SQ categories were comparable to categories in other existing taxonomies and 3) piloting improved the questionnaire's overall reliability, as Cronbach alphas went from $\alpha = .76$ to $\alpha = .90$.

4.2.2 The three oral communication tasks

The three oral communication tasks: a picture story, an art description and an information-gap task, were chosen for the final study informed by the research literature on tasks and by task piloting. Firstly, a brief description of the tasks and how they were implemented is given; secondly the criteria used in selecting tasks are discussed and finally the analysis of particular task characteristics is presented.

4.2.2.1 Task implementation

In the Picture Story (see Appendix H1) participants had a 12-frame picture story about a couple who go on a honeymoon where everything goes wrong. They were asked to tell the story together taking turns to describe each picture. The task required participants to describe the events represented in the pictures. The Picture Story was designed to be the least difficult of the three tasks.

In the Art Description (see Appendix H2) participants were asked to imagine they were in an art gallery. One person was the Art Expert and the other the Art Novice. The expert was asked to describe a contemporary painting to the novice (a picture was provided for both participants), inventing their own personal interpretation. The novice had to pretend to know nothing about art and ask questions about elements in the painting. Participants then reversed roles (the first picture was replaced by a second one). This task was considered to be the most difficult.

In the Information Gap (see Appendix H3) participants were given a series of eleven pictures. They were asked not to show their partner their pictures but to describe them in enough detail so that, they could determine whether they had the same or different pictures. This task was considered of medium difficulty of the three.

4.2.2.2. Task selection

The main criterion for choosing the three task types (storytelling, role-play, interactional) was that they were to be sufficiently different to elicit different responses by the learners on the SQ. This criterion emerged from the findings of a previous study (Khan, 2006) and task piloting sessions with the SQ.

In one particular task pilot very few differences in perceived strategy use were found when only one task type had been employed. A narrative picture story task had been manipulated for two dimensions, task complexity [+/- Here and Now] and information flow [shared/split tasks], as task-based studies have found differences in spoken production in such cases (e.g. Lambert & Engler, 2007). However, learners perceived very few differences in terms of strategy use. Therefore, it was considered best to use different task types in an attempt to elicit more strategy differences with the SQ, as in Khan (2006), rather than manipulate dimensions of the same task type.

The Honeymoon picture story was chosen because of its length, the lack of ambiguity of pictures and its appropriacy for all proficiency levels. Students perceived it to be the easiest and most motivating of all the picture-story tasks.

The Art Description was chosen because of its difficulty compared to the other two tasks. Task difficulty was confirmed in a previous study (Khan, 2006) where learners' perceived it to be significantly more difficult, and they also claimed in recall comments that this was because of its abstract nature. Other researchers' work, such as Prabhu's (1987), support such findings, as they claim that degree of abstractness is a factor that increases task difficulty. Task-based research has shown that task difficulty affects fluency, accuracy and complexity of speech (Bygate et al., 2001; Robinson, 2005), which in turn may affect learners' strategic approach.

The Information Gap was chosen because of its interactional nature, opportunity for negotiation of meaning and its high number of uncommon lexical items compared to the other tasks. Interaction studies have shown that information-gap tasks elicit more negotiation of meaning (e.g. Brown & Yule, 1983; Gass, 1997, 2002; Pica and Doughty, 1985; Yule & McDonald, 1990) strategies. Furthermore, a previous study (Khan, 2006) had shown that intermediate level students were not familiar with many of the lexical items in the task, a factor which CS research has shown increases compensatory strategy use (e.g. Littlemore, 2001; Poulisse, 1990).

Apart from the differences selected above, it was ensured that the tasks had the following characteristics in common:

1) the tasks were communicative, as the aim was to reflect, as much as possible, the NNS-NNS oral task format in the EFL classroom.
2) the tasks were suitable for mixed abilities, as both low and high proficiency groups were being compared in the study, therefore the tasks needed to elicit at least a minimum contribution from the low group while providing enough challenge for the high group.
3) the tasks provided each student with an equal opportunity to participate.
4) the task input was in the form of a visual prompt

Criterion 3) was necessary as the balance of participation can be affected if one learner feels inhibited by another, if one learner takes on the role of *helper* for another to communicate, making a limited contribution to the discussion themselves or if one learner dominates the interaction (O'Sullivan, 2000). Therefore, measures were taken in the task design to limit these effects.

4.2.2.3 Analysis of tasks

After the tasks had been selected they were analysed for a number of features, which posed different constraints on the participants (Bygate et al., 2001; Gilabert, 2004; Robinson, 2005). Such an analysis provided a prediction of how the tasks were expected to be performed in terms of fluency, accuracy and complexity. As will be recalled, Robinson's (2005) framework of task complexity (Chapter 3, Table 3.2) was used. Robinson distinguishes between task complexity, task conditions and task difficulty as the major factors which determine how learners perform on a task. Task complexity is divided into resource directing and resource dispersing dimensions, the former make conceptual/linguistic demands on the learner whereas the latter make performative/procedural demands. Table 4.7 summarises the differences in task complexity for each of the three tasks in the study.

In the resource-directing dimension, number of elements, 'Here-and-Now' and reasoning demands were compared across tasks. The Picture Story had few elements: only one honeymoon couple who acted together from one frame of the story to the next. The Information Gap also had few elements in each set of pictures whereas the art description had the most elements (at least five) which had to be referred to and distinguished from each other simultaneously.

As for 'Here-and-Now', learners were allowed do all three tasks with the pictures in front of them, using present tenses if they wished [+Here and Now], rather than having the pictures removed and relying on working memory to do the tasks [-Here and Now].

Reasoning demands were greatest in the Art Description as learners were required to invent reasons for the relationship between elements in the picture or their interpretations of the elements. Reasoning was less necessary in the Picture Story, as the story sequence was clear enough so as not to require difficult reasoning or justification of the order of events and reasoning was least necessary in the Information Gap as no justification of picture differences or similarities was needed.

Table 4.7

Comparison of task complexity (cognitive factors) across the three tasks

	Picture Story	*Art Description*	*Information Gap*
(*a) resource-directing*			
Elements	low	high	low
Here-and-Now	=	=	=
reasoning demands	medium	high	low
(b) resource-dispersing			
Planning	?	?	?
single task	=	=	=
prior knowledge	high	low	medium

In the resource-dispersing dimension, planning, single task and prior knowledge were considered. Planning time was unlimited for all three tasks in order to mimic authentic classroom conditions and observe whether learners manipulated this dimension depending on the task. This meant, for example, that learners could compensate for the difficulty of the Art Description by taking more time to plan. Planning time studies (Foster & Skehan, 1996; Gilabert, 2004; Robinson, 2005; Yuan & Ellis, 2003) among others, have found that giving learners time to plan reduces task demands. All three tasks were *single* tasks, as learners weren't required to perform more than one task simultaneously. It was predicted that learners would bring most prior knowledge (world knowledge and linguistic knowledge) to the Picture Story, as the situation, events and language needed were familiar, and least to the Art Description. In the Information Gap, although the pictures consisted of familiar objects, learners were required to describe particular parts of these objects, lexical items which they did not know in the L2.

Table 4.8

Comparison of task conditions (interactional factors) across the three tasks

	Picture Story	*Art Description*	*Information Gap*
(*a*) *participation variables*			
open	medium	high	low
one-way	high	medium	low
convergent	medium	low	high
(b) participant variables			
same/different gender	=	=	=
familiar/unfamiliar	=	=	=
power/solidarity	=	=	=

Task conditions (interactional factors) are divided into the participation variables and participant variables, as seen in Table 4.8. Participation variables include open/closed, one-way/two-way and convergent/divergent dimensions. The Art Description was the most open task, as participants were free to choose what to interpret in the painting and how to interpret it. The Picture Story was less open, as the sequence of pictures determined the language required. However, variations in the interpretation of each picture or the storyline were possible. The Information Gap was a closed task, as only one correct solution was possible, with much of the language required to fulfil the task demands being predetermined.

The Picture Story was the most one-way task as turn taking was pre-established, in other words, each participant could give information in turn to the other, and as the information was shared, little negotiation was necessary. Nevertheless, participants could respond or react to each other's interventions. The Art Description was less one-way as the task required participants to take on different roles: one to ask questions as a novice and the other to give explanations as an expert. The Information Gap was the least one-way as it was a split-information task where participants did not share the information and, therefore, had to negotiate carefully to perform the task successfully.

The Information Gap had the most convergent goals, calling on a joint solution, in other words, to agree on the picture differences. In the Picture Story there was a possibility for divergence in the story's interpretation, therefore it was less convergent. In the Art Description, the task requirement of different roles, expert and novice, meant that the goal was most divergent.

As for participant variables, gender ratios, participants' familiarity with each other and power relationships were considered. Gender was controlled for but some pairs were mixed male and female pairs because of the uneven numbers in a particular class group; two low and four high proficiency pairs were mixed as shown in Table 4.9.

Table 4.9

Number of pairs according to gender and oral proficiency

	LowProficiency	*High Proficiency*
Male:Male	5	1
Female:Female	5	8
Male:Female	2	3

As all participants were university students on the same degree course of approximately the same age, we assumed they were equally familiar with each other and that there wasn't an uneven power balance within the pairs. Pica (1987) argues that an equal power balance is important in promoting interaction through negotiation of meaning, as learners share the need and desire to understand each other, whereas an uneven power balance makes it more difficult and even unnecessary to restructure interaction.

Summing up, considering the cognitive (task complexity) and interactional (task conditions) factors described, it was predicted that there were differences between the tasks. Task complexity would be highest in the Art Description (abstract task), as it contained a greater number of elements to distinguish between, greater reasoning demands and learners' lacked prior knowledge of describing art. Interaction would be greatest in the Information Gap (interactional task) due to its closed, two-way convergent features and task complexity and interaction would be lowest on the Picture Story (narrative task) due to prior knowledge of the topic and its fixed turn taking requirement.

4.2.3 The Reflective Questionnaire

The Reflective Questionnaire (see Appendix G) was administered to measure participants' perceptions of the tasks, once they had performed them. Firstly, it was important to find out learners' perceptions of task difficulty as it would provide a measure of validity to the predictions made by the researcher about the relative difficulty of the three tasks. Secondly, anxiety, interest, self-efficacy and motivation are known to affect spoken performance (Dörnyei, 2005; Gilabert, 2004; Robinson, 2005). Therefore, it was necessary to consider the possibility of these confounding variables in assessing spoken performance across the three tasks. The RQ consisted of five rating scale questions which ranged from 0 (not at all) to 7 (a lot). The first question referred to task difficulty and the other questions referred to affective factors: anxiety, interest, self-efficacy and motivation. These questions were taken from an affective questionnaire in Gilabert (2004) where he analysed a similar question.

4.3 Participants

In this section the participants of the main study are described followed by the procedures used for their selection. New participants were drawn from the same sample population as the SQ had been piloted with, in other words, EFL students at the UVIC. Over 70 undergraduates enrolled in their first year of compulsory English classes at the

UVIC participated, 48 of which were selected for this study. These participants were entirely from classes of Biotechnology students taught by the researcher and her colleague.

Participants were L1 Catalan or Spanish speakers. The gender ratio was 25 females to 23 males. Ages ranged from 18 to 24 (*M*= 20.40) and self-reported exposure to English ranged from 5 to 17 (*M*= 9.75) years. Participants spoke three languages (Catalan, Spanish, English) or four, with the exception of one participant who spoke five (see Appendix D for participant biodata).

Participants were placed into two groups with clear differences in their command of English. Firstly, they were selected according to their scores on a placement test (see Section 4.3.2 for a description) and then according to oral test scores (see Section 4.3.3 for a description). Table 4.10 describes the participants according to proficiency and gender.

Table 4.10

Participants according to oral proficiency and gender

		Proficiency	
gender	*low*	*high*	*total*
male	12	5	17
female	12	19	31
total	24	24	48

The low group consisted of 24 pre-intermediate level participants: 12 female and 12 male with scores ranging from 2.5 to 4.5 out of 10 in the oral test and 14 to 23 out of 60 on the placement test (A1 to A2 on the CEFR) and the high group consisted of 24 upper intermediate participants: 19 female and 5 male with scores ranging from 5 to 10 out of 10 in the oral test and 25 to 45 out of 60 on the placement test (B1 to C1 on the CEFR).

Oral test scores correlated significantly with placement test scores (r= .93) and a Mann-Whitney test confirmed that there was a significant difference between the means of the low and high groups, for the placement test [*mean rank:* Low= 13.10, High= 35.90, Mann-Whitney: Z= -5.65, Asymp. sig. (2-tailed) p= .00] and oral test [*mean rank:* Low = 13.29, High= 35.71, Mann-Whitney: Z= -5.56, Asymp. sig. (2-tailed) p= .00].

Among these participants a sub-sample of eight participants volunteered for stimulated recall sessions: three female and one male from the high group and two female and two males from the low group. The aim of the stimulated recall sessions was to elicit further information from learners about their spoken performance to supplement or verify the data collected on strategy use and spoken production.

In addition, four native speakers, two males and two females also participated in the study. They were four university teachers who volunteered to participate with at least 10 years teaching experience. By including native speaker performances in the dataset, each proficiency group's performance could be assessed more fairly:

> "Especially for fluency and complexity, native speakers' baseline data are crucial, not because learners' aim is necessarily to behave like native speakers, but because looking at what native speakers do may overcome the researchers' bias toward seeing learners as defective language users, who always need to 'do more' " (Palotti, 2009: 598).

In addition, the relationship between spoken production measures and proficiency is not assumed to be linear. Norris and Ortega (2009) have pointed out that CAF should not be considered a static relationship but is dynamic and non-linear in development. Both Foster and Tavakoli (2009) and Skehan (2009) have recently criticised the lack of use of such benchmarks in studies on spoken production. In terms of strategies, the native speaker benchmarks would allow us to distinguish between strategies elicited by the task characteristics which were not related to an imperfect command of the language and strategies related to L2 resource deficits, which would be characteristic of the L2 speakers.

4.3.1 The Background Questionnaire

A Background Questionnaire (BQ) was designed to obtain personal information about learners, as these variables could influence spoken production or strategy use (see Appendix F). The BQ consisted of twenty-four questions. The first nine questions asked participants about personal details, average marks at school (intelligence), average marks for English (language aptitude) and English language exposure (language learning experience). The remaining rating scale questions asked participants about affective factors, also known to influence oral communication (Dörnyei, 2005; Gilabert, 2004; Robinson, 2005): their motivation for learning English, self-efficacy in English, anxiety when speaking English and attitude towards learning English. Initially learners were to be selected according to these criteria. However, in the end, only two background criteria were considered in selecting participants 1) that their L1 was Spanish or Catalan and 2) that their ages were between 18 and 24. Using further criteria would have reduced the size of the sample too much.

4.3.2 The placement test

As the research questions posed required a comparison of high and low proficiency groups, it was essential to ensure that the participants selected for each group differed significantly in this respect. Therefore, general proficiency in English needed to be measured. The paper and pen version of the revised Oxford Quick Placement Test (UCLES, 2004) was used for this purpose. It measures grammatical and lexical knowledge. The test takes about 30 minutes and consists of multiple choice questions which become progressively more difficult. Part 1 (questions 1 to 40) leads the test taker to an intermediate level and Part 2 (questions 41 to 60) to higher levels. The scores obtained can be interpreted in terms of ALTE[35] levels, CEFR levels or UCLES[36] examination levels.

4.3.3 The oral test

As well as selecting participants for general proficiency, they were selected for oral proficiency, which the general proficiency test could not account for. As one of the study's aims was to make a comparison of low and high proficiency oral skills this measure was necessary to ensure that low proficiency participants were also low in oral proficiency and vice versa.

An FCE-style oral test (Appendix E) was designed so that students could perform it autonomously in the classroom without the guidance of an examiner. As a large number of students had to be assessed for the study, this seemed the least time-consuming and least disruptive method for testing during classroom hours. The test involved the participants taking turns to read out instructions or ask questions, which would normally have been done by the FCE oral examiner. Students recorded themselves performing the test with digital cameras in the classroom. As both the researcher and her colleague were FCE oral examiners, the test was chosen for its familiarity of format, rating scale and method of standardisation.

The test was divided into three parts, corresponding to the first three parts of the FCE test, each with instructions and the approximate time students were to take. The

[35] ALTE - Association of Language Testers in Europe. Descriptions range from Beginner (Breakthrough) to Very Advanced (Good User).
[36] UCLES - University of Cambridge Local Examinations Syndicate. Examinations range from KET (Key English Test) to CPE (Cambridge Proficiency in English)

particular tasks and content selected were completely different from those in the main study, ensuring that the participants wouldn't be primed for those tasks. In the first part learners asked and answered questions about their personal details. In the second part each learner compared and contrasted two similar photographs and in the third part, a collaborative task, learners discussed which improvements (prompted by a series of photographs) would be the best for the university.

The test had been previously piloted with a pair of students from the target population and adjustments had been made to instructions or format to improve clarity. In a class preceding the test both the researcher and her colleague explained each part of the test format, the timing, and the use of the digital cameras. In the following class participants carried out the oral test in pairs, four pairs at a time, each pair in each of the four corners of the class (see Figure 4.1). Sessions were supervised by the researcher or her colleague. Test performances were later assessed by the researcher and another FCE oral examiner, who assessed 50% of the recordings. Both were trained FCE oral examiners with several years' experience. Interrater reliability was high [$r= .88$, $N= 24$, $p= .000$] according to the Pearson product-moment correlation coefficient.

4.4 Data collection procedures

4.4.1 Whole sample

Data collection took place in participant's usual classroom and in class time, except for stimulated recall sessions which were carried out after class. The researcher and a colleague, who were also the students' English teachers, collected all the data and supervised the whole of each session for four groups, two groups at a time, as two classes were held simultaneously. Data collection took place over five sessions as follows:

Session 1:	Week 1	Placement Test and Background Questionnaire
Session 2:	Week 2	Oral Test
Session 3:	Week 5	Task 1, SQ and RQ (& stimulated recall)
Session 4:	Week 7	Task 2, SQ and RQ (& stimulated recall)
Session 5:	Week 9	Task 3, SQ and RQ (& stimulated recall)

In Session 1 learners were told that some of the communicative activities they did in class would be part of a research study on oral communication and that they would be filmed doing them. To encourage maximum attendance in future sessions, learners were told that their participation would count as part of their continual assessment for the course. The placement test and BQ were completed individually, which took less than an hour. An explanation of how the oral tests would be carried out in the following week was given. This involved the teachers going through each part of the test materials in front of the class and answering any queries. The students were also shown how to use the digital cameras. Students were told that they would be filmed in pairs and that they were not to ask for help, but had to do the activity from start to finish as if it were a test.

In Session 2 participants were paired with a partner of the same English proficiency and gender, if possible, to do the oral tests. Four pairs did the oral test simultaneously, each pair in each corner of the classroom with small digital cameras placed unobtrusively in front of each pair of students, as shown in Figure 4.1.

This arrangement was similar to the usual way oral pairwork activities were set up, where students were spread across the classroom in pairs doing activities simultaneously, as the teacher walked around and monitored. Therefore the authentic classroom setting and routine was preserved as much as possible. One reason for such a

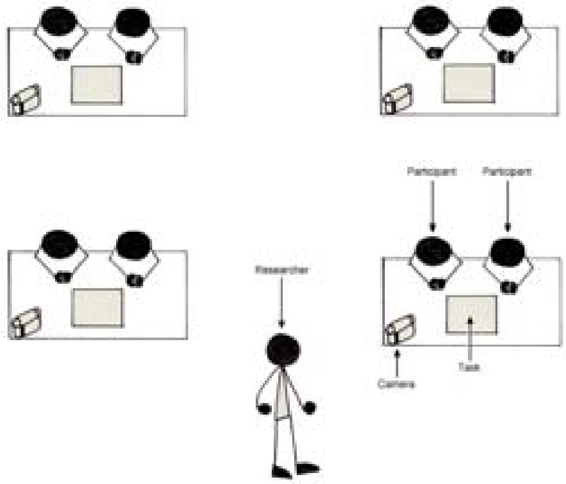

Figure 4.1 Classroom setup during task performance

design is because it has been claimed that using intact classes minimises the effect the experimental conditions could have on participants' performances (Foster and Skehan, 1996; Robinson, 2005, among others). In other words, participants are more likely to perform naturally if they are familiar with the setting and their peers. Another reason is that the applicability of results to the L2 classroom could be argued more convincingly. First, the cameras were turned on, then the researcher handed out the oral test and the students were told to begin when they were ready.

In the same session after the oral tests, the class were introduced to the SQ, which they were to complete in subsequent sessions. Each student was given a copy of the questionnaire as the teacher read through each item. This measure was taken, firstly, to resolve any queries and secondly, to minimize the confounding effect of the repeated measures design of the study. In short, as the SQ contained a detailed list of strategies for speaking, it could implicitly raise learners' awareness of these strategies. This would mean that participants would complete the first SQ naively after the first task, but would then have acquired strategy knowledge with which to complete the subsequent two SQs. It was essential, therefore, to ensure an equal base level of strategy awareness before data collection.

During the following three weeks the researcher and another FCE examiner assessed the videos of the oral tests, so that in Session 3 participants could be paired up with a partner of the same oral proficiency (low or high) and gender. During subsequent data collection, although all class members were treated equally, only the data from 48 of the 76 class members, whose oral test and placement test scores fell within the ranges given in Section 4.3, was included in the study.

Over Sessions 3 to 5 the participants carried out the three communicative tasks following the same classroom set up as described above for the oral test. For these tasks, however, participants were told that they were not being tested, and that they were to do the tasks in the same way that they did oral tasks in class. This meant that they could ask for help if they needed to. After each task an SQ and RQ were completed. Each of these sessions was two weeks apart. The four native speaker benchmarks were also recorded performing the three tasks in pairs during the same time period.

4.4.2 Sub-sample

Stimulated recall sessions, lasting between 20 and 30 minutes, were carried out with each participant from the sub-sample (N=8) on the same day after each class session, as illustrated in Figure 4.2. Although such retrospective reports cannot be considered complete, due to the difficulty of recalling information from long-term memory, they can provide further insights into strategy use and spoken performance on the tasks. Sessions were recorded on an MP4 player. Participants were allowed to switch to their L1 to facilitate the recall and verbalisation processes. Despite this, some high proficiency participants preferred to do the sessions in English.

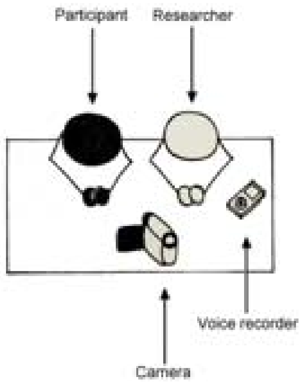

Figure 4.2 Setup in stimulated recall sessions

A written research protocol (see Appendix I) was developed as recommended in Gass and Mackey (2000) to standardise the instructions and procedure as much as possible. The protocol included instructions to the researcher for before and after the recall session, as well as procedure to carry out in the case of unexpected eventualities.

The whole stimulated recall procedure had been piloted beforehand, with four participants who were not part of the study, for reliability and to anticipate possible problems. The clarity of the instructions was tested as well as technical equipment and an estimate of the time each session would take.

As another measure of reliability, all participants read written instructions for the procedure in their L1 at the beginning of the session. They were to pause the recording whenever they wanted to comment on what they had been thinking at a particular moment during the task. The researcher was also to pause the recording if she wanted to ask a question. To check that participants had understood the procedure, the beginning of the task recording was shown and the researcher modelled pausing and asking a question. Participants practised pausing and explaining what they had been thinking. Once this procedure was clear the sessions began.

4.5 Data analysis

Although both quantitative and qualitative data was collected in this study, the approach taken was mainly quantitative. Rating scale responses on the SQ were immediately quantifiable and spoken production measures and strategies were first identified in task transcripts and recall comments before quantification. This section describes the statistical procedures undertaken and the identification and coding of both spoken production measures and strategies.

4.5.1 Statistical analysis

Participant background data (placement test scores, oral test scores, background questionnaire responses) and the SQ responses for the three tasks were entered into SPSS 15 statistical package and exported to Microsoft Excel for designing tables and graphs. Firstly, descriptive statistics provided information about total scores, means and standard deviations.

Secondly, non-parametric tests were run to make comparisons between low and high proficiency groups and across tasks. The non-parametric alternative was chosen over parametric tests as it is recommended for sample sizes (N<30) and when samples cannot be considered independent (Pallant, 2005). This was the case in this study as participants interacted in pairs, therefore the whole sample was not considered forty-eight independent samples, but twenty-four. Friedman tests (non-parametric equivalent of one-way repeated measures analysis of variance) identified if differences existed between the three tasks and then post-hoc Wilcoxon tests (non-parametric equivalent of a repeated measures t-test) made pairwise comparisons between tasks and identified between which tasks differences lay. Mann Whitney U tests (a non-parametric equivalent of an independent samples t-test) were used to make comparisons between two groups, for example, low and high proficiency. Finally, the 5 factors obtained from the factor analysis of the SQ were compared across tasks and between proficiency groups by MANOVA[37] tests.

4.5.2 Task transcription

Task recordings were transcribed into the CLAN (Computerized Language Analysis) computer programme using the CHAT (Codes for the Human Analysis of Transcripts) transcription method in CHILDES[38] (MacWhinney, 2000). CHILDES was originally conceived to analyse child language data in the study of first language acquisition, but has also been used for research into language disorders and SLA. The programme and manuals were downloaded and installed from the CHILDES website[39]. The advantage of this system is that CLAN and CHAT are:

> "a set of computational tools designed to increase the reliability of transcriptions, automate the process of data analysis, and facilitate the sharing of transcript data." (MacWhinney, 2000: 5).

All transcriptions (see Appendix J for a CHAT transcription excerpt) were carried out in Ariel Unicode to accommodate phonetic symbols describing phonetic

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[37] MANOVA is preferable to conducting a series of ANOVA's for each variable as it controls for the risk of a Type 1 error (finding differences when there are none), which is more likely when there are many dependent variables (Pallant, 2005).

[38] CHAT transcription is compatible with the CLAN analysis programmes, which consists of a series of computer commands for carrying out searches and counts, as well as a range of *switches* that can customise each command.

[39] http://childes.psy.cmu.edu/

errors. Each transcript contained information about the participants, the languages spoken, the task performed and timing in the file headers. Transcription and coding was carried out in the main tier. Transcription codes (see Appendix K) were entered for the ten measures representing the three dimensions of fluency, accuracy and complexity of spoken production and all forty-four strategies from the SQ, as detailed in the following sections. The CLAN commands were used as far as possible to count codes. Output from commands was saved and the results were entered in a coding sheet for each participant. After transcribing each task, the transcription was checked for errors in punctuation, spelling and coding using the CHECK (Esc-L) function and FREQ command.

Over 14 hours of task performances were transcribed by the researcher. In total 72 transcripts were produced, 24 transcripts for each task. Interrater measures were used to examine transcription reliability, measured as percentage agreement on a random sample[40] of two low and two high pairs across three tasks (12 transcripts representing 17% of the data), transcribed by another researcher. Percentage agreement was 95.6%.

4.5.3 Spoken production measures and coding

The multi-dimensional measure of CAF (complexity, accuracy and fluency) was employed in this study to measure linguistic spoken production. As seen in Table 4.11, CAF may be operationalised in several ways, therefore part of the decision-making process in using CAF was to decide which way to operationalise each dimension so that the results obtained reflected the nature of the data examined as closely as possible.

In task-based research operationalising these variables depends on the research questions to be investigated. If tasks are used to elicit specific forms, for example, use

[40] Transcripts were numbered for high and low proficiency groups and random numbers were generated from these samples with SPSS

of articles or past tense verbs, then specific measures such as the error rate of these same forms can be used. However, if more general tasks are used, as in this study, more global measures can be used. Table 4.11 is an inventory, based on Ellis (2003) and Wolfe-Quintero et al. (1998)[41], which illustrates both the numerous specific and general measures of CAF, quantified as frequencies, percentages, ratios or indexes.

Table 4.11

Operationalisation of complexity, accuracy and fluency based on Ellis, 2003: 117 and Wolfe-Quintero et al. (1998: 137-144)

Fluency	*Accuracy*	*Complexity*
Ellis (2003)		
number of words per minute number of syllables per minute number of pauses of one/two second(s) or longer mean length of pauses number of repetitions number of false starts number of reformulations length of run i.e. number of words per pausally defined unit number of words per turn	number of self corrections percentage of error-free clauses target-like use of verb tenses target-like use of articles target-like use of vocabulary target-like use of plurals target-like use of negation ratio of indefinite to definite articles	number of turns per minute anaphoric reference (as opposed to exophoric reference) lexical richness e.g. number of word families used, percentage of lexical to structural words, type-token ratio, proportion of lexical verbs to copula percentage of words functioning as lexical verbs percentage of occurrence of multipropositional utterances amount of subordination e.g. total no clauses divided by total number of c-units frequency of use of conjunctions frequency of use of prepositions frequency of hypothesizing statements

[41] Wolfe-Quintero et al. (1998) investigated writing development and made a detailed comparison of measures used to operationalise CAF. See also Polio (2001), Ellis and Barkhuizen (2005) and Iwashita et al. (2008) for inventories.

Table 4.11 (continued)

Operationalisation of complexity, accuracy and fluency based on Ellis, 2003: 117 and Wolfe-Quintero et al. (1998: 137-144)

Fluency	Accuracy	Complexity
Wolfe-Quintero et al., (1998)		
Frequencies number of words, clauses, sentences, T-units number of words in T-units /clauses error free T units /clauses	error free T units /clauses number of errors per 100 words number of 1st, 2nd, 3rd degree errors correctly used connectors correctly used pronouns correctly used articles	number of reduced clauses number of dependent clauses number of passives number of adverbial clauses number of adjective clauses number of prepositional phrases number of pronouns number of articles number of subordinating connectors
Ratios number of words per minute/ clauses/sentences/T-units/error-free T- units / error-free clauses number of words in complex nominals per T unit/clauses	error-free T-units per T unit / sentence / word errors per T-unit / clause 1st, 2nd, 3rd degree errors per T-unit syntactic / morphological / lexical errors per clause	clauses per T-unit / sentence / error free T unit dependent clause per T-unit adverbial clauses per T unit
Indices	intelligibility index error index lexical quantity index lexical accuracy index	complexity formula complexity index

In this study, eleven measures were used to operationalise CAF. Complexity was measured as lexical complexity (statistic D[42]) and structural complexity, the number of clauses per AS unit. Accuracy was measured as the number of errors per 100 words, percentage error-free clauses and percentage self-repairs. Fluency was measured as speech rate, short, long and filled pauses, repetitions and reformulations. The criterion for choosing these particular measures was to capture the maximum variance in the data across tasks and proficiency levels.

Written instructions (Appendix L) provided raters with details and examples to help identify these measures in transcripts, listed potential problems and gave step by

[42] Statistic D is a statistical calculation of lexical diversity.

step instructions for coding. Inter-rater reliability, measured as percentage agreement on the random sample described in the previous section, is shown in Table 4.12. In subsequent paragraphs the criteria for choosing each particular measure and a description of the measures is provided.

Table 4.12

Percentage agreement of inter-rater scores

Measure	*Percentage agreement*
Fluency	
words per min	97.7
Fluency Breakdown	
number of short pauses	80.5
number of long pauses	95.2
number of filled pauses	84.3
Fluency Repair	
number of repetitions	95.5
number of reformulations	93.4
Accuracy	
number of errors	90.6
number of self-repairs	91.3
Complexity	
number of clauses	98.0
number of AS units	96.0

4.5.3.1 Basic unit of measure

The first decision which had to be made in order to begin CAF coding was to decide on a common unit against which CAF could be measured. The three basic units, against which complexity, fluency and accuracy have been measured so far are the T-unit, the C-unit and the AS-unit (Ellis, 2003). A T-unit is a main clause with an embedded or attached subordinate clause (see Hunt 1965, 1966 and 1970, for exact definitions). The T-unit has been used to analyse written production (Ishikawa, 2007; Kuiken and Vedder, 2007; Storch and Wigglesworth, 2007; Wolfe-Quintero et al., 1998) or monologic speech (Bygate, 2001; Crookes, 1989; Gilabert, 2004; Robinson, 2005). Gilabert used the T-unit because he examined monologic non-interactional tasks therefore his unit of measure did not need to take into account phenomena found in interactive communication where ellipsis or one-word responses are common. Bygate (2001) examined the effect of oral task repetition using the T-unit because one of the task types employed was a narrative, which also involved little interaction.

However, Tarone (1985) argued that her spoken discourse samples were not easily analysed using the T-unit, as much of speech contained few complete sentences and much hesitation and repetition. To account for these shortcomings the C-unit (communication unit) was established which includes ellipsis. The C-unit, defined by Pica et al. (1989: 72) is "utterances, for example, words, phrases and sentences, grammatical and ungrammatical, which provide referential or pragmatic meaning". For example, Foster and Skehan (1996) have used the C-unit to investigate the effect of planning time and task type on spoken production where learners performed tasks in pairs, therefore the C-unit was used to capture the more interactive nature of the spoken production data.

The problem with the C-unit, however, is that it has been defined differently by different researchers and often not defined clearly enough. Consequently, Foster et al. (2000) propose the AS-unit (Analysis of Speech unit) as an improvement on the C-unit, illustrating that the C-unit, in practice, can be difficult to apply to oral data. They take Hunt's T-unit as their basis and elaborate it to deal with features of spoken data.

> "An AS-unit is a single speaker's utterance consisting of *an independent clause*(s) or sub-clausal unit, together with any *subordinate clause*(s) associated with either." Foster et al. (2000: 365)

The following example from the Information Gap task in this study illustrates an AS-unit with two clauses.

ok so my first picture is: a square: [= ::] which # is divided in # four triangles [= ::] [= |]. [2 clauses, 1 AS-unit]

Key: [= ::] = clause boundary, [= ::] [= |] = AS boundary

Lambert and Engler (2007) used the AS-unit as the basis of their analysis of oral pairwork: one-way/two way/shared and open/closed task dimensions were investigated. Michel et al. (2007) also used the AS-unit to investigate task complexity in monologic oral tasks with fewer or more elements and Tavakoli and Skehan (2005) employed it in their study of the effect of task structure and planning on spoken production for narrative tasks.

Considering the basic units employed so far, it seemed most appropriate to adopt the AS-unit as the basic unit of analysis, as it reflected the interactional nature of our data most closely. Much more of the data could be included in the analysis than if the T-unit had been used, making the AS-units more representative of the data. Also it avoided having to consider which variation of C-unit definition to apply. Furthermore, the careful definitions and examples provided in Foster et al. (2000) provided a comprehensible way of applying the AS-unit to the segmentation of the data. Foster et al.'s level two analysis for highly interactional data seemed most appropriate. At this level of analysis one-word utterances whose inclusion can distort the perception of the performance are excluded. Examples of AS-units from this study's corpus can be found in Appendix L. The clause (or s-node) was the unit of measure used to subdivide AS-units into smaller segments, "either a simple independent finite clause or a dependent finite or non-finite clause" Foster and Skehan (1996: 310) or "s-nodes are indicated by tensed or untensed verbs" (Ellis et al., 1994: 483).

4.5.3.2 Fluency

Ellis describes fluency as "the extent to which the language produced in performing a task manifests pausing, hesitation, or reformulation" (Ellis 2003: 342). Detailed analysis of fluency requires the use of separate measures to represent its different sub-dimensions: a) silence (breakdown in fluency) b) reformulation, replacement, false starts and repetition (repair in fluency) c) speech rate (words or syllables per minute) and d) automatisation (length of run). The combination of these measures provides the most comprehensive picture of fluency performance (Skehan, 2003). In this study three of these dimensions (fluency breakdown, fluency repair and speech rate) were accounted for. Table 4.13 describes the formulas used to calculate the six fluency measures.

Table 4.13

Calculation of fluency

Fluency Measures	*Calculation*
speech rate	total number of tokens (words) / total task time (in minutes): wpm
Fluency Breakdown	
short pauses	total number of pauses of less than 1sec/ total number of AS units
long pauses	total number of pauses of more than 1sec/ total number of AS units
filled pauses	total number of filled pauses / total number of AS units
Fluency Repair	
repetitions	total number of AS units / total number of repetitions
reformulations	total number of AS units / total number of reformulations

4.5.3.3 Accuracy

Accuracy is described as the ability to produce error-free speech. General measures of accuracy have been the percentage of error-free clauses (Foster & Skehan, 1996), error-free T-units (Ortega, 1999; Robinson, 1995), error-free AS-units (Lambert & Engler, 2007), the number of errors per 100 words (Kuiken & Vedder, 2007; Wolfe Quintero et al., 1998) or the number of errors per T-unit (Bygate, 2001). Specific measures have been the target-like use of articles, verbs, negation or vocabulary (Robinson, 1995). As general measures of accuracy have proved more sensitive to treatments (Skehan, 2003) three were chosen for this study: the number of errors[43] per 100 words, percentage of error-free clauses and percentage of self-repairs. Only error repairs, as defined in Kormos (1999), were considered self-repairs. Error-repairs correct an accidental lapse and are either lexical, grammatical or phonological. See Appendix L for details of error coding. Table 4.14 describes the formulas used to calculate accuracy measures:

Table 4.14

Calculation of accuracy

Accuracy Measures	*Calculation*
Number of errors per 100 words	(total number of errors/ total number of words) x 100
% error-free clauses	(number of error-free clauses/ total number of clauses) x 100
% self-repairs	(number of self-repairs/ total number of errors) x 100

To capture the maximum variance in each of the low and high proficiency groups, percentage error-free clauses were chosen over percentage error-free AS-units. As the clause is shorter (Foster & Skehan, 1996), it allows more possibility for the low group to get moderate scores. Whereas the first two measures reflect the final product of spoken production (correct lexical, morphological and phonologic encoding during speech processing), percentage self-repairs measure accuracy in process or post-articulatory monitoring, as learners try to improve on their spoken performance (Gilabert, 2004; Kormos, 1999).

[43] An error was considered "a linguistic form or combination of forms, which in the same context and under similar conditions of production would, in all likelihood, not be produced by the speakers' native speaker counterparts." Lennon (1991: 182) Lexical, morphological, syntactical and phonological errors were considered (Kormos, 1999).

4.5.3.4. Complexity

Complexity has been described as the “extent to which the language produced in performing a task is elaborate and varied” (Ellis, 2003: 340). To measure structural complexity the amount of subordination has been commonly used (Crookes, 1989; Foster & Skehan, 1996; Wigglesworth, 1997), as it reflects the degree of structuring of speech. The number of clauses per unit (e.g. T-unit, C-unit or AS-unit) has been the most common unit of measure. Therefore, this study employs the number of clauses per AS-unit. The formula used to calculate structural complexity was *total number of clauses divided by total number of AS-units*.

Lexical complexity can be measured by a range of specific syntactic forms. For example verbs can be measured for tense, aspect, voice and modality. Connectors such as coordinating conjunctions (and, but, so), adverbials (moreover, however) or subordinating conjunctions (if, when, because) can be used. Relative pronouns, restrictive devices (not only... but also, neither...nor, the... the ...), lexical variation or prepositional phrases can also be used.

Traditionally, a general measure for lexical complexity has been the type-token ratio or TTR (the number of different words in a monologic text divided by the total number of words). However, it is sensitive to the length of the text (MacWhinney, 2000; Skehan, 2003; Vermeer, 2000). The number of tokens increases if a text is long, giving low TTR values. Therefore, TTR lacks reliability as any single value depends on the length of the sample used. Guiraud’s index of lexical richness (the number of types of words divided by the square root of the total number of words) (Gilabert, 2004; Michel et al., 2007) or other mathematical transformations of the TTR (Kuiken and Vedder, 2007) are also prone to the same effect. The statistic D (Malvern and Richards, 2002), which is available within the CLAN programmes of CHILDES (McWhinney, 2000) as the VOCD command, is a relatively new and acceptable (Skehan, 2009) measure of vocabulary diversity calculated from the text itself, a text internal measure[44].

> "The measure has three advantages: it is not a function of the number of words in the sample; it uses all the data available; and it is more informative, because it represents how the TTR varies over a range of token size. The measure is based on the TTR versus token curve calculated from data for the transcript as a whole, rather than a particular TTR value on it." McWhinney (2000: 113).

As task duration differed considerably in this study[45], among participants doing the same task and across tasks, it was felt that the D-statistic would be the best measure of lexical complexity as the differing task durations could distort the results, if the TTR based measures were used.

4.5.3.5 Preliminary analysis of production measures

One criticism of CAF studies (Norris & Ortega, 2009; Skehan, 2001) has been that the majority do not consider the interdependence between CAF measures, but consider these areas independently. Some researchers, however (Ortega, 1995; Skehan and Foster, 1997; Tavakoli & Skehan, 2005; Zhang, 2007) have carried out factor analyses on the range of measures that they used to operationalise CAF. Skehan and Foster (1997) found that the three constructs had high loadings on three different factors, providing support for the three-way distinction of CAF. Zhang (2007) studied the effect of planning on L2 speech for a balloon debate task and obtained four factors: Factor 1: structural complexity, Factor 2: turn length, Factor 3: repair fluency (repetition

[44] An alternative measure of lexical complexity (Skehan, 2009) is obtained by employing a text external measure. This measure, taken from corpus analysis, reflects lexical sophistication rather than the lexical diversity of the D-statistic. Frequency lists of words in a spoken corpus are measured and low frequency words are identified. The occurrence of these more difficult or sophisticated words is then measured in a fixed length of the transcribed data of a study.
[45] Range of task duration was 3.1m to13.5m (Picture Story), 5m to 20.4m (Art Description) and 5.9 to27m (Information Gap).

and reformulation) and Factor 4: accuracy (errors per 100 words), which supports Skehan and Foster's claim that complexity, accuracy and fluency are independent constructs. Consequently, in this study a preliminary factor analysis was carried out on the eleven measures of spoken production to see if the CAF measures used were independent.

The Kaiser-Meyer-Olkin value (KMO =.624) in the exploratory factor analysis ensured that the data was suitable for factor analysis, exceeding the recommended value of .6. Also, Bartlett's test for sphericity reached statistical significance ($p= .000$). Initial principal components analysis revealed the presence of 5 components with eigenvalues exceeding 1, explaining 77.7% of the variance. On examining the scree plot and extracting 2, 3 and 4 factors with Varimax rotation, the three-factor solution was chosen (Table 4.15), which explained 57.3% of the variance.

Error free clauses, speech rate (wpm), lexical complexity (high loadings between .76 and .86.) and to a lesser extent, structural complexity (low loading of .35), loaded onto Factor 1, with a noteworthy high negative loading for Errors per 100 words. This factor suggests that when learners were more accurate they also spoke faster, used more varied vocabulary and their utterances were more structurally complex. For this factor the underlying construct seems to be proficiency, as more proficient students are described as having more complex, accurate and faster speech (Skehan, 2009). All three tasks underwent separate factor analyses and presented practically an identical pattern of factor loadings, even when a factor analysis was undertaken with data from all three tasks together. This suggests that the structure is fairly stable. However, as structural complexity loaded much lower, it could be that it is less closely related to the construct of proficiency than the other measures.

Long, short and filled pauses loaded onto Factor 2, with loadings between .47 and .62, and with negative loadings for structural complexity and self-repairs.

Repetition and reformulation loaded high (.83 and .56 respectively) and self-repair (.37) loaded low on Factor 3, suggesting that it was not so closely related to the other measures.

Table 4.15

Factor loadings for production measures

	Factor Loading		
Production Measure	*Factor 1*	*Factor 2*	*Factor 3*
Errors per 100 words	-.902		
Error free clauses	.867		
Speech rate	.810		
Lexical complexity	.760		
Structural complexity	.353	-.626	-.334
Long pauses		.622	
Short pauses	.320	.546	
Filled pauses		.470	
Self-repairs	.340	-.445	.371
Repetition			.833
Reformulation		.456	.560

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

In Skehan and Foster's (2001) factor analysis, where CAF loaded high onto three separate factors, accuracy was measured as error-free clauses, complexity as structural complexity and fluency as pauses. A similarity with this analysis is that the two dimensions of accuracy and structural complexity are independent from fluency (in terms of pausing), with structural complexity loading negatively on Factor 2. However, as structural complexity had a low loading on Factor 1, it suggests that it is related to lexical complexity and accuracy, although not closely. These results, however, extend Foster and Skehan's results, as speed, a further subdimension of fluency, was measured, and found to be related closely to accuracy and lexical complexity and unrelated to pausing or repair. The results are also in line with Zhang (2007), who found repetition and reformulation to be interrelated (repair fluency) and independent of pausing (breakdown fluency).

Apart from serving to ascertain the interrelatedness between measures this factor analysis was used to determine how to proceed with further analysis of spoken production. Firstly, despite correlations between some measures, it was decided to report measures separately in further analyses in order to make comparisons with other published data. Secondly, to simplify interpretation of the data, some measures which correlated highly, as they were measuring the same underlying construct, were removed. Consequently, in the analysis of spoken production only the following eight of the eleven measures are reported: *Accuracy:* error free clauses, *Complexity:* lexical complexity, structural complexity, *Fluency:* speech rate, long pauses (Fluency breakdown), repetition and reformulation (Fluency repair) and *Self-repair:* error repair.

4.5.4 Strategy identification and coding

In order to see how accurate perceived strategy use (PSU) reflected actual strategy use (ASU), the strategies from the SQ were identified in task transcripts and recall comments, adapting the coding scheme developed in the first pilot study. However, in this study a larger dataset was available and so it was possible to identify more strategies.

The second pilot study had shown that strategy identification was far from straight-forward. Firstly, as the construct of strategy used included both conscious thoughts and behaviours, recall comments were necessary to reveal thought processes and uncover covert behaviour, such as planning, monitoring and evaluating, which were not immediately evident from the task performance. Secondly, strategy descriptions on the SQ were not always mutually exclusive, some referred to a behaviour, some to a thought and others to both; some were verbal, some non-verbal and others were both; some referred to one specific behaviour or thought and others to more than one. Consequently, ASU was measured in different ways and could not always be quantified. Instructions were written for raters as seen in Appendix M. Data sources from which each strategy was identified are given in Table 4.16.

The majority of SQ strategies were quantifiable, according to counts identified and coded in task transcripts, as in other CS studies (for example, Dörnyei & Scott, 1997; Lafford, 2003; Poulisse, 1990). Twenty-nine different strategies[46] were coded in this way and means and standard deviations were calculated for each strategy on each task. Intra-rater percentage agreement for these strategies on 17% of the transcripts was 90%. A few examples of these quantifiable strategies are provided here, but the reader should refer to Appendix N for the full list.

Item 28, message abandonment described as *leaving a message unfinished because of some language difficulty* was identified as follows:

*LAU: it was supposed to be a paradisiac beach it was a normal beach **with: beach with: with: a lot of # .**
*LAU: **no sé com es diu.** [I don't know what it's called].

Item 7, use of fillers, *using gambits to fill pauses, to stall, and to gain time in order to keep the communication channel open and maintain discourse at times of difficulty* was identified as follows:

[46] Thirty of the SQ items were quantified, but as Item 11 and Item 33 were parallel items for gesture, they only represented 29 different strategies.

*FER: yes, probably it's a balcony.

*TOM: yes.

*FER: and # **well** maybe a garden or **well** there's a tank &=ges:rectangle +/.

Table 4.16

Source of strategy identification in the qualitative data

Strategy Group	*Strategy Item*	*Source of Identification*
CFM	1. (task familiarity)	recall
Planning	2. (advance organisation)	pre-task planning time
Planning	3. (organisational planning)	task planning content
	4. (note taking)	task observation
CFM	5. (using expressions)	recall
CFM	6. (avoiding error)	task coding: % error-free clauses
CFM	7. (use of fillers)	task coding
Compensation	8. (risk taking)	recall
Planning	9. (directed attention)	task observation
Planning	10. (not taking risks)	recall
CFM	11. (gesture)	task coding
CFM	12. (maintaining conversation)	task observation
Planning	13. (planning sentence structure)	recall
Interactional	14. (clarification by speaking slower)	task coding
Interactional	15. (comprehension check)	task coding
Interactional	16. (clarification by circumlocution)	task coding
Compensation	17. (clarification by code switch)	task coding
Interactional	18. (clarification by repetition)	task coding
Interactional	19. (asking to speak slower)	task coding
Interactional	20. (clarification request)	task coding
Interactional	21. (asking for repetition)	task coding
Interactional	22. (feigning understanding)	task coding
Interactional	23. (guessing)	task coding
Interactional	24. (expressing non-understanding)	task coding
Interactional	25. (interpretive summary)	task coding
CFM	26. (self-repair)	task coding: % self-repair
Compensation	27. (appeal for help)	task coding
Compensation	28. (message abandonment)	task coding
Compensation	29. (code switching)	task coding
Compensation	30. (word coinage)	task coding
Compensation	31. (foreignising)	task coding
Interactional	32. (circumlocution)	task coding
CFM	33. (as for Item 11)	task coding
Compensation	34. (long pause).	task coding: AS units/long pauses
Compensation	35. (restructuring)	task coding
Compensation	36. (literal translation)	task coding
Compensation	37. (mumbling)	task coding
Compensation	38. (omission)	task coding
Compensation	39. (retrieval)	task coding
Compensation	40. (approximation)	task coding
Evaluating	41. (other evaluation)	Recall
Evaluating	42. (self evaluation)	Recall
Evaluating	43. (identifying specific problems)	Recall
Evaluating	44. (aspects to improve)	Recall

Key: task coding = quantifiable strategies identified in task transcripts
Note: Unquantifiable strategies were measured in different ways

Item 16, clarification by circumlocution, described as *circumlocution in response to an expression of non-understanding* is illustrated in the following example:

*QUE:	ah because they don't want to see what's happening behind the: behind them.
*LLO:	oh!
*LLO:	you mean the face behind that &=ges:pointpic behind them?
*QUE:	**yes the black face with er I think a woman who: who's hungry and from Africa.**
*LLO:	mmhm .

The remaining 14 strategies could not be coded in this way because they were either not observable in task transcriptions, for example, evaluating strategies (Item 41-44) or they did not refer to discrete behaviour which could be quantified, for example, note-taking (Item 4) or directed attention (Item 9). Item 2 (advance organisation) was measured as pre-task planning time[47] and means and standard deviations were calculated for each task. The remaining strategies were quantified as either low, medium or high strategy use, according to the relative differences observed across tasks. Item 9 (directed attention), Item 4 (note taking) and Item 12 (maintaining the conversation) were observable in the task performance. Item 3 (organisational planning) was measured by analysis of the content of the pre-task planning stage (Dörnyei, 2003; Miles & Huberman, 1994) as well as recall comments and the remaining nine strategies were identified in recall comments of the sub-sample. Recall comments also provided further confirmation of strategies already coded or observed in the task performances. Some examples are given in the next section:

[47] Pre-task planning or strategic planning time was measured from the second the researcher gave the task to the participants to the second before the first turn of the task.

4.5.5 Stimulated recall

Audio files of 24 stimulated recall sessions, lasting over 8 hours in total, were listened to. Content analysis of the data was performed in the following way: 1) Recordings were listened through to get a general idea of the contents, 2) Recordings were listened to a second time and excerpts were transcribed which shed further light on information gathered in task transcripts, such as particular strategies, learner attitudes or rationales for strategy use, 3) Excerpts were matched to the part of the task transcript they referred to, 4) Excerpts were coded for strategies, in particular the use of the following covert strategies: task recognition (Item 1), guessing (Item 23), feigning understanding (Item22), literal translation (Item36), approximation (Item 40), use of expressions (Item 5), maintaining conversation (Item 12), planning sentence structure (Item 13), evaluating (Items 41 to 44) and risk taking (Items 8 and 10), 5) Remaining excerpts were grouped according to underlying and recurring themes.

The following examples illustrate how recall comments[48] were coded. This first extract was coded as *low use* for Item 3**,** *organisational planning,* which was verified by the pre-task planning transcript.

Recall

NaAl0101: At the beginning I'm reading the instructions and looking at the pictures trying to see what they're about... When *SAB says "picture number one start you", I'm not ready. I haven't prepared the pictures but as the camera is recording...

Pre-task Planning

29	*NAT:	er: +/.
30	*SAB:	start you?
31	*NAT:	no jo no estoy &=laughs .
32	*NAT:	er lo podemos haber preparado antes?
33	*SAB:	yes &=laughs .

[48] Recall comments are translated from Catalan/Spanish.

*NAT: pero esto qué es?
*SAB: the travel.
*NAT: están mirando ah están mirando para el viaje después se casan i van al aeropuerto.
*SAB: in English please!
*NAT: ah bueno!
*SAB: 0 [=! laughs].
*SAB: the picture one.
*NAT: a veure ?

This second example was coded as Item 8, *risk taking*:

Task

*SER: er *xxx* in the picture five the couple is: looking for the window # the the the environment

Recall

SeRu010: Here 'looking for' I wasn't sure if I had said it right or if it was right for this context.

Summing up, Chapter 4 has described the methods employed to answer the research questions posed. The instruments used in this study have been presented with particular emphasis on the development of the SQ, the main instrument for gathering data on perceived strategy use. An analysis of the features of the three oral communication tasks (Picture Story, Art Description and Information Gap) has been made using Robinson's (2005) framework. The selection of participants and their placement into low and high proficiency groups has been explained as well as the procedures for data collection of strategy use and spoken performance. The chapter has then ended by describing the means for undertaking the quantitative and qualitative analyses of the data, the results of which will be the focus of the following chapter.

Chapter 5

Results

In this chapter the findings related to each research question will be presented. Firstly, spoken production is compared across the three communicative tasks for high and low proficiency groups, using production measures from native speakers as benchmarks. Next, perceived strategy use, as measured by the Strategy Questionnaire (SQ), is compared across tasks for the whole sample and for high and low proficiency groups. Comparisons are then made between low and high proficiency groups on each task, firstly, for spoken production and then perceived strategy use. Following this, the validity of the SQ is explored by comparing perceived strategy use (PSU) with actual strategy use (ASU) for each proficiency group on the three tasks. Additional results comparing pre-task planning time, task duration and learners' perceptions across the three tasks are reported. Finally, the potential of the five strategy categories from the Strategy Questionnaire to predict spoken production measures is examined. Task-based results are summarised, firstly, across the three tasks for each proficiency group and then between proficiency groups on each of the tasks.

5.1 Across-task comparisons

In this section a description of learners' spoken production and strategy use across the three tasks will be made in order to answer RQ1, concerned with *differences in spoken production across tasks* and RQ2, concerned with *differences in perceived strategy use across tasks* for EFL learners.

5.1.1 Spoken production across tasks

As described in the previous chapter participants' task performance was assessed by eight measures of spoken production, as justified by a factor analysis, to represent the complexity-accuracy-fluency dimensions. The eight measures were 1) accuracy (percentage error-free clauses), complexity: 2) lexical complexity (D-statistic) and 3) structural complexity (number of clauses per AS-unit), fluency: 4) speech rate 5) fluency breakdown (AS-units divided by long pauses) and fluency repair; 6) AS-units divided by repetitions; 7) AS-units divided by reformulations and 8) self-repair (percentage of self- repairs).

Firstly, production measures across tasks were examined for the whole group and then for the high and low proficiency groups separately, using Friedman and post-hoc Wilcoxon tests (see Appendix S, for descriptive statistics). As results turned out to be similar the following sections only present the separate results of the high and low proficiency groups. Four native speakers also did the three tasks in pairs to act as benchmarks for spoken production. Means and standard deviations of these measures across tasks are presented against which the two L2 proficiency groups are compared.

5.1.1.1 High proficiency

Spoken production was analysed for the high proficiency group (N= 24) across tasks in answer to RQ1.1: *Are there differences across tasks in spoken production (measured in terms of complexity, accuracy, fluency and self-repair) for high proficiency learners?* Table 5.1 presents descriptive statistics of spoken production measures for the high group and it indicates between which tasks significant differences were found, according to Friedman and Wilcoxon tests.

Table 5.1

Descriptive statistics for spoken production measures across tasks for high proficiency group (N=24)

	Picture Story		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
Accuracy						
error free clauses	70.26 [b]	12.42	74.05 [c]	9.06	81.04 [bc]	8.32
Complexity						
lexical complexity	47.13 [ab]	12.00	55.27 [ac]	13.39	40.54 [bc]	9.07
structural complexity	2.49 [ab]	.84	1.85 [ac]	.74	1.27 [bc]	.12
Fluency						
speech rate	50.73	12.61	51.75	11.63	54.37	9,75
long pauses	4.15 [ab]	9.45	18.64 [a]	30.57	28.46 [b]	38.86
repetition	3.04 [b]	2.86	4.65 [c]	4.67	7.54 [bc]	6.25
reformulation	7.86 [b]	6.15	7.18 [c]	2.95	13.09 [bc]	6.76
Self-repair						
error-repair	12.80	13.50	8.38	8.66	11.79	13.50

Note: For long pauses, repetitions and reformulations the number of AS units was divided by the number of pauses, repetitions or reformulations, so high values represent high fluency.
Significant difference between tasks (Friedman-Wilcoxon, p< .05): a - Picture Story and Art Description
b - Picture Story and Information Gap, c - Art Description and Information Gap

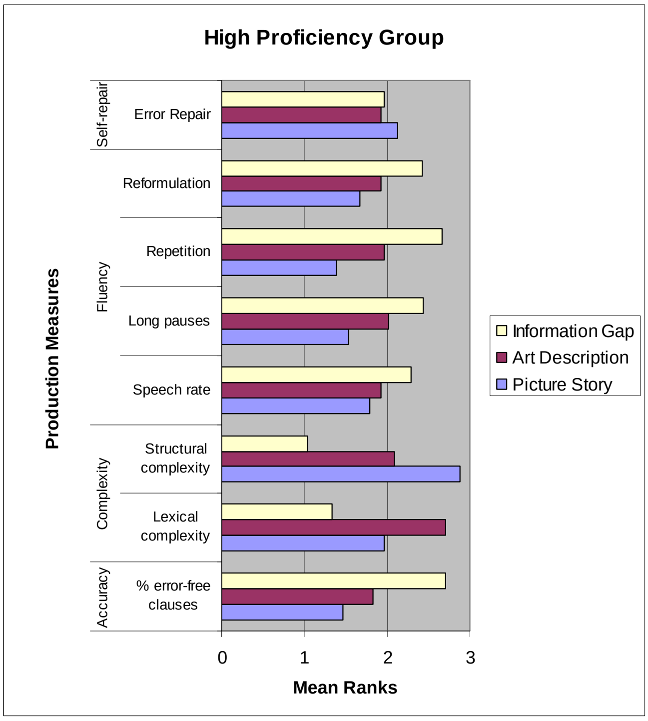
Table 5.2

Friedman tests for spoken production measures across tasks for high proficiency group (N=24)

	Mean Ranks			*Statistics*		
	Picture Story	*Art Description*	*Information Gap*	*Chi-Square*	*df*	*Asymp. sig.*
Accuracy						
error free clauses	1.46	1.83	2.71	19.75	2	*.00**
Complexity						
lexical complexity	1.96	2.71	1.33	22.75	2	*.00**
structural complexity	2.88	2.08	1.04	40.58	2	*.00**
Fluency						
speech rate	1.79	1.92	2.29	3.25	2	.20
long pauses	1.54	2.02	2.44	13.82	2	*.00**
repetition	1.38	1.96	2.67	20.08	2	*.00**
reformulation	1.67	1.92	2.42	7.15	2	*.03**
Self-repair						
Error-repair	2.13	1.92	1.96	0.64	2	.73

Note: For pauses, repetitions and reformulations high values represent high fluency.
***** Level of significance (Friedman, p< .05)

Friedman tests, presented in Table 5.2, show that there were significant differences for all measures across the three tasks, except for speech rate and self-repair. Figure 5.1 illustrates these differences according to mean ranks generated from the Friedman tests for each measure.



Note: For pauses, repetitions and reformulations high values represent high fluency.

Figure 5.1 Mean ranks for spoken production measures across tasks for high proficiency group (N=24)

Post-hoc Wilcoxon tests, presented in Table 5.3, were conducted to find out between which tasks differences lay. Pairwise comparisons of tasks showed significant or nearly significant ($p< .1$) differences[49] between tasks for most measures. Looking down the columns in this table, it can be seen that there were 3 differences between the

[49] Pallant (2005) recommends reporting nearly significant differences for non-parametric tests, as they are less sensitive than parametric tests and may fail to detect differences that actually exist.

Picture Story and Art Description, 6 between the Picture Story and Information Gap and 5 between the Art Description and Information Gap.

Table 5.3

Wilcoxon tests for spoken production measures across tasks for high proficiency group (N=24)

	Picture Story & Art Description		*Picture Story & Information Gap*		*Art Description & Information Gap*	
	Z	*Asymp. sig. (2-tailed)*	*Z*	*Asymp. sig. (2-tailed)*	*Z*	*Asymp. sig. (2-tailed)*
Accuracy						
error free clauses	-1.74	.08	-3.46	*.00**	-3.14	*.00**
Complexity						
lexical complexity	-3.09	*.00**	-2.43	*.02**	-4.17	*.00**
structural complexity	-3.51	*.00**	-4.29	*.00**	-4.26	*.00**
Fluency						
long pauses	-2.73	*.01**	-2.79	*.01**	-1.68	.09
repetition	-1.83	.07	-3.69	*00**	-2.29	*.02**
reformulation	-.91	.36	-3.24	*.01**	-2.54	*.01**

Note: For pauses, repetitions and reformulations high values represent high fluency.
*****Level of significance (Wilcoxon, p< .05)

The description of these pairwise comparisons of tasks can be followed by referring to Figure 5.1 which visualises the direction of these significant differences. Between the *Picture Story* and *Art Description*, as mentioned above, the high proficiency group only varied in terms of three measures (p< .05). Structural complexity was higher on the Picture Story (narrative task) while lexical complexity and fluency (long pauses) were higher on the Art Description (abstract task). Therefore, the narrative task elicited more structural complexity while the abstract task elicited more lexical complexity and less pausing.

Between the *Picture Story* and *Information Gap*, accuracy and fluency was significantly higher on the Information Gap (interactional task) while lexical and structural complexity was lower. In other words, the interactional task elicited more accuracy and fluency than the narrative task, which elicited more complexity.

Between the *Art Description and Information Gap,* practically the same differences as in the previous task comparison were found. Accuracy and fluency were significantly higher on the Information Gap (interactional task) than the Art Description (abstract task), except that there was no significant difference for fluency breakdown (long pauses) between these tasks. In addition, complexity was significantly higher on the abstract task compared to the interactional one.

To conclude, in answer to RQ1.1, high proficiency learners do vary their spoken production with the type of task they undertake. In this study the differences in spoken production were most evident between the interactional task compared to the narrative and abstract tasks, where learners' spoken production did not vary as much. Task type had a positive impact on production in the following ways: the interactional task (Information Gap) promoted accuracy and fluency, the abstract task (Art Description) promoted lexical complexity and the narrative task (Picture Story) promoted structural complexity.

5.1.1.2 Low proficiency

Spoken production measures were analysed for the low proficiency group across tasks in answer to RQ1.2**:** *Are there differences across tasks in spoken production (measured in terms of complexity, fluency, accuracy and self-repair) for low proficiency learners?* Table 5.4 presents descriptive statistics of spoken production measures for the low group. Friedman tests, presented in Table 5.5, showed that these differences were significant for all measures across tasks except for speech rate and Figure 5.2

illustrates these differences according to mean ranks on the Friedman test for each measure.

Table 5.4

Descriptive statistics for spoken production measures across tasks for low proficiency group (N=24)

	Picture Story		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
Accuracy						
error free clauses	42.60^{b}	17.01	47.44^{c}	13.65	54.62^{bc}	13.13
Complexity						
lexical complexity	32.00^{a}	11.08	35.87^{ac}	9.84	29.21^{c}	7.16
structural complexity	1.81^{ab}	.56	1.41^{ac}	.33	1.20^{bc}	.15
Fluency						
speech rate	33.79	7.88	32.74	11.33	33.82	11.56
long pauses	7.50^{b}	11.36	13.35	13.55	16.92^{b}	16.70
repetition	4.46^{b}	4.95	2.77^{c}	2.42	9.05^{bc}	11.79
reformulation	6.84^{b}	6.44	8.19^{c}	8.01	16.30^{bc}	15.06
Self-repair						
error-repair	10.71^{b}	10.48	7.52^{c}	5.69	3.37^{bc}	3.33

Note: For pauses, repetitions and reformulations high values represent high fluency.
Significant difference between tasks (Friedman-Wilcoxon, $p< .05$)

a - Picture Story and Art Description
b - Picture Story and Information Gap
c - Art Description and Information Gap

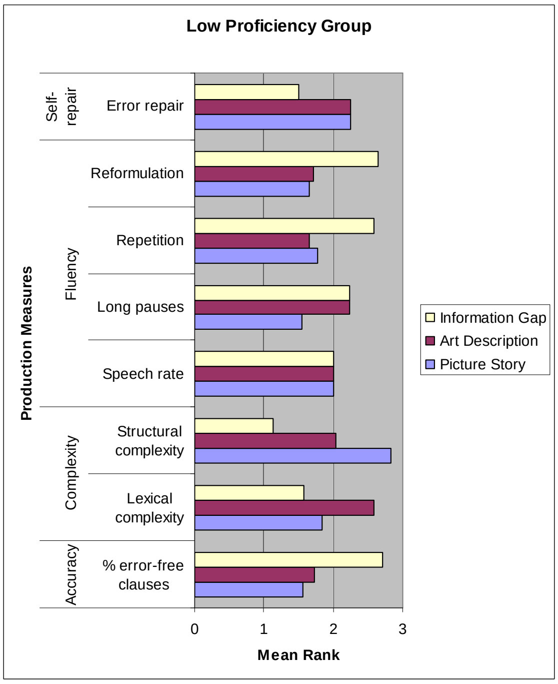
Post-hoc Wilcoxon tests, presented in Table 5.6, showed that for the low proficiency group, there were also several differences, as for the high proficiency group. There were 2 differences between the Picture Story and Art Description, 6 between the Picture Story and Information Gap and 6 between the Art Description and Information Gap. Figure 5.2 visualises the direction of these significant differences, which are described below.

Table 5.5

Friedman tests for spoken production measures across tasks for low proficiency group (N=24)

	Mean Ranks			*Statistics*		
	Picture Story	*Art Description*	*Information Gap*	*Chi-Square*	*df*	*Asymp. sig.*
Accuracy						
error free clauses	1.56	1.73	2.71	18.59	2	*.00**
Complexity						
lexical complexity	1.83	2.58	1.58	13.00	2	*.00**
structural complexity	2.83	2.04	1.13	35.08	2	*.00**
Fluency						
speech rate	2.00	2.00	2.00	.00	2	1.00
long pauses	1.54	2.23	2.23	8.25	2	*.02**
repetition	1.77	1.65	2.58	12.57	2	*.00**
reformulation	1.65	1.71	2.65	15.22	2	*.00**
Self-repair						
error-repair	2.25	2.25	1.50	9.60	2	*.01**

Note: For pauses, repetitions and reformulations high values represent high fluency.
***** Level of significance (Friedman, p< .05)



Note: For pauses, repetitions and reformulations high values represent high fluency.

Figure 5.2 Mean ranks for spoken production measures across tasks for low proficiency group (N=24)

Between the *Picture Story and Art Description*, as mentioned, there were two differences. Structural complexity was higher on the Picture Story (narrative task) while lexical complexity was higher on the Art Description (abstract task). Therefore, as for the high group, the narrative task elicited more structural complexity while the abstract task elicited more lexical complexity.

Table 5.6

Wilcoxon tests for spoken production measures across tasks for low proficiency group (N=24)

	Picture Story & Art Description		*Picture Story & Information Gap*		*Art Description & Information Gap*	
	Z	*Asymp. sig. (2-tailed)*	*Z*	*Asymp. sig. (2-tailed)*	*Z*	*Asymp. sig. (2-tailed)*
Accuracy						
error free clauses	-1.55	0.12	-3.23	*.00**	-3.66	*.00**
Complexity						
lexical complexity	-2.80	*.01**	-0.71	0.48	-3.49	*.00**
structural complexity	-3.71	*.00**	-4.26	*.00**	-3.43	*.00**
Fluency						
long pauses	-1.64	0.10	-2.03	*.04**	-0.54	0.59
repetition	-1.25	0.21	-2.14	*.03**	-3.46	*.00**
reformulation	-0.51	0.61	-2.74	*.01**	-2.90	*.00**
Self-repair						
error-repair	-0.70	0.48	-3.22	*.00**	-2.71	*.01**

Note: For pauses, repetitions and reformulations high values represent high fluency.
***** Level of significance (Wilcoxon, p< .05)

Between the *Picture Story and Information Gap*, there were differences in all measures except for lexical complexity. Accuracy and fluency were significantly higher on the Information Gap (interactional task) while structural complexity was higher on the Picture Story (narrative task). In other words, as for the high group, the interactional task elicited more accuracy and fluency than the narrative task, which elicited more structural complexity. However, the difference between the narrative and interactional tasks did not impact upon lexical complexity for the low proficiency learners.

Between the *Art Description and Information Gap*, virtually the same differences as for the above task comparison were found. Accuracy and fluency repair (repetition and reformulation) were significantly higher on the Information Gap, however, both structural complexity, lexical complexity and self-repair, were lower and there was no difference in fluency breakdown (long pauses). Therefore, the interactional task elicited more accuracy and fluency repair (repetition and reformulation) than the abstract task but less complexity and self-repair. As for the high proficiency group, interactional or task difficulty features did not impact fluency breakdown.

Summing up, in answer to RQ1.2, the low proficiency learners also vary their spoken production depending on the task type and this followed the same trend as the way high proficiency learners varied spoken production across tasks. Once again differences were more marked between the Information Gap and the other two tasks. Task type had a positive impact in the following ways: the interactional task (Information Gap) elicited accuracy and fluency, the abstract task (Art Description) elicited lexical complexity and self-repair and the narrative task (Picture Story) elicited structural complexity and self-repair.

5.1.1.3 Native speaker benchmarks

Table 5.7 presents descriptive statistics of production measures for the two pairs of native speaker benchmarks. Differences across tasks can be seen by comparing means. Firstly, three measures did not change across the three tasks: accuracy (error-free clauses), fluency breakdown and self-repair. Accuracy did not change and was consistently high (98-100% error-free clauses) regardless of the task. Fluency breakdown and self-repair did not change as there were no instances of either long pauses or error-repair found.

Five measures did change across tasks: lexical and structural complexity, speech rate and fluency repair (repetition and reformulation). Between the *Picture Story* and *Art Description,* structural complexity and fluency repair were lower on the Art Description. Between the *Picture Story* and *Information Gap* structural and lexical complexity were much lower and fluency repair and speech rate much higher on the Information Gap. This was also true between the *Art Description* and *Information Gap.* Comparisons with the NNS groups will be made in the between groups analysis in Section 5.2.

Table 5.7

Descriptive statistics for spoken production measures across tasks for native speakers

	Picture Story		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
Accuracy						
error free clauses	98.28	3.45	100.00	.00	99.1	0.95
Complexity						
lexical complexity	68.04	19.36	70.30	14.87	49.92	7.02
structural complexity	2.20	1.76	1.78	0.45	1.31	0.24
Fluency						
speech rate	71.87	8.26	68.62	8.75	86.10	15.81
long pauses	none	-	none	-	none	-
repetition	8.56	13.73	4.40	3.78	41.81	43.81
reformulation	9.30	13.30	5.74	3.54	25.07	27.13
Self-repair						
error-repair	none	-	none	-	none	-

Note: For pauses, repetitions and reformulations high values represent high fluency.

To sum up the findings for spoken production across tasks, there are significant effects in terms of CAF and self-repair across the three task types. For both proficiency groups differences were more marked between the interactional task (Information Gap) and the other two tasks than between the narrative (Picture Story) and abstract task (Art Description). In addition, for both proficiency groups the interactional task had a positive impact on accuracy and fluency, the abstract task (Art Description) on lexical complexity and the narrative task on structural complexity. For the low proficiency group, the abstract and narrative tasks had a positive effect on self-repair. For native speakers there was no difference in accuracy, self-repair or fluency breakdown across tasks. However, as for the NNS groups, the interactional task had a positive effect on fluency and the narrative and abstract tasks had a positive effect on lexical and structural complexity.

5.1.2 Perceived strategy use across tasks

General to more detailed measures of PSU are presented and compared across tasks in order to answer the research question, *RQ2, concerned with differences in perceived strategy use across tasks for EFL learners.* The following analyses were performed for the whole group and then each proficiency group independently. Unlike the spoken production results, for perceived strategy use results from the whole sample are included as they differed from the results of each proficiency group examined separately, and help to explain the different patterns of strategy differences between groups. Firstly, aggregated mean strategy use[50] was calculated to compare the overall level of strategy use across tasks. Then a comparison of strategy use according to the five strategy categories, obtained from factor analysis was made, followed by a more detailed comparison of individual strategies. These latter two analyses were made to find out exactly which groups of strategies or which individual strategies were associated with which task or task features and what proportion of the SQ strategies differed across tasks.

[50] All 44 strategies from the SQ grouped together.

5.1.2.1 Whole sample

By aggregating the forty-four strategies on the SQ, the overall level of strategy use could be compared across tasks. As shown in the descriptive statistics in Table 5.8 aggregated mean strategy use ranged between 2.13 and 2.40, which was just below the midpoint of the six-point rating scale which ranged from *not at all* (0) to *a lot* (5). Strategy use was highest in the Information Gap and lowest in the Picture Story. The Friedman test [chi square= 5.95, p= .05] showed that these differences were significant and post-hoc Wilcoxon tests indicated that strategy use differed between the Art Description and Information Gap [z= -2.50, p= .012] and between the Picture Story and Information Gap [z= -3.16, p= .002]. Strategy use was higher on the Information Gap compared to both the Picture Story and Art Description.

Table 5.8

Descriptive statistics of aggregated strategy use (N=48)

Task	*M*	*SD*
Picture Story	2.13^{b}	1.39
Art Description	2.21^{c}	1.36
Information Gap	2.40^{bc}	1.37
Aggregated tasks	2.25	1.37

Significant difference (Wilcoxon, p < .05) between:
b - Picture Story and Information Gap
c - Art Description and Information Gap

Next, an analysis of strategy use according to factor was conducted. Table 5.9 presents mean perceived strategy use of the five factors identified in the pilot study: Interactional, Compensation, Conversation-flow Maintenance (CFM), Planning and Evaluating strategies. A GLM (General Linear Model) repeated measures multivariate analysis of variance (MANOVA) was performed to see if there were statistically significant differences between the five strategy groups (dependent variables) across the three tasks (independent variable). Initial assumptions testing was carried out to check the data in terms of normality, linearity, univariate or multivariate outliers, homogeneity of variance matrices and multicollinearity. No violations were noted.

Table 5.9

Descriptive statistics of strategy use according to factor (N=48)

	*Factor 1 Interactional**		*Factor 2 Compensation**		*Factor 3 CFM*		*Factor 4 Planning*		*Factor 5 Evaluating*	
Task	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Picture Story	1.54^{b}	1.48	2.06^{b}	1.43	2.48	1.36	2.23	1.38	2.63	1.40
Art Description	1.74^{c}	1.41	2.18	1.40	2.73	1.31	2.23	1.28	2.68	1.37
Information Gap	2.03^{bc}	1.39	2.30^{b}	1.45	2.67	1.35	1.84	1.36	2.64	1.33
Aggregated tasks	1.77	1.43	2.18	1.43	2.63	1.34	2.10	1.34	2.65	1.37

Key: CFM-Conversation-Flow Maintenance
Significant differences (MANOVA: Univariate tests + within-subjects-contrasts, p< .05) between:
b - Picture Story and Information Gap
c - Art Description and Information Gap

Multivariate tests showed that globally task had a significant effect on the five groups of strategies [Wilks' Lambda= .53, *F*= 3.36, *p*= .003, partial eta squared= .47]. Univariate tests showed that this difference in strategy use was due to Interactional [Sphericity Assumed *p* = .00, Greenhouse-Geisser *p* = .00, Huynh-Feldt *p* = .00, Lower-bound *p* = .00] and Compensation strategies [Sphericity Assumed *p* = .02, Greenhouse-Geisser *p* = .02, Huynh-Feldt *p* = .02, Lower-bound *p* = .05] whereas for CFM, Planning and Evaluating strategies no differences were found.

Tests of within-subjects contrasts, shown in Table 5.10, indicated significant differences between the Picture Story and Information Gap for Interactional and Compensation strategies and between the Art Description and Information Gap for Interactional strategies. By examining the means for each factor, as seen in Table 5.11, it can be seen that Interactional and Compensation strategies were significantly higher on the Information Gap compared to the Picture Story, and Interactional strategies were significantly higher on the Information Gap compared to the Art Description.

Table 5.10

Results of tests of within-subjects contrasts (univariate 2 by 2)

Strategy group	*Task comparison*	*df*	*Mean square*	*F*	*p*	*Partial Eta squared*
Interactional	PS vs AD	1	2.129	3.100	.085	.062
	PS vs IG	1	17.752	16.200	*.000**	.256
	AD vs IG	1	7.586	10.112	*.003**	.177
Compensation	PS vs AD	1	.463	1.077	.305	.022
	PS vs IG	1	3.837	7.337	*.009**	.135
	AD vs IG	1	1.634	3.269	.077	.065
CFM	PS vs AD	1	.044	.103	.749	.002
	PS vs IG	1	.351	.534	.469	.011
	AD vs IG	1	.643	1.874	.178	.038
Planning	PS vs AD	1	.120	.150	.700	.003
	PS vs IG	1	1.470	2.442	.125	.049
	AD vs IG	1	2.430	3.402	.071	.068
Evaluating	PS vs AD	1	.689	.693	.410	.015
	PS vs IG	1	.105	.101	.752	.002
	AD vs IG	1	.255	.306	.583	.006

Key: PS-Picture Story, AD-Art Description, IG–Information Gap, CFM-Conversation Flow Maintenance
* Significant difference between tasks ($p < .05$)

The third analysis undertaken was with individual strategies. Table 5.11 shows descriptive statistics for individual strategy use on the three tasks. Non-parametric tests were conducted to examine if there were any significant differences across tasks for these individual strategies.

Table 5.12 shows the results of the Friedman tests with mean ranks, chi square and Asymp. sig. values for the individual strategies which showed significant differences ($p < .05$) across the three tasks. Sixteen strategies (36% of SQ) showed a significant difference: Items 1, 3, 7, 11, 17, 18, 20, 21, 23, 24, 25, 29, 30, 32, 33 and 34, which are highlighted in grey in Table 5.11. As Items 11 and 33 were parallel items coding for the strategy *gesture*, only fifteen different types of strategies actually varied across tasks.

Table 5.11

Descriptive statistics for individual perceived strategy use (N=48).

	Picture Story		*Art Description*		*Information Gap*	
Strategy Item	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. CFM (task familiarity)	3.25	1.67	2.02	1.84	2.52	1.96
2. P (advance organisation)	2.23	1.37	2.40	1.43	1.79	1.40
3. P (organisational planning)	1.98	1.44	2.19	1.14	1.60	1.35
4. (note taking)	.47	1.06	.27	.84	.44	1.11
5. CFM (using expressions)	1.94	1.34	1.83	1.51	1.92	1.56
6. CFM (avoiding error)	2.94	.99	2.73	1.05	2.98	1.30
7. CFM (fillers)	2.10	1.55	2.71	1.56	2.13	1.47
8. C (risk taking)	3.00	1.07	3.04	1.24	3.29	1.11
9. P (directed attention)	3.96	1.03	3.69	1.01	3.96	.90
10. P (avoiding risk)	3.25	1.18	3.15	1.09	3.13	.98
11. CFM (gesture)	2.54	1.41	2.85	1.27	3.21	1.54
12. CFM (maintaining conversation)	3.10	1.04	3.23	1.08	3.17	.93
13. P (planning sentence structure)	2.19	1.28	2.44	1.17	2.25	1.23
14. I (clarification by speaking slower)	1.90	1.36	2.17	1.34	2.15	1.09
15. I (comprehension check)	1.50	1.52	1.77	1.48	2.17	1.51
16. I (clarification by circumlocution)	1.96	1.50	2.00	1.32	2.63	1.30
17. C (clarification by code switch)	1.13	1.41	1.56	1.64	1.92	1.84
18. I (clarificaiton by repetition)	1.90	1.59	2.17	1.46	2.90	1.24
19. I (asking to speak slower)	1.02	1.42	.94	1.21	1.00	1.03
20. I (clarification request)	1.35	1.44	1.92	1.58	2.38	1.65
21. I (asking for repetition)	1.46	1.52	1.70	1.47	2.34	1.56
22. I (feigning understanding)	1.23	1.40	1.31	1.52	.94	1.12
23. I (guessing)	1.57	1.53	1.90	1.48	2.42	1.53
24. I (expressing non-understanding)	1.13	1.48	1.42	1.51	1.81	1.53
25. I (interpretive summary)	1.46	1.38	1.52	1.29	2.48	1.53
26. CFM (self-repair)	3.13	1.33	3.00	1.19	3.02	1.14
27. C (appeal for help)	2.23	1.59	2.21	1.75	2.69	1.76
28. C (message abandonment)	2.94	1.51	2.98	1.28	3.29	1.35
29. C (code switching)	1.46	1.64	1.71	1.68	2.25	1.76
30. C (word coinage)	1.46	1.46	1.60	1.51	1.94	1.60
31. C (foreignising)	1.17	1.39	1.08	1.29	1.56	1.64
32. I (circumlocution)	2.08	1.38	2.52	1.43	3.35	1.21
33. CFM *(as for Item 11)*	2.23	1.45	2.63	1.42	3.00	1.40
34. C (long pause).	2.60	1.47	3.08	1.25	2.90	1.22
35. C (restructuring)	2.79	1.18	2.98	1.10	2.77	1.29
36. C (literal translation)	2.04	1.49	1.90	1.39	2.15	1.54
37. C (mumbling)	1.60	1.48	1.77	1.51	1.48	1.40
38. C (omission)	1.56	1.51	1.54	1.27	1.60	1.35
39. C (retrieval)	2.23	1.48	2.08	1.20	2.02	1.33
40. C (approximation)	2.85	1.40	2.90	1.48	3.17	1.06
41. E (other evaluation)	1.25	1.52	1.13	1.33	1.35	1.38
42. E (self evaluation)	3.33	1.24	3.17	1.34	3.21	1.25
43. E (identifying problems)	3.21	1.22	3.04	1.41	3.08	1.40
44. E (aspects to improve)	3.17	1.45	3.15	1.46	3.13	1.35

Key: I-Interactional, C-Compensation, CFM-Conversation-Flow Maintenance, P-Planning, E-Evaluating. Significant differences across tasks (Friedman, p< .05) are shaded in grey.

Table 5.12

Friedman tests for individual strategies showing significant differences (N=48).

	Mean ranks			*Statistics*		
Strategy Item	*Picture Story*	*Art Description*	*Information Gap*	*Chi-square*	df	*Asymp. sig.*
1 CFM (task familiarity)	2.36 [ab]	1.66 [a]	1.98 [bc]	17.04	2	.000
3 P (organisational planning)	2.06	2.23[c]	1.71[c]	9.588	2	.008
7 CFM (fillers)	1.80[a]	2.26[ac]	1.94[c]	7.406	2	.025
11 CFM (gesture)	1.73[b]	2.01	2.26[b]	8.979	2	.011
17 C (clarification by code switch)	1.74[ab]	2.00[a]	2.26[b]	10.25	2	.006
18 I (clarification by repetition)	1.68[b]	1.92[c]	2.41[bc]	17.56	2	.000
20 I (clarification request)	1.72[ab]	2.09[a]	2.19[b]	8.22	2	.016
21 I (asking for repetition)	1.71[b]	2.01[c]	2.28[bc]	10.65	2	.005
23 I (guessing)	1.82[b]	1.92[c]	2.27[bc]	6.79	2	.034
24 I (expressing non-understanding)	1.76[b]	2.03	2.21[b]	7.57	2	.023
25 I (interpretive summary)	1.77[b]	1.80[c]	2.43[bc]	17.79	2	.000
29 C (code switching)	1.74[b]	1.98[c]	2.28[bc]	11.61	2	.003
30 C (word coinage)	1.78[b]	1.96	2.26[b]	8.08	2	.018
32 I (circumlocution)	1.51[ab]	1.99[ac]	2.50[bc]	29.70	2	.000
33 CFM (gesture)	1.67[ab]	2.06[a]	2.27[b]	11.75	2	.003
34 C (long pause)	1.78[a]	2.23[a]	1.99	6.71	2	.035

Key: I-Interactional, C-Compensation, CFM-Conversation-Flow Maintenance, P-Planning, E-Evaluating.
Significant difference (Wilcoxon, $p< .05$) between:

a = Picture Story and Art Description
b = Picture Story and Information Gap
c = Art Description and Information Gap

Wilcoxon tests indicated between which tasks significant differences lay. Table 5.13 shows the *z* scores and associated significance levels, presented as Asymp. sig. (2-tailed). Non-significant results have been omitted from the table. Table 5.15 indicates that between the Picture Story and Art Description there were *seven* significant differences (16% of SQ). Six of these strategies were used more on the Art Description as can be seen from the mean ranks in Table 5.12. These were Interactional: *clarification request* (Item 20) and *circumlocution* (Item 32), Compensation: *clarification by code switching* (Item 17) and *long pause* (Item 34) and CFM strategies: *fillers* (Item 7) and *gesture* (Item 11/33). In contrast, *task familiarity* (Item 1) was significantly less on the Art Description.

Table 5.13

Wilcoxon tests showing significant differences in individual strategies (N=48)

Strategy Item	*Picture Story & Art Description* Z	*Asymp. sig. (2-tailed)*	*Picture Story & Information Gap* Z	*Asymp. sig. (2-tailed)*	*Art Description & Information Gap* Z	*Asymp. sig. (2-tailed)*
1. CFM (task familiarity)	-4.06	.00	-2.10	.04	-1.87	.06*
3. P (organisational planning)					-2.58	.01
7. CFM (use of fillers)	-2.57	.01			-2.41	.02
11. CFM (gesture)			-2.67	.01		
17. C (clarification by code switch)	2.04	.04	-2.80	.01		
18. I (clarification by repetition)			-3.71	.00	-3.14	.01
20. I (clarification request)	-2.09	.04	-3.28	.00		
21. I (asking for repetition)			-3.53	.00	-2.86	.06*
23. I (guessing)			-2.84	.00	-2.17	.03
24. I (expressing non-understanding)			-2.58	.01		
25. I (interpretive summary)			-3.48	.00	-3.48	.00
29. C (code switching)			-3.71	.00	-2.32	.02
30. C (word coinage)			-2.12	.04		
32. I (circumlocution)	-1.95	.05	-4.55	.00	-3.34	.00
33. CFM (gesture)	-2.11	.03	-3.24	.00		
34. C (long pause)	-2.61	.01				

Key: I-Interactional, C-Compensation, CFM-Conversation-Flow Maintenance, P-Planning, E-Evaluating.
Level of significance: $p < .05$, * $p < .1$

The highest number of strategy differences, *thirteen* (30% of SQ), were found between the Picture Story and Information Gap. Mean ranks in Table 5.12 show that twelve of these strategies were used more on the Information Gap. Seven Interactional strategies: *clarification by repetition* (Item 18), *clarification request* (Item 20), *asking for repetition* (Item 21), *guessing* (Item 23), *expressing non-understanding* (Item 24), *interpretive summary* (Item 25) and *circumlocution* (Item 32) as well as three Compensation strategies: *clarification by code switch* (Item 17), *code switching* (Item 29) and *word coinage* (Item 30) and two CFM strategies: *gesture* (Items 11/33). In contrast, *task familiarity* (Item 1) was lower on the Information Gap.

Between the Art Description and Information Gap there were *seven* significant differences ($p < .05$) and two nearly significant differences ($p < .1$) (20% of SQ). Mean ranks in Table 5.12 show that five strategies were used more on the Information Gap.

These were four Interactional strategies: *clarification by repetition* (Item 18), *guessing* (Item 23), *interpretive summary* (Item 25) and *circumlocution* (Item 32) and one Compensation strategy: *code switching* (Item 29). On the other hand, two strategies were used more on the Art Description: *organisational planning* (Item 3) and *fillers* (Item 7).

Table 5.14 sums up the results for the whole sample described from the three perspectives: aggregated strategy use, groups of strategies and individual strategies. It shows that: a) learners perceive using strategies most on the Information Gap, less on the Art Description and least on the Picture Story, b) this increase in strategy use on the Information Gap, according to the analysis by groups of strategies, was due to Interactional and Compensation strategy types, and c) within these groups of strategies, according to the analysis of individual strategies, the particular Interactional and Compensation strategies which differed are the ones shown in Table 5.14, as well as other strategies from the CFM and Planning strategy groups: *task familiarity* (Item 1), *fillers* (Item 7), *gesture* (Item 11/33) and *organisational planning* (Item 3).

Despite these differences, it must also be recognised that they only represented sixteen out of forty-four strategy items (36%) of the SQ, compared to 64%, which remained stable across the three tasks. In pairwise comparisons between tasks, the differences were for 16% (Picture Story & Art Description), 30% (Picture Story & Information Gap) and 16% (Art Description & Information Gap) of strategies. Therefore, in answer to RQ2, according to the oral communication strategy questionnaire, there are some differences in strategy use across task types but the majority of strategies do not vary.

Table 5.14

Summary of perceived strategy use for the whole sample (N=48)

		Picture Story	*Art Description*	*Information Gap*
Aggregated strategies		low	low	high
Groups of strategies	*Factor 1.Interactional*	low	low	high
	Factor 2.Compensation	low	-	high
	Factor 3.CFM	-	-	-
	Factor 4.Planning	-	-	-
	Factor 5.Evaluating	-	-	-
Individual strategies	*Factor 1.Interactional*			
	Item 18 clarification by repetition	low	low	high
	Item 20 clarification request	low	high	high
	Item 21 asking for repetition	low	low	-
	Item 23 guessing	low	low	high
	Item 24 expressing non-understanding	low	-	high
	Item 25 interpretive summary	low	low	high
	Item 32 circumlocution	low	med	high
	Factor 2. Compensation			
	Item 17 clarification by code switch	low	high	high
	Item 29 code switching	low	low	high
	Item 30 word coinage	low	-	high
	Item 34 long pause	low	high	-
	Factor 3.CFM			
	Item 1 task familiarity	high	low	med
	Item 7 use of fillers	low	high	low
	Item 11 gesture	low	-	high
	Item 33 gesture	low	high	high
	Factor 4. Planning			
	Item 3 organisational planning	-	high	low

Key: high = strategy use significantly higher, low = strategy use significantly lower, med = strategy use significantly different from other tasks, – = no significant difference in strategy use

As seen from the results for RQ2, 36% of the SQ strategies differed across task types. Further comparisons were then made to see if low or high proficiency level determined these results in any way. Differences are examined with high-proficiency learners and then with low-proficiency learners. Once again a three level comparison is presented of aggregated strategies, groups of strategies and individual strategies at each proficiency level.

5.1.2.2 High proficiency group

This section presents the results from analyzing the question, RQ2.1: *Are there differences across task types in perceived strategy use (measured by an oral communication strategy questionnaire) for high proficiency learners?* Table 5.15 presents the descriptive statistics for aggregated strategy use across tasks and proficiency groups.

Table 5.15

Descriptive statistics for aggregated strategy use of high (N=24) and low (N=24) proficiency groups

Task	*Proficiency*	*M*	*SD*
Picture Story	High	1.97[b]	1.39
	Low	2.29	1.34
Art Description	High	2.07[c]	1.32
	Low	2.35	1.35
Information Gap	High	2.33[bc]	1.39
	Low	2.46	1.30
Aggregated tasks	High	2.13	1.37
	Low	2.37	1.33

Significant difference (Wilcoxon, p < .05) between:
b - Picture Story and Information Gap

Aggregated strategy use for the high proficiency group was compared across tasks by Friedman tests which revealed that there was a nearly significant difference across tasks [Friedman: *chi square*= 5.44, *p*= .066]. This difference lay between the Art Description and Information Gap [Wilcoxon: *z*= -2.04, *p*= .041] and the Picture Story and Information Gap [Wilcoxon: *z*= -2.57, *p*= .010]. Strategy use was higher on the Information Gap compared to the other two tasks for the high group.

Multivariate tests showed that there was a significant difference across tasks, taking the five groups of strategies together [Wilks' Lambda= .21, *F*= 5.36, *p*= .002, partial eta squared= .79]. When the five groups of strategies were considered separately, univariate tests showed that the difference was significant for Interactional strategies [*F*= 14.707, *p*= .00 (sphericity assumed), partial eta squared= .39] and Planning strategies [*F*= 3.55, *p*= .037 (sphericity assumed), partial eta squared= .13].

Table 5.16

Descriptive statistics of strategy use according to factor of high (N=24) and low (N=24) proficiency groups

		Factor 1 Interactional		*Factor 2 Compensation*		*Factor 3 CFM*		*Factor 4 Planning*		*Factor 5 Evaluating*	
Task	*Group*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Picture Story	High	*1.29[b]*	1.08	*1.79[b]*	.82	2.66	.79	*2.83[b]*	.76	2.44	1.05
	Low	1.70	1.07	2.37	.98	2.65	.74	2.62	.84	*3.04[a]*	.76
Art Description	High	*1.55[c]*	.97	*1.84**	.84	2.63	.70	*2.81[c]*	.66	2.65	1.07
	Low	1.87	.87	*2.51**	.88	2.63	.77	2.73	.76	*2.59[a]*	.89
Information Gap	High	*2.26[bc]*	.80	*2.10[b]*	.86	2.80	.78	*2.41[bc]*	.58	2.45	1.11
	Low	1.95	.86	2.62	1.01	2.68	.87	2.68	.79	2.94	.81
Aggregated tasks	High	1.70	1.03	1.91	.84	2.70	.75	2.68	.69	2.51	1.07
	Low	1.84	.93	2.50	.95	2.65	.79	2.68	.79	2.86	.83

* significant difference (MANOVA + between subjects effects, p< .05) between proficiency levels.
Significant difference (MANOVA: Univariate +within subjects contrasts, p< .05) between:
b Picture Story and Information Gap
c = Art Description and Information Gap

In pairwise comparisons of tasks, tests of within-subjects contrasts showed that these differences were between the Picture Story and Information Gap for Interactional strategies [*F*(1,23 = 21.08), *p*= .00, partial eta squared= .478], Planning strategies [*F*(1,23 = 8.75), *p*= .01, partial eta squared= .276] and Compensation strategies [*F*(1,23 = 4.32), *p*= .05, partial eta squared= .158]. They were also between the Art Description and Information Gap for Interactional strategies [*F*(1,23 = 13.75), *p*= .00, partial eta squared= .374] and Planning strategies [*F*(1,23 =6.03), *p*= .02, partial eta squared= .208].

By examining means for each factor in Table 5.16, it can be seen that Interactional strategies were higher on the Information Gap compared to the Art

Description or Picture Story. Compensation strategies were also higher on the Information Gap compared to the Picture Story and Planning strategies were lower on the Information Gap compared to both Art Description and Picture Story.

Figure 5.3 illustrates individual strategy use for the high proficiency group across the three tasks[51].

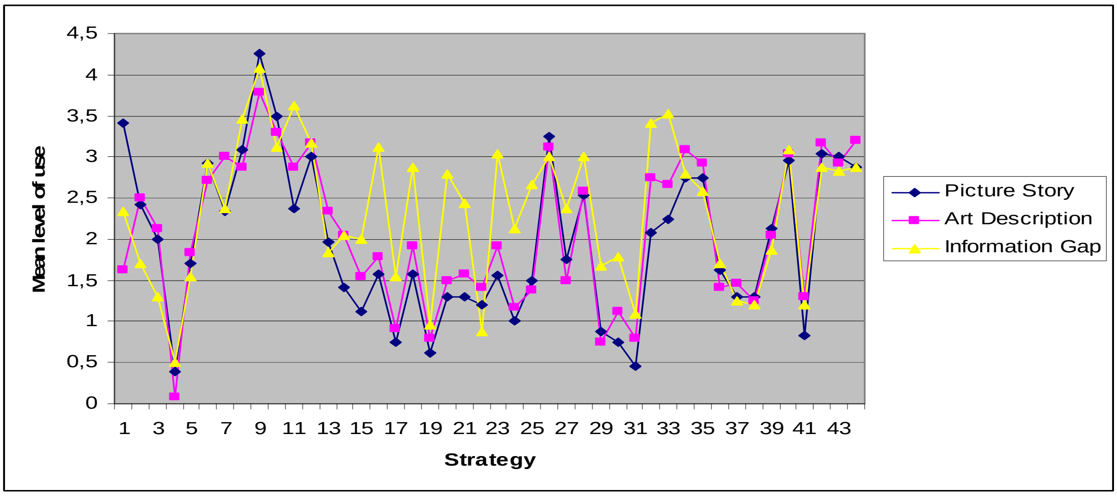


Figure 5.3 Individual strategy use of high proficiency group across the three tasks

The results of Friedman and post-hoc Wilcoxon tests, summarised in Table 5.17 reveal that *fifteen* strategies (34% of SQ) were used significantly differently. Once again, as these strategies included the parallel Items 11 and 33 for *gesture*, only fourteen different types of strategies actually varied across tasks.

As can be seen in Table 5.17, between the Picture Story and Art Description there were *two* differences: *task familiarity* (Item 1) was higher for the Picture Story and *circumlocution* (Item 32) was higher for the Art Description.

[51] Associated descriptive statistics can be found in Appendix O.

Table 5.17

Friedman tests showing significant differences in perceived strategy use of high proficiency group (N=24)

	Mean ranks			Statistics		
Strategy Item	*Picture Story*	*Art Description*	*Information Gap*	*Chi-Square*	*df*	*Asymp. sig.*
1. (task familiarity)	2.50 [ab]	1.54 [a]	1.96 [b]	15.20	2	.00
3. P (organisational planning)	2.15 [b]	2.29 [c]	1.56 [bc]	9.80	2	.01
11. CFM (gesture)	1.65 [b]	1.85 [c]	2.50 [bc]	11.87	2	.00
15. I (comprehension check)	1.69 [b]	2.00	2.31 [b]	7.03	2	.03
16. I (clarification by circumlocution)	1.67 [b]	1.85 [c]	2.48 [bc]	12.09	2	.00
18. I (clarification by repetition)	1.67 [b]	1.90 [c]	2.44 [bc]	10.17	2	.01
20. I (clarification request)	1.71 [b]	1.88 [c]	2.42 [bc]	8.00	2	.02
21. I (asking for repetition)	1.72 [b]	1.96	2.33 [b]	6.12	2	.05
23. I (guessing)	1.74 [b]	1.78 [c]	2.48 [bc]	10.40	2	.01
24. I (expressing non-understanding)	1.69 [b]	1.94 [c]	2.38 [bc]	8.86	2	.01
25. I (interpretive summary)	1.77 [b]	1.71 [c]	2.52 [bc]	13.27	2	.00
29. C (code switching)	1.81 [b]	1.81 [c]	2.38 [bc]	11.05	2	.00
30. C (word coinage)	1.63 [b]	1.90 [c]	2.48 [bc]	12.19	2	.00
32. I (circumlocution)	1.48 [ab]	2.04 [abc]	2.48 [bc]	15.24	2	.00
33. CFM (gesture)	1.61 [b]	1.93 [c]	2.46 [bc]	10.90	2	.00

Key: I-Interactional, C-Compensation, CFM-Conversation-Flow Maintenance, P-Planning, E-Evaluating.
Significant difference (Wilcoxon, $p < .05$) between:
a - Picture Story and Art Description
b - Picture Story and Information Gap
c - Art Description and Information Gap

Between the Picture Story and Information Gap there were *fifteen* differences. Item 1 (task familiarity) and Item 3 (organisational planning) were higher for the Picture Story whereas nine Interactional, two Compensation (code switching and word coinage) and two CFM strategies (gesture, Items 11 & 33) were used more on the Information Gap.

Between the Art Description and Information Gap there were *twelve* strategy differences. Planning (Item 3) was used more on the Art Description but the other eleven strategies were used more on the Information Gap: seven Interactional, two Compensation (code switching and word coinage) and gesture (Items 11 & 33).

Table 5.18

Summary of perceived strategy use for high proficiency group (N=24)

		Picture Story	*Art Description*	*Information Gap*
Aggregated strategies		-	-	-
Groups of strategies	*Factor 1.Interactional*	low	low	high
	Factor 2.Compensation	low	-	high
	Factor 3.CFM	-	-	-
	Factor 4.Planning	high	high	low
	Factor 5.Evaluating	-	-	-
Individual strategies	*Factor 1.Interactional*			
	Item 15 comprehension check	low	-	high
	Item 16 clarification by circumlocution	low	low	high
	Item 18 clarification by repetition	low	low	high
	Item 20 clarification request	low	low	high
	Item 21 asking for repetition	low	-	high
	Item 23 guessing	low	low	high
	Item 24 expressing non-understanding	low	low	high
	Item 25 interpretive summary	low	low	high
	Item 32 circumlocution	low	medium	high
	Factor 2. Compensation			
	Item 29 code switching	low	low	high
	Item 30 word coinage	low	low	high
	Factor 3.CFM			
	Item 1 task familiarity	high	low	low
	Item 11 gesture	low	low	high
	Item 33 gesture	low	low	high
	Factor 4. Planning			
	Item 3 organisational planning	high	high	low

Key: high = strategy use significantly higher, low = strategy use significantly lower, med = strategy use significantly different from other tasks, – = no significant difference in strategy use

Table 5.18 sums up the results for the high proficiency group across tasks. It shows that: a) high proficiency learners perceive using strategies significantly more on the Information Gap, in line with the whole sample results; however, in contrast to the whole sample, there was only a negligible difference in strategy use between the Picture Story and Art Description; b) the increase in strategy use on the Information Gap was due to higher use of Interactional and Compensation strategies, once again in line with whole sample results; c) among Interactional and Compensation strategies, according to the analysis of individual strategies, the particular strategies which differed were those shown in Table 5.18, as well as task familiarity (Item 1), gesture (Item 11/33) and organisational planning (Item 3), which is also in line with whole sample results.

Again, despite the differences highlighted by Table 5.18, it must be recognised that they only represented fifteen out of forty-four strategy items (34%) on the SQ, compared to 66%, which remained stable across tasks. In pairwise comparisons between tasks, differences were 4.5% (Picture Story & Art Description), 34% (Picture Story & Information Gap) and 27% (Art Description & Information Gap). Therefore, in answer to RQ2.1, according to an oral communication strategy questionnaire, high proficiency learners perceived using strategies differently on an Information Gap task type compared to a narrative (Picture Story) or abstract task (Art Description) but overall these differences represented less than half of strategies on the SQ.

5.1.2.3 Low proficiency group

In this section the following research question is examined, *RQ2.2: Are there differences across task types in perceived strategy use (measured by an oral communication strategy questionnaire) for low proficiency learners?* For the low proficiency group there was no significant difference [Friedman: chi square= 1.34, p= .51] in aggregated strategy use across tasks, as comparisons of means in Table 5.15 in the previous section suggest. Despite not being significantly different, the trend in aggregated strategy use was in line with previous results for the whole sample and high proficiency group: lowest in the Picture Story, higher in the Art Description and highest in the Information Gap.

Descriptive statistics for groups of strategies can be seen in Table 5.16 in the previous section. Means were compared for the low proficiency group, once again, using repeated measures MANOVA. Preliminary assumptions testing was carried out with no violations for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices. Multivariate tests showed that there was no significant difference across tasks, taking the five groups of strategies together [Wilks' Lambda= .47, F= 1.59, p= .206, partial eta squared= .53].

Figure 5.4 illustrates individual strategy use for the low proficiency group across the tasks[52]. Table 5.19 summarises results of the Friedman and post-hoc Wilcoxon tests. These tests confirmed that only four strategies (9% of SQ), three Interactional and one Compensation strategy, were used significantly differently across tasks for the low group. Between the Picture Story and Art Description, *two* strategies, Item 20 (clarification request) and Item 34 (long pausing), were used more in the Art Description. Between the Picture Story and Information Gap, *two* strategies, Item 18 (clarification by repetition) and Item 32 (circumlocution), were used more on the Information Gap and between the Art Description and Information Gap, *one* strategy, Item 34 (long pause), was used more in the Art Description.

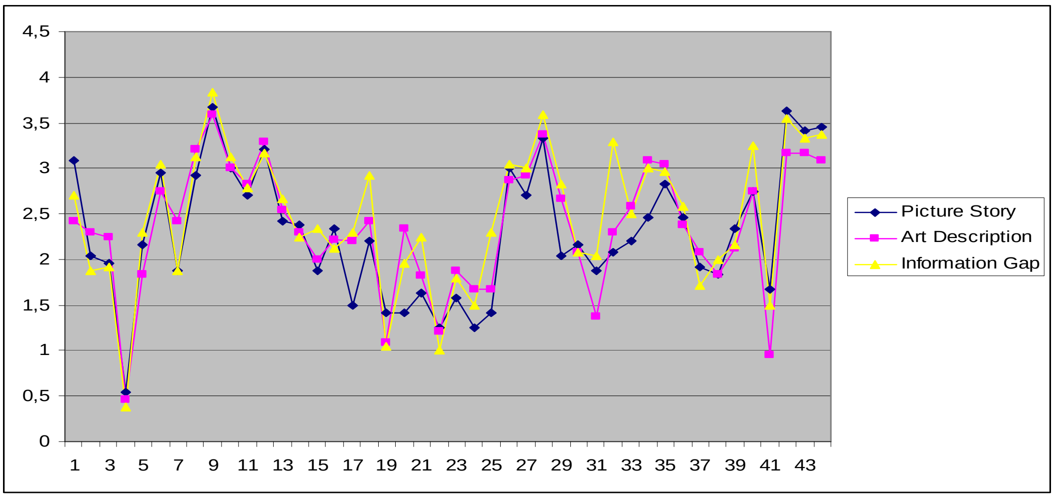


Figure 5.4 Individual strategy use of low proficiency group across the three tasks

[52] Associated descriptive statistics can be found in Appendix P.

Table 5.19

Friedman tests showing differences in perceived strategy use of low proficiency group (N=24)

Strategy Item	*Mean ranks* Picture Story	Art Description	Information Gap	*Statistics* Chi-Square	*df*	*Asymp. sig.*
18. I (clarification by repetition)	1.69 [b]	1.94 [c]	2.38 [bc]	7.54	2	.02
20. I (clarification request)	1.73 [a]	2.31 [a]	1.96	6.75	2	.03
32. I (circumlocution)	1.54 [b]	1.94 [c]	2.52 [bc]	14.71	2	.00
34. C (long pause)	1.63 [a]	2.25 [ab]	2.13 [b]	8.13	2	.02

Key: I-Interactional, C-Compensation.
Significant difference (Wilcoxon, p< .05) between:
a - Picture Story and Art Description
b - Picture Story and Information Gap
c - Art Description and Information Gap

To conclude from the low proficiency group results summarised in Table 5.20, task had a negligible effect on the strategy repertoire of the low proficiency group, as they generally perceived using strategies to the same extent across all three tasks.

Table 5.20

Summary of perceived strategy use for low group (N=24)

		Picture Story	*Art Description*	*Information Gap*
Aggregated strategies		-	-	-
Groups of strategies	*Factor 1.Interactional*	-	-	-
	Factor 2.Compensation	-	-	-
	Factor 3.CFM	-	-	-
	Factor 4.Planning	-	-	-
	Factor 5.Evaluating	-	-	-
Individual strategies	*Factor 1.Interactional*			
	Item 18 clarification by repetition	low	-	high
	Item 20 clarification request	low	high	-
	Item 32 circumlocution	low	-	high
	Factor 2. Compensation			
	Item 34 long pausing	low	high	low

Key: high = strategy use significantly higher, low = strategy use significantly lower, med = strategy use significantly different from other tasks, – = no significant difference in strategy use

According to the analysis of individual strategies, the few strategies that did vary (9%) were Interactional and Compensation strategies, which is in line with the whole sample and high group results. Therefore in answer to RQ2.2, according to an oral communication strategy questionnaire, for low proficiency learners there is negligible difference in strategy use between an interactional (Information Gap), a narrative (Picture Story) and an abstract task (Art Description).

5.1.2.4 Summary of perceived strategy use across tasks

Findings from the three-way comparisons, aggregated strategy use, groups of strategies and individual strategies, for the whole group, the high group and the low group across tasks can now be summarised. Aggregated strategy use showed us that the extent of strategy use was generally low across all tasks and it was lowest on the Picture Story, higher on the Art Description and highest on the Information Gap. Analysis of low and high proficiency groups separately showed that this result was produced by different patterns of strategy use from the respective groups. The high group had low strategy use on the Picture Story and Art Description but used significantly more strategies on the Information Gap whereas the low group had consistently higher strategy use across all three tasks which did not differ very much.

Comparing groups of strategies it was seen that the higher strategy use on the Information Gap was due to comparatively greater use of Interactional and Compensation strategies by the high group. It also showed that this group used Planning strategies significantly more on the Picture Story and Art Description.

Individual strategy use confirmed which particular Interactional and Compensation strategies were used more by the high proficiency group on the

Information Gap and also showed that this was accompanied by less organisational planning and more gesture.

It is worth highlighting one final point. As will be recalled, for the high group 34% of strategies differed compared to 9% for the low group across tasks. In such a case we would expect to find fewer than 34% differences in strategy use when considering the whole group, as the differences created by the high group would be diluted by the few differences of the low group. However, this was not the case. When considering the larger whole sample, the result revealed *more* differences (36%), which must have meant that the low group were also varying their strategy use across tasks and contributing to this higher result. In fact, by comparing individual PSU means for the low group (see Appendix P) there were several strategies where differences existed (Items 1, 7, 15, 21, 24, 25, 31, 40) but which had not reached significance.

5.2 Between-groups comparisons

So far spoken production and perceived strategy use have been compared across the three tasks, for both high and low proficiency groups separately, and pairwise comparisons (Picture Story-Art Description, Picture Story-Information Gap, Art Description-Information Gap) have revealed between which tasks differences exist and in which direction. However, comparisons between low and high proficiency groups on each task have not been made. In this section a description of between-groups differences in spoken production and strategy use are given in order to answer RQ3, *concerned with differences between low and high proficiency learners' spoken production and perceived strategy use.* Firstly, differences in spoken production measures will be presented followed by strategy use.

5.2.1 Spoken production between proficiency groups

Spoken production by high and low proficiency groups was compared and set against the production measures of NS benchmarks in order to answer *RQ3.1: Are there differences between low and high proficiency learners' spoken production (measured in terms of complexity, accuracy, fluency and self-repair)?* Table 5.21 and Figures 5.3, 5.4 and 5.5 present the means for high and low proficiency groups and native speakers on each of the three tasks. As will be recalled, the inclusion of NS benchmarks was to assess how each of the spoken measures was differentiating between proficiency groups.

Table 5.21

Descriptive statistics for spoken production measures for native speakers, high and low proficiency groups

	Picture Story			*Art Description*			*Information Gap*		
	NS (N=4)	*High (N=24)*	*Low (N=24)*	*NS*	*High*	*Low*	*NS*	*High*	*Low*
Accuracy									
error free clauses	98.28	70.26*	42.60*	100.00	74.05*	47.44*	99.18	81.04*	54.62*
Complexity									
lexical complexity	68.04	47.13*	32.00*	70.30	55.27*	35.87*	49.92	40.54*	29.21*
structural complexity	2.20	2.49*	1.81*	1.78	1.85*	1.41*	1.31	1.27*	1.20*
Fluency									
speech rate	71.87	50.73*	33.79*	68.62	51.75	32.74*	86.10	54.37*	33.82*
long pauses	18	4.15	7.50	36.25	18.64	13.35	60.25	28.46	16.92
repetition	8.56	3.04	4.46	4.40	4.65*	2.77*	41.81	7.54	9.05
reformulation	9.30	7.86	6.84	5.74	7.18	8.19	25.07	13.09	16.30
Self-repair									
error-repair	none	12.80	10.71	none	8.38	7.52	none	11.79*	3.37*

Note: For pauses, repetitions and reformulations high values represent high fluency.
* Significant difference between low and high groups (Mann-Whitney, p<.05)

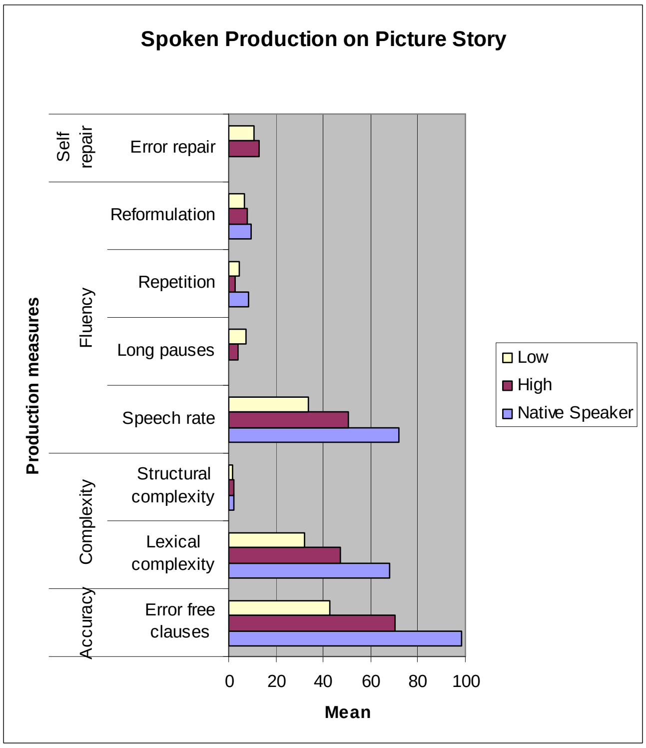


Figure 5.5 Picture Story: spoken production for low, high and native speakers

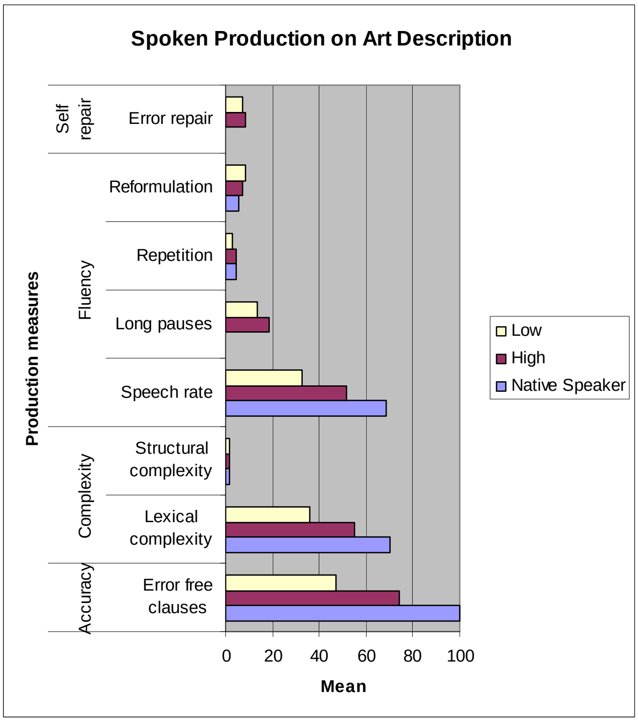


Figure 5.6 Art Description: spoken production for low, high and native speakers

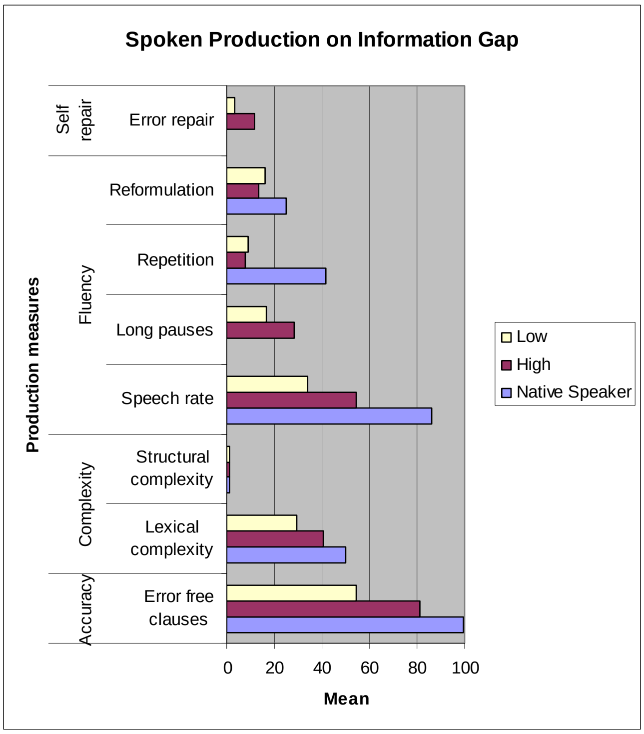


Figure 5.7 Information Gap: spoken production for low, high and native speakers

Significant differences between measures for high and low proficiency groups on each task were established with Mann-Whitney tests, presented in Table 5.22. These tests showed that there were significant differences between low and high proficiency groups for accuracy, complexity and speech rate measures on all three tasks. As can be seen in Figures 5.3, 5.4 and 5.5, in all three tasks accuracy, lexical complexity, structural complexity and speech rate were consistently lower for the low proficiency group. In contrast, there was no significant difference in fluency breakdown between groups on any task. As for fluency repair, there was only a difference between groups on the Art Description, where the high group were more fluent as they used significantly less repetition. As for self-repair, the high group used significantly more on the Information Gap.

Therefore, in answer to RQ3.1, there are differences between high and low proficiency groups' spoken production measures, with accuracy, lexical complexity, structural complexity and speech rate being consistently higher for the high group on all tasks. However, there were fewer differences between proficiency groups in terms of fluency breakdown, fluency repair and self-repair.

Table 5.22

Mann-Whitney tests for high and low proficiency groups

	Picture Story		*Art Description*		*Information Gap*	
	Z	Asymp. Sig. (2-tailed)	Z	Asymp. Sig. (2-tailed)	Z	Asymp. Sig. (2-tailed)
Accuracy						
error free clauses	-5.37	.00*	-5.37	.00*	-5.46	.00*
Complexity						
lexical complexity	-3.79	.00*	-4.58	.00*	-4.12	.00*
structural complexity	-3.22	.00*	-2.85	.00*	-2.33	.02*
Fluency						
speech rate	-4.45	.00	-4.60	.00	-4.93	.00*
long pauses	-1.84	.07	-1.16	.25	- .32	.75
repetition	-2.10	.56	-2.10	.04*	- .39	.70
reformulation	-.70	.48	-1.08	.28	.62	.95
Self-repair						
error-repair	-.21	.84	-.04	.97	-3.42	.00*

***** Level of significance (Mann-Whitney, p< .05)

Setting these results against the native speaker benchmarks, Figures 5.3, 5.4 and 5.5 show that the native speakers did not self-repair or make long pauses on any task. They scored higher in most fluency measures, accuracy and lexical complexity than both NNS groups but scored lower than the high group on structural complexity on the Picture Story and Art Description. They also reformulated more than both NNS groups on the Art Description.

5.2.2 Perceived strategy use between proficiency groups

Comparisons of perceived strategy use are now examined between proficiency groups to answer RQ3.2: *Are there differences between low and high proficiency learners' perceived strategy use (measured by an oral communication strategy* *questionnaire)?* As seen from the descriptive statistics for aggregated PSU, illustrated in Figure 5.8, between-groups comparisons show that strategy use was higher for the low group on all three tasks. However, Mann-Whitney tests, shown in Table 5.23 below, revealed that these differences were not significant ($p < .05$).

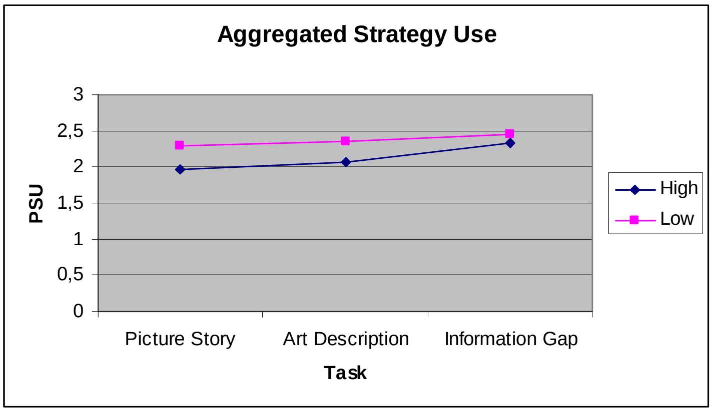


Figure 5.8. Aggregated PSU across tasks of high (N=24) and low (N=24) proficiency groups

Table 5.23

Mann-Whitney tests comparing aggregated strategy use of high (N=24) and low (N=24) proficiency groups

	Picture Story	*Art Description*	*Information Gap*
Mann-Whitney U	199.50	214.00	252.00
Wilcoxon W	499.50	514.00	552.00
Z	-1.83	-1.53	-.75
Asymp. Sig. (2-tailed)	.07*	.13	.46

* Nearly significant difference between proficiency groups

In Table 5.16 (p.201) the descriptive statistics for groups of strategies were presented for both proficiency groups. A one-way between-groups MANOVA was conducted to examine if these differences were significant. The five dependent variables were the strategy groups: Interactional, Compensation, CFM, Planning and Evaluating and the independent variable was proficiency level. Preliminary assumptions testing found no violations for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices. Multivariate tests showed that there was a significant main effect on strategy use [Wilks' Lambda= .46, *F*= 2.46, *p*= .016, partial eta squared= .54] when the five groups of strategies and three tasks were considered together. Subsequently, when the five groups of strategies were considered separately, tests of between-subjects effects, using a Bonferroni[53] adjusted alpha level of $p < .01$, showed that the difference between high and low proficiencies was only significant for Compensation strategies on the Art Description [$F(1,46=7.308)$, $p= .01$, partial Eta squared= .137]. Comparing the means for Compensation strategy use on this task in Table 5.18 (p.204), strategy use was significantly higher for the low proficiency group.

Individual strategies were examined to find out exactly which particular Compensation strategies differed. Figures 5.9, 5.10 and 5.11 illustrate mean individual strategy use for low and high proficiency groups on the Picture Story, Art Description and Information Gap, respectively[54].

Mann-Whitney tests, as seen in Table 5.24, confirmed individual strategy differences between the two proficiency groups. There were *eight* strategy differences on the Picture Story, *six* on the Art Description and *seven* on the Information Gap. In other words, between 14% and 18% of the SQ strategies differed significantly between proficiency groups.

[53] Pallant (2005) recommends using the Bonferroni adjustment to reduce the chance of a Type I error (finding a significant result when in fact there isn't one). The simplest version of the Bonferroni is to divide the original alpha level of .05 by the number of dependent variables. In this case 5 dependent variables were examined; therefore .05 divided by 5 gave the new alpha level of .01.

[54] As will be recalled descriptive statistics of individual strategies for high and low groups are in Appendix N and O, respectively.

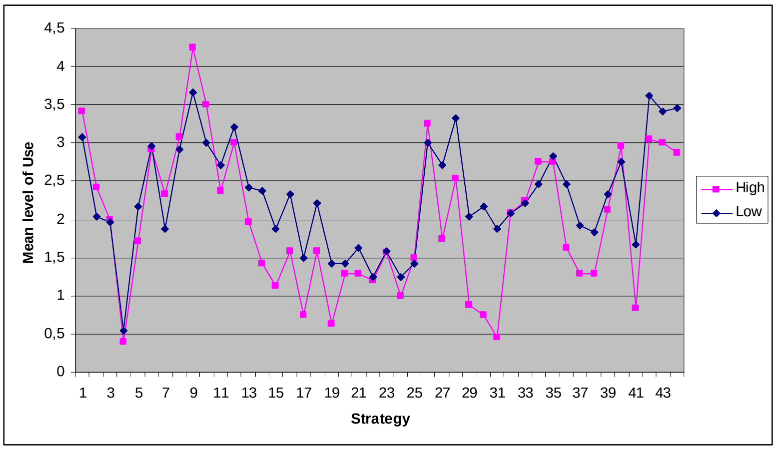


Figure 5.9 Picture Story: Mean strategy use for high and low proficiency groups

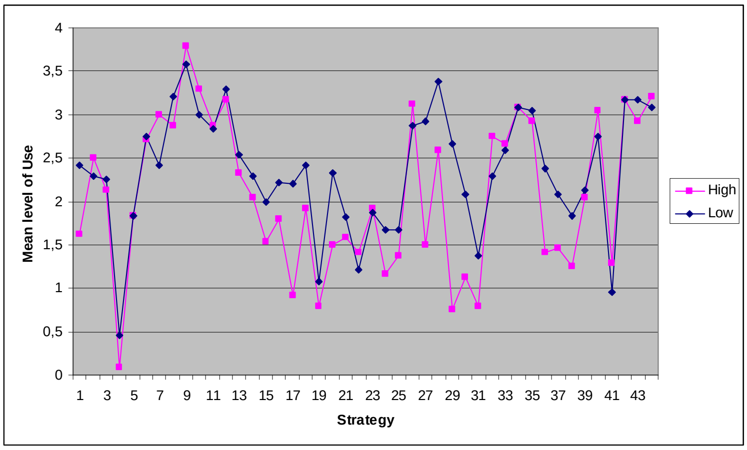


Figure 5.10 Art Description: Mean strategy use for high and low proficiency groups

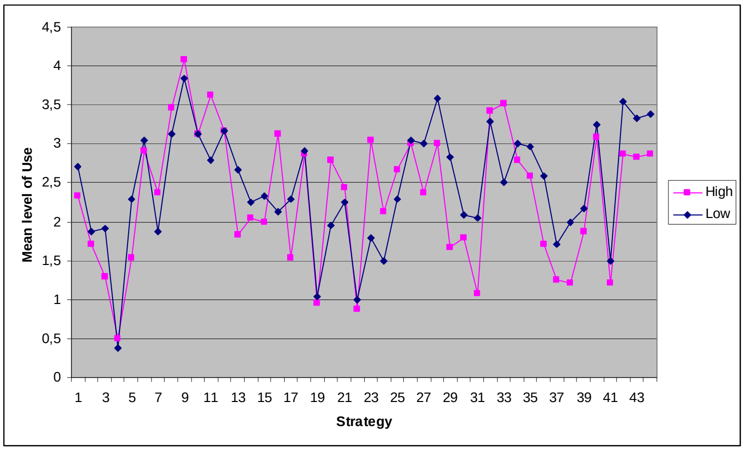


Figure 5.11 Information Gap: Mean strategy use for high and low proficiency groups

Figures 5.9, 5.10 and 5.11 indicate the direction of these differences showing that the low proficiency group perceived using the majority of these strategies more on all three tasks, which fits with previous results obtained for aggregated strategy use.

Table 5.24

Mann-Whitney tests for strategy use between high and low proficiency groups

	Picture Story		*Art Description*		*Information Gap*	
Strategy Item	*z*	*Asymp sig. (2-tailed)*	*z*	*Asymp sig. (2-tailed)*	*z*	*Asymp sig. (2-tailed)*
11. CFM (gesture)					-2.09	.04
13. P (planning sentence structure)					-2.26	.02
14. I (clarification by speaking slower)	-2.48	.01				
16. I (clarification by circumlocution)					-2.63	.01
17. C (clarification by code switch)	-2.43	.02	-2.58	.01		
19. I (asking to speak slower)	-1.99	.05				
23. I (guessing)					-2.57	.01
27. C (appeal for help)	-2.13	.03	-2.77	.01		
28. C (message abandonment)			-2.18	.03		
29. C (code switching)	-2.87	.01	-4.26	.00	-2.35	.02
30. C (word coinage)	-3.21	.00	-2.02	.04		
31. C (foreignising)	-3.59	.00			-2.16	.03
33. CFM (gesture)					-2.41	.02
36. C (literal translation)			-2.34	.02		
41. E (other evaluation)	-2.07	.04				

Key: I-Interactional, C-Compensation, CFM-Conversation-Flow Maintenance, P-Planning, E-Evaluating. Non-significant results have been omitted from the table.

To follow the description of individual strategy differences the reader may find it easier to refer to Table 5.25, which summarises the results for between-groups differences. On the Picture Story the low proficiency group used all *eight* strategies more. These were Interactional: *speaking slower* (Item 14) and *asking to speak slower* (Item 19), Compensation: *clarification by code switch* (Item 17), *appeal for help* (Item 27), *code switching* (Item 29), *word coinage* (Item 30) and *foreignising* (Item 31) and *other evaluation* (Item 41).

On the Art Description, the low proficiency group again used all *six* strategies more. These were all Compensation strategies: *clarification by code switch* (Item 17), *appeal for help* (Item 27), *message abandonment* (Item 28), *code switching* (Item 29), *word coinage* (Item 30) and *literal translation* (Item 36).

Table 5.25

Summary of between-group differences

		Picture Story	*Art Description*	*Information Gap*
Aggregated strategy use		-	-	-
Strategy groups	*Factor 1.Interactional*	-	-	-
	Factor 2.Compensation	-	Low group	-
	Factor 3.CFM	-	-	-
	Factor 4.Planning	-	-	-
	Factor 5.Evaluating	-	-	-
Individual strategies	*Factor 1.Interactional*			
	Item 14 clarification by speaking slower	Low group	-	-
	Item 16 clarification by circumlocution			High group
	Item 19 asking to speak slower	Low group	-	-
	Item 23 guessing	-	-	High group
	Factor 2. Compensation			
	Item 17 clarification by code switch	Low group	Low group	-
	Item 27 appeal for help	Low group	Low group	-
	Item 28 message abandonment	-	Low group	-
	Item 29 code switching	Low group	-	-
	Item 30 word coinage	Low group	Low group	
	Item 31 foreignising	Low group	Low group	Low group
	Item 36 literal translation	-	Low group	-
	Factor 3.CFM			
	Item 5 use of expressions	-	-	Low group
	Item 11 gesture	-	-	High group
	Item 33 gesture	-	-	High group
	Factor 4.Planning			
	Item 13 planning sentence structure	-	-	Low group
	Factor 5. Evaluating			
	Item 41 other evaluation	Low group	-	-

Key: Low group = strategy use was significantly higher for the low proficiency group
High group = strategy use was significantly higher for the high proficiency group
- = no significant differences between proficiency groups

On the Information Gap, the low proficiency group used *three* strategies more: *use of expressions* (Item 5), *thinking of sentence structure* (Item 13) and *foreignising* (Item 31) and the high proficiency group used *four* strategies more: *gesture* (Item 11/ 33), *clarification by circumlocution* (Item 16) and *guessing* (Item 23).

Table 5.25 sums up the between-groups comparison, showing that there were few differences between high and low proficiency groups in strategy use on any task and the few differences were mainly for Compensation strategies (five on the Picture Story and six on the Art Description) where the low group used them more. All in all, in answer to RQ3.2, according to an oral communication strategy questionnaire, there are very few differences (18% of SQ, maximum) between the strategy use of high and low learners on the three task types: interactional (Information Gap), a narrative (Picture Story) and an abstract task (Art Description).

5.3 Summary of across-task and between-groups comparisons

5.3.1 Spoken production

Summing up the findings for spoken production across tasks and between groups, firstly, there seem to be more differences across tasks. Across tasks, the Information Gap task distinguishes itself from the other two tasks, eliciting more accuracy and fluency from NNS and more fluency from NS. The Picture Story and Art Description are more similar in terms of spoken production measures, the former eliciting structural complexity and the latter lexical complexity from both NNS groups and NS benchmarks. One distinguishing feature of the low proficiency group is that these two tasks also favoured self-repairs.

Between proficiency groups there are also differences in spoken production and the magnitude of difference is high, mainly consistently higher accuracy, lexical complexity, structural complexity and speech rate for the high group across all tasks. In comparison to NS benchmarks, NNS were less fluent overall, less accurate and less lexically complex, but they were sometimes more structurally complex and more fluent in terms of reformulating less.

As some spoken production measures differed across tasks, even in some cases for native speakers, it does imply that the particular task features influenced the type of spoken performance which took place. Therefore, further analysis of the strategies which differed across the tasks and between proficiency groups would enrich our understanding of which task features could be involved and how these features affect strategy use for learners of different proficiency.

5.3.2 Perceived strategy use

The findings from the across-task and between-groups analysis of PSU are now summarised. Tables 5.26 and 5.27 summarise the across-tasks and between-groups findings respectively.

Table 5.26

Number of individual strategy differences across tasks

	Picture Story & Art Description	*Picture Story & Information Gap*	*Art Description & Information Gap*
High proficiency	2	15	12
Low proficiency	2	2	1

As can be seen from the across-task differences in Table 5.26, there were few differences between the Picture Story and Art Description for both groups. On the Information Gap, the high group increased their use of strategies compared to the other two tasks but the low groups' strategy use barely differed.

Table 5.27

Number and direction of individual strategy differences between groups

	Picture Story	*Art Description*	*Information Gap*
High proficiency			↑ 4
Low proficiency	↑ 8	↑ 6	↑ 3

In the between-groups analysis summarised in Table 5.27, it can be seen that the low groups' strategy use was higher, particularly on the first two tasks. Although this difference didn't reach significance for aggregated strategy use, it was significant for 8 and 6 individual strategies on the Picture Story and Art Description respectively, manifested as higher use of mainly Compensation strategies. These combined results suggest that the high groups' Compensation strategy use is low on *both* Picture Story and Art Description whereas the low groups' Compensation strategy use is high on *both* tasks, resulting in few differences across tasks but differences between groups. On the Information Gap both groups increase their strategy use, resulting in across task differences for the high group but there were no between-groups differences because the low groups' level of use of these strategies was already high.

In fact, as seen in aggregated strategy use, shown in Figure 5.8 (p.214), it was not only the high group that increased their strategy use but *both* groups; strategy use being lowest on the Picture Story, higher on the Art Description and highest on the Information Gap, although not all of these differences were significant. This explains why more differences were found for the whole sample (36%) than for the low (9%) and high groups (34%) analysed separately.

5.4 Perceived strategy use versus actual strategy use

In order to answer the fourth research question, RQ4: *Does perceived strategy use (measured by an oral communication strategy questionnaire) reflect actual strategy use (measured in task performance and according to stimulated recall comments) for low and high proficiency learners?* actual strategy use (ASU) was measured and compared with PSU. As results for PSU had shown that there were some differences in Compensation strategy use between groups, the two proficiency groups were considered separately from the beginning. Firstly, a description is provided of how PSU and ASU were compared across tasks. Then, results for each proficiency group are presented in terms of the number of consistencies, discrepancies and unconfirmable strategies between PSU on the SQ and ASU. Finally, differences in strategy use across tasks and between groups are re-assessed in light of these new findings.

5.4.1 Comparing PSU and ASU

In Chapter 4 an explanation was provided of how individual strategies from the SQ were identified as ASU, either in task performance data or stimulated recall comments (Table 4.16). Examples of how all the strategies were identified can be found in Appendix N. As will be recalled, twenty-nine out of the forty-four strategies were *quantifiable* by identifying discrete instances in task transcripts and coding them (labelled as *task coding* in Table 4.16). Descriptive statistics were calculated for ASU for the high and low proficiency groups (see Appendix Q and R respectively) and compared with descriptives for PSU. The *quantifiable* strategies were from three of the five strategy groups as follows: Interactional strategies (all twelve strategies): Items 14-25 and Item 32, Compensation strategies (thirteen out of fourteen strategies): Item 17, Items 27-31 and Items 34-40, and CFM strategies (four out of eight strategies): Item 6 (avoiding errors), Item 7 (use of fillers), Item 11 (gesture) and Item 26 (self-repair).

The remaining *unquantifiable* strategies (14) were identified by task observation, in pre-task planning or in the comments from the stimulated recall group. They were classified as *low-*, *medium-* or *high-use* strategies by comparing their relative use across the three tasks within each proficiency group[55]. These values were then compared with

[55] PSU was reported on the SQ on a 6-point scale ranging from *not at all* (0) to *a lot* (5). However, for ASU, as described, means could not be calculated for all the strategies. For this reason statistical correlations could not be made in the comparison of PSU and ASU.

the trends in mean PSU across tasks, as illustrated in the next section. *Unquantifiable* strategies included all the Planning (Items 2, 3, 9, 10 and 13) and Evaluating (Items 41-44) strategies, the three remaining CFM strategies (Items 1, 5 and 10), one Compensation strategy: Item 8 (risk taking), and Item 4 (note-taking), which had not been included in any factor.

Taking into account the difficulty of self report for oral communication, a certain level of inconsistency with ASU was expected. As indicated by the second pilot study, examining the interpretation of the rating scale on the SQ (see Chapter 4 Section 4.2.1.2), participants were reluctant to mark the top of the scale for some strategies, even though they had used a particular strategy *a lot*. It also showed that learners marked a *1* rather than a 0 for other strategies, even when they hadn't used them. This information was taken into consideration so that, if the mean level of PSU was between 0-1.99, it was considered *Low*, means between 2 and 3 were considered *Medium* and means above 3 were considered *High*.

Results from the comparison of PSU and ASU are summarised in Tables 5.33 and 5.34 for high and low proficiency groups, respectively. The tables show the three possible conclusions reached: that a strategy was *consistent* with PSU, that a strategy was *discrepant* with PSU or that a strategy was *unconfirmable*. The following examples illustrate how these classifications were reached.

5.4.1.1 Consistency

For *quantifiable* strategies, PSU and ASU was classed as *consistent* when the means followed the same trends across tasks, as in the following two cases:

1) There was no change in PSU or ASU and the extent of strategy use (low, medium or high) matched.

For example, for the low proficiency group for *feigning understanding* (Item 22) both PSU and ASU was low (see Table 5.28) and did not change significantly across tasks, so this item was classed as consistent.

Table 5.28

Low Group: PSU versus ASU for Item 22

	Picture Story *M*	*Art Description* *M*	*Information Gap* *M*
PSU	1.25	1.21	1
ASU	0	0	.04

2) There was a difference in PSU and ASU across tasks and this difference across tasks matched.

For example, for the high group for *gesture* (Item 11/33) strategy use was lowest in the Picture Story and highest in the Information Gap (see Table 5.29). This was also true for ASU. As these general trends across tasks matched, *gesture* was also classed as consistent.

Table 5.29

High Group: PSU versus ASU for Item 11 / 33

	Picture Story *M*	*Art Description* *M*	*Information Gap* *M*
PSU (Item 11)	2.38	2.88	3.63
PSU (Item 33)	2.25	2.67	3.52
ASU	3.54^{ab}	11.71^{ac}	32.29^{bc}

Significant difference (Friedman-Wilcoxon) p< .05 between:
a - Picture Story and Art Description
b - Picture Story and Information Gap
c - Art Description and Information Gap

For *unquantifiable* strategies, the extent of strategy use observed was compared to PSU means in the following ways. For example for Item 4 (note taking) for the low group, PSU was low and did not change significantly across tasks. ASU, identified in observation of pre-task planning, confirmed that ASU was also low across tasks (see Table 5.30), as none of the participants made extensive notes in doing the task. At most, a few learners noted down some key words. Therefore, this strategy was classified as consistent.

Table 5.30

Low Group: PSU versus ASU for Item 4

	Picture Story *M*	*Art Description* *M*	*Information Gap* *M*
PSU	.54	.46	.38
ASU*	low	low	low

* task observation of note taking

5.4.1.2 Discrepancy

For *quantifiable* strategies, means for PSU and ASU were classed as *discrepant* if there was a difference between the level of ASU or PSU on each tasks and if the trends across tasks differed.

For example, for the low group, for *use of fillers* (Item 7), PSU was lower on the Art Description than the other two tasks, but ASU was significantly higher on the Art Description, contradicting PSU results (see Table 5.31). Therefore, PSU was classed as discrepant with ASU for Item 7.

Table 5.31

Low Group: PSU versus ASU for Item 7

	Picture Story *M*	*Art Description* *M*	*Information Gap* *M*
PSU	1.88	1.47	1.88
ASU	.04[a]	.83 [a]	.21

Significant difference (Wilcoxon) p< .05 between:
a - Picture Story and Art Description

For *unquantifiable* strategies, they were classed as having a discrepancy if the information provided in the data sources contradicted the trends in means for PSU across tasks. For example for the low group, for *risk taking* (Item 8), the mean level of PSU was medium to high (2-3) with no significant differences between tasks (see Table 5.32). ASU, however, measured in terms of the number of recall comments referring to risk-taking, indicated most risk-taking on the Art Description (9 comments) compared to the Information Gap (6 comments) and Picture Story (4 comments) . Therefore, Item 8 was classed as having a *discrepancy*.

Table 5.32

Low Group: PSU versus ASU for Item 8

	Picture Story *M*	*Art Description* *M*	*Information Gap* *M*
PSU	2.92	3.21	3.13
ASU*	low	high	medium

* recall comments referring to risk taking

5.4.1.3 Unconfirmable

Finally, strategies were *unconfirmable* if they could not be reliably identified in the qualitative data or if they were identified but insufficient data was available to make comparisons across tasks. An example is *using expressions* (Item 5). Task transcripts were examined for collocations and set expressions and very few were found, particularly for the low group. Furthermore, it was impossible to know if expressions had been used strategically, in a conscious way, in an effort to sound more native-like or whether the expressions had been used unconsciously, as part of the learner's normal repertoire of language. Only one recall comment confirmed that a high participant had used an expression strategically on the Picture Story:

Task

*IGN: so as they did everything they could imagine they could do in the hotel they er spent the rest of the: honeymoon burning time til the: the: plane took them home back home because because of the: Tom's state

Recall

Researcher: What were you thinking here?

Student: *to burn time* I I thought of it before saying and I look for a sentence where I could put it because it sounds great to me.

5.4.2 High and low proficiency: PSU versus ASU

Firstly, results are presented for the high proficiency group. Table 5.33 shows that PSU was consistent with ASU for 28 strategies (63% of SQ), extent of strategy use was unconfirmable for 5 (11.5% of SQ) and there were discrepancies for 11 (25% of SQ) strategies. The high group were consistent in reporting some strategies that did not change across tasks: eight strategies that they didn't use or rarely used: *note taking* (Item 4), Interactional (Items 14, 19), Compensation (Items 22, 36, 37, 38) and *other*

Table 5.33

ASU:PSU consistency for high proficiency group

Strategy	*ASU:PSU*	*Extent of strategy use*
*1. (task familiarity)	consistent	High in PS, Low in AD
2. P (advance organisation)	consistent	Low
*3. P (organisational planning)	consistent	Low in IG
4. (note taking)	consistent	Low
5. CFM (using expressions)	unconfirmable	
*6.CFM (avoiding errors)	discrepancy	ASU difference not reflected: ASU low in PS, medium in AD, high in IG, PSU medium
7. CFM (use of fillers)	discrepancy	ASU overestimated: ASU low, PSU medium,
8. C (risk taking)	unconfirmable	
9. P (directed attention)	consistent	High
10. P (avoiding risk)	unconfirmable	
*11/33. CFM (gesture)	consistent	Low in PS, High in IG
12. CFM (maintaining the conversation)	unconfirmable	
13. P (thinking of sentence structure)	unconfirmable	
14. I (speaking slower)	consistent	Low
*15. I (confirmation check)	consistent	Low in PS, High in IG
*16. I (clarification by paraphrase)	consistent	Low in PS & AD, High in IG
17. C (clarification by code switch)	discrepancy	ASU: PSU inconsistent: ASU low, PSU high in IG
*18.I (clarification by repetition)	consistent	High in IG
19.I (ask to speak slower)	consistent	Low
*20. I (clarification request)	consistent	High in IG
21. I (asking for repetition)	consistent	High in IG
22. I (feigning understanding)	consistent	Low
*23. I (guessing)	consistent	High in IG
*24 I (expressing non understanding)	consistent	High in IG
25. I (interpretive summary)	discrepancy	ASU: PSU inconsistent: ASU low, PSU high in IG
26.CFM (self-repair)	consistent	Medium
*27. C (appeal for help).	discrepancy	ASU difference not reflected: ASU high in IG
*28. C (message abandonment)	discrepancy	ASU difference not reflected: ASU high in IG
*29. C (code switching)	consistent	High in IG
30. C (word coinage)	discrepancy	ASU: PSU inconsistent: ASU low, PSU high in IG
*31. C (foreignising)	discrepancy	ASU difference not reflected: ASU high in IG
*32. I (circumlocution)	consistent	High in IG
*33. As for Item 11	consistent	Low in PS, High in IG
*34. C (long pausing)	discrepancy	ASU difference not reflected: ASU high in IG
35. C (restructuring)	consistent	Medium
36. C (literal translation)	consistent	Low
37. C (mumbling)	consistent	Low
38. C (omission)	consistent	Low
*39. C (retrieval)	discrepancy	ASU difference not reflected: high in PS and AD
*40. C (approximation)	discrepancy	ASU difference not reflected: ASU low in PS, high in IG
41. E (other evaluation)	consistent	Low
42. E (self-evaluation)	consistent	High
43. E (problem identification)	consistent	High
44. E (aspects to improve)	consistent	High

Key: PS- Picture Story, AD- Art Description, IG – Information Gap.
ASU:PSU consistencies are shaded in grey.
* Differences in ASU across tasks [56]

[56] For quantifiable strategies differences across tasks were established using Friedman-Wilcoxon tests and for unquantifiable strategies differences were established from transcripts and recall comments. In total 20 strategies differed out of 44 strategies on the questionnaire.

evaluation (Item 41), two medium-use strategies, *self-repair* and *restructuring* (Items 26 and 35) and three high-use Evaluating (Item 42, 43, 44) strategies.

The high group were also accurate in reporting differences in strategy use across tasks even when the extent of strategy use was quite low. There were 14 strategies that differed and were reported accurately: *task familiarity* (Item 1), Planning (Items 2, 3, 9) *gesture* (Items 11/33), Interactional (Items 15, 16, 18, 20, 21, 23, 24, 32) and *code switching* (Item 29).

Nevertheless, there were discrepancies for 11 strategies, 7 of which did not change across tasks but differences in ASU were found. These strategies were *avoiding error* (Item 6, CFM) and Compensation strategies: *appeal for help* (Item 27), *message abandonment* (Item 28) *foreignising* (Item 31), *long pause* (Item 34), *retrieval* (Item 39) and *approximation* (Item 40). The remaining 4 discrepancies were inconsistencies, where ASU across tasks did not follow the same pattern as PSU. These strategies were the *use of fillers* (Item 7), *clarification by code switching* (Item 17) *interpretive summaries* (Item 25) and *word coinage* (Item 30).

Results from the low proficiency group are presented in Table 5.34, which shows that, for the low group, PSU was consistent with ASU for 21 out of 44 strategies (48% of SQ), there were discrepancies for 19 (43% of SQ) strategies and extent of strategy use was unconfirmable for 4 (9% of SQ).

The low group were consistent in reporting *ten* low-use strategies: Planning (Item 3), *note taking* (Item 4), Interactional (Items 14, 19, 21, 22, 23), Compensation (Items 37, 38) and *other evaluation* (Item 41). They were also consistent for two medium-use strategies: *message abandonment* and *code switching* (Items 28, 29, Compensation) and four high-use strategies *directed attention* (Item 9, Planning) and Evaluating (Items 42, 43, 44). They were also consistent in reporting five strategy

Table 5.34

ASU:PSU consistency for low proficiency group

Strategy	*ASU:PSU*	*Extent of Strategy Use*
*1. (task familiarity)	discrepancy	ASU difference not reflected: ASU low in AD
*2. P (advance organisation)	consistent	High in AD, Low in IG & PS
3. P (organisational planning)	consistent	Low
4. (note taking)	consistent	Low
5. CFM (using expressions)	unconfirmable	
*6.CFM (avoiding errors)	discrepancy	ASU difference not reflected: ASU high in IG, med in AD, low in PS
*7. CFM (use of fillers)	discrepancy	Overestimate of ASU: ASU low, PSU medium
*8. C (risk taking)	consistent	ASU: Low in PS, High in AD
9. P (directed attention)	consistent	High
10. P (avoiding risk)	unconfirmable	
*11/33. CFM (gesture)	discrepancy	ASU difference not reflected: ASU high in AD & IG
12. CFM (maintaining the conversation)	unconfirmable	
13. P (thinking of sentence structure)	unconfirmable	
14. I (speaking slower)	consistent	Low
*15. I (confirmation check)	discrepancy	ASU difference not reflected: ASU high in AD
*16. I (clarification by paraphrase)	discrepancy	ASU difference not reflected: ASU high in IG
*17. C (clarification by code switch)	consistent	High in AD & IG
*18.I (clarification by repetition)	consistent	Low in PS, High in IG
19.I (ask to speak slower)	consistent	Low
*20. I (clarification request)	discrepancy	ASU: PSU inconsistent: ASU high in IG, PSU high in AD
21. I (asking for repetition)	consistent	Low
22. I (feigning understanding)	consistent	Low
23. I (guessing)	consistent	Low
*24 I (expressing non understanding)	discrepancy	ASU difference not reflected: ASU high in AD & IG
*25. I (interpretive summary)	discrepancy	ASU: PSU inconsistent: ASU low, PSU high in IG
*26.CFM (self-repair)	discrepancy	ASU difference not reflected: ASU high in AD
*27. C (appeal for help).	discrepancy	ASU difference not reflected: ASU high in IG & AD
28. C (message abandonment)	consistent	Medium
29. C (code switching)	consistent	Medium
30. C (word coinage)	discrepancy	ASU overestimated: ASU Low, PSU Medium,
*31. C (foreignising)	discrepancy	ASU difference not reflected: ASU, high in IG
*32. I (circumlocution)	consistent	Low in PS & AD, High in IG
*33. As for Item 11	discrepancy	ASU difference not reflected: ASU high in AD & IG
*34. C (long pausing)	discrepancy	PSU High in AD, ASU in PS
*35. C (restructuring)	discrepancy	ASU difference not reflected: ASU high in IG
*36. C (literal translation)	discrepancy	ASU difference not reflected: ASU high in AD
37. C (mumbling)	consistent	Low
38. C (omission)	consistent	Low
*39. C (retrieval)	discrepancy	ASU difference not reflected: ASU high in PS & AD
*40. C (approximation)	discrepancy	ASU overestimated: ASU low & higher in AD, PSU: high
41. E (other evaluation)	consistent	Low
42. E (self-evaluation)	consistent	High
43. E (problem identification)	consistent	High
44. E (aspects to improve)	consistent	High

Key: PS- Picture Story, AD- Art Description, IG – Information Gap.
ASU:PSU consistencies are shaded in grey.
* Differences in ASU across tasks [57]

[57] For quantifiable strategies differences across tasks were established using Friedman-Wilcoxon tests and for unquantifiable strategies differences were established from transcripts and recall comments. In total 22 strategies differed out of 44 different strategies on the questionnaire.

differences across tasks in *advance organisation* (Item 2, Planning), Compensation (Items 8, 17) and Interactional (Items 18, 32) strategies.

In terms of the nineteen discrepancies, thirteen were differences in ASU which were not reflected by PSU, as little difference in PSU was observed across tasks. These strategies were *task familiarity* (Item 1), the CFM strategies: *avoiding error* (Item 6), *gesture* (Item 11/33) and *self-repair* (Item 26), the Interactional strategies: *comprehension check* (Item 15), *clarification by circumlocution* (Item 16), *expressing non-understanding* (Item 24) and the Compensation strategies: *appeal for help* (Item 27), *foreignising* (Item 31), *restructuring* (Item 35), *literal translation* (Item 36) and *retrieval* (Item 39).

The further six discrepancies were that the low group overestimated *use of fillers* (Item 7), *word coinage* (Item 30) and *approximation* (Item 40) and differences across tasks were inconsistent for *interpretive summary* (Item 25), *clarification request* (Item 20) and *long pause* (Item 34).

In answer to RQ4, perceived strategy use (measured by an oral communication strategy questionnaire) reflects *at least* half of the actual strategy use (measured in task performance and according to stimulated recall comments) both low and high proficiency learners employ: 63% for the high group and 48% for the low group. These strategies included all the very low - use strategies, Planning strategies, Evaluating strategies and *code switching* for both groups. The high group were also consistent in reporting eight Interactional strategies, as well as *gesture, self-repair* and *restructuring* and the low group were consistent in reporting two Interactional strategies as well as *message abandonment*. Strategies which showed discrepancies for both groups were mainly differences in strategy use across the three tasks which had not been gauged with the questionnaire. Finally, strategies which could not be confirmed with the dataset were the CFM strategies: *use of expressions* and *maintaining the conversation* and Planning strategies: *risk taking, avoiding risks,* and *thinking of sentence structure*.

5.4.3 Reassessing PSU results

As the focus of this study was to describe differences in strategy use across tasks as precisely as possible, the discrepancies found in PSU as a result of the analysis of ASU for each proficiency group needed to be taken into consideration before further interpretation of strategy differences could be made. This involved readjusting the PSU results across task for each proficiency group in three ways: 1) adding the strategies which differed according to ASU, 2) removing strategies which had been found to differ significantly according to PSU, but which had not actually differed and 3) changing the direction of difference for strategies which had been found to differ significantly, but where PSU and ASU were inconsistent. The readjusted strategy differences across tasks can be seen in Tables 5.41 and 5.42 for high and low proficiency groups, respectively and between-group differences can be seen in Table 5.43.

Firstly, for the quantifiable strategies, aggregated ASU and PSU were consistent, as Table 5.35 indicates. ASU was low across the three tasks ranging between 0.55 and 2.56 strategies per task, which was in line with aggregated PSU, just below the midpoint of the SQ rating scale, ranging from 1.54 to 2.37, indicating generally low strategy use.

Table 5.35

Aggregated ASU and PSU for quantifiable strategies (N=48)

		Picture Story		*Art Description*		*Information Gap*	
		M	*SD*	*M*	*SD*	*M*	*SD*
High	ASU	.55	0.91	1.04	2.34	2.56	6.30
	PSU	1.54	0.66	1.75	0.72	2.21	0.79
Low	ASU	.68	1.04	1.49	2.64	1.71	3.44
	PSU	2.37	0.72	2.41	0.72	2.22	0.88

In terms of individual strategies, for the high proficiency group, as will be recalled from Section 5.1.2.2, fifteen strategies (34% of SQ) differed across the three tasks according to PSU, whereas according to ASU twenty strategies (45%) differed. This meant that seven items were added to the list of strategy differences across tasks and two items were removed (see Table 5.41 for the readjusted strategy differences). The added items were six Compensation strategies: *retrieval*, *long pause*, *appeal for help*, *message abandonment*, *foreignising*, *approximation* and one CFM strategy, *avoiding error* and the items removed were *interpretive summary* and *word coinage*.

For the low proficiency group, as will be recalled from Section 5.1.2.3, only four strategies (9% of SQ) differed significantly across the three tasks according to PSU, whereas according to ASU twenty-two strategies (50%) differed. This meant that eighteen strategies were added to the list and the direction of difference across tasks was changed for two strategies (see Table 5.42 for the readjusted strategy differences). The strategies added were *advance organisation*, four Interactional strategies: *interpretive summary*, *comprehension check*, *clarification by circumlocution*, *expressing non-understanding*, eight Compensation strategies: *clarification by code switching retrieval*, *foreignising*, *restructuring*, *literal translation*, *appeal for help*, *risk taking* and *approximation* five CFM strategies: *task familiarity*, *use of fillers*, *self-repair*, *avoiding error*, *gesture* and the strategies whose direction of difference across tasks changed were *clarification request* and *long pause*.

As for between-group differences, six perceived differences were removed (Items 14, 19, 23, 31, 5, 13: *clarification by speaking slower*, *asking to speak slower*, *guessing*, *foreignising*, *use of expressions*, *planning sentence structure*) and three strategy differences were added: *use of fillers*, *self-repair* and *clarification request* as seen in Table 5.43 (See also Appendix T for significant differences in quantifiable ASU between groups).

5.5 Additional results

Results of further variations between tasks and groups are presented in this section, specifically on pre-task planning time, task duration and learners' perceptions of the tasks. This data may complement the findings for spoken production or strategies analyzed in previous sections.

5.5.1 Pre-task planning

As will be recalled the strategy *advance organisation* (Item 2) was operationalised as pre-task planning time. It was measured from the moment the participants received the task material to when they began the task. Table 5.36 shows means and standard deviations for pre-task planning time and Figure 5.12 illustrates differences between means for each group. The high group took about half the time to plan each task on average compared to the low group and this was significant for the Picture Story [Mann-Whitney: Z= -2.35 and Asymp. sig. (2-tailed) p= .02] and Art Description Part 1 [Mann-Whitney: Z= -2.11 and Asymp. sig. (2-tailed) p= .03]. Figure 5.12 shows that there was very little difference in planning time between the high proficiency group and native speakers.

Comparing planning time across tasks, Figure 5.12 shows that all groups took the most time to plan the first part of the Art Description and the least time to plan the second part of this task, compared to the other tasks. For the low group, the difference in planning time between the first and second parts of the Art Description was significant, with longer planning for the first part [Friedman: chi square= 8.16 df(3)

p=.04, Wilcoxon: Z= -2.04, p= .04] but for the high group there was no significant difference in planning time between tasks globally [Friedman: chi square= 6.66 df(3) p= .08].

Planning time across tasks ranged from 35.5 to 70.17 seconds for the high group, similar to native speakers (36 to 63 seconds) and from 68.54 to 137.93 seconds for the low group, altogether not exceeding more than 2.5 minutes.

Table 5.36

Mean pre-task planning time in seconds

	Picture Story		*Art Description*				*Information Gap*	
			Part 1		*Part 2*			
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Low proficiency	106*	64.85	138*[a]	119.99	69 [a]	63.97	112	107.34
High proficiency	58*	61.02	70*	49.42	36	17.97	54	35.55
Native Speaker	36	5.66	63	33.94	37	22.63	38	4.95

Note. NS= Native Speaker
*- significant difference between high and low groups (Mann Whitney-U, p< .05)
a- significant difference (Friedman-Wilcoxon, p< .05) between Part 1 and Part 2 Art Description

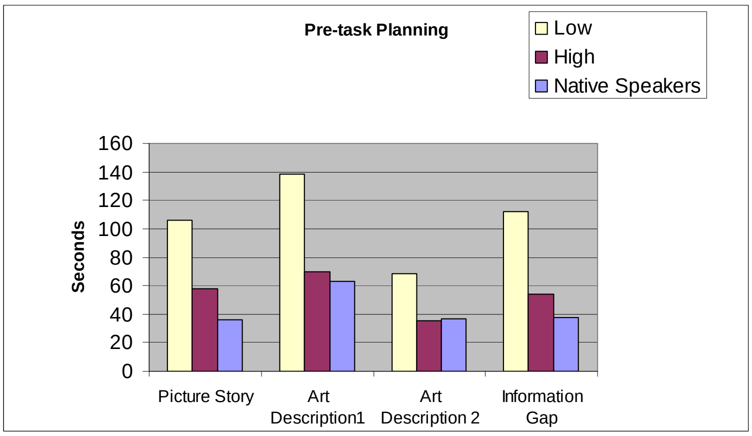


Figure 5.12 Pre-task planning time for low, high and native speakers

In sum across tasks, the high proficiency group spent little time planning on all three tasks with no significant difference in the time spent between tasks. The low group also spent about the same time planning each task with significantly more time spent only on Part 1 of the Art Description compared to Part 2. Between groups there was little difference in planning time between native speakers and the high group. Between the low and high group, the low group planned for significantly longer on the Picture Story and on the Art Description, Part 1.

5.5.2 Task duration

Table 5.37 and Figure 5.13 present the mean time duration of each task for low and high groups and native speaker benchmarks. Across tasks, for all groups the Picture Story was the shortest task, whereas the Art Description (considering both parts) and the Information Gap were much longer. Between groups, native speakers took about half the time to do the tasks compared to both low and high groups and there were no significant differences between high and low groups [Mann Whitney: Z= -.346, -1.155, -1.212 and Asymp. Sig. (2-tailed) p= 0.76, 0.27, 0.24 for Picture Story, Art Description and Information Gap, respectively]. Nevertheless, the high group took slightly longer to do the Picture Story and Information Gap while the low group took longer on the Art Description.

Table 5.37

Mean task duration in minutes

	Picture Story		*Art Description*						*Information Gap*	
			Part 1		*Part 2*		*Total*			
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Low proficiency	5.63	1.66	5.64	2.22	4.95	1.25	10.6	3.35	11.17	4.69
High proficiency	5.85	1.95	4.35	1.90	4.74	1.84	9.08	3.59	12.58	4.24
NS	2.57	.57	2.54	.46	3.46	.25	6.00	.71	6.37	.43

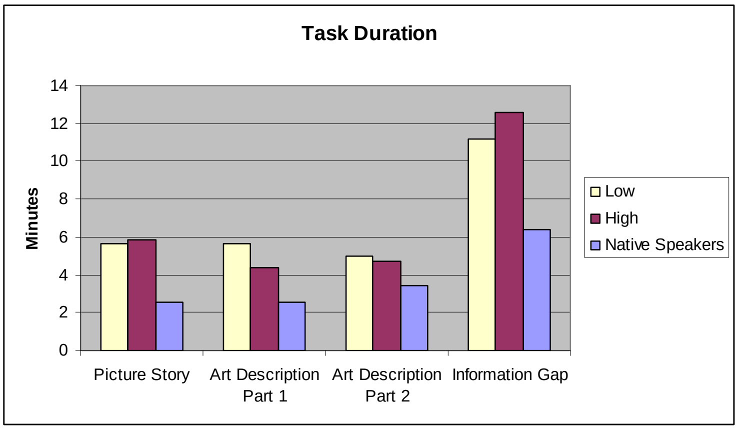


Figure 5.13 Mean task duration for low, high and native speakers

5.5.3 Learners' perceptions of the tasks

As will be recalled, learners' perceptions of the tasks were obtained from their responses to the Reflective Questionnaire (RQ) after each task had been performed. This was in case learners' perceptions could account for possible variation in strategy and spoken production results and also to validate the assumptions made about task complexity. As described in the previous chapter, task complexity was predicted to be greatest on the Art Description.

First, within-group comparisons are described followed by between-group comparisons. Table 5.38 shows descriptive statistics for the high group. Friedman tests showed that there was a significant difference across tasks for task difficulty [*Chi-Square*=16,244, df(2), p=.04]. Post-hoc Wilcoxon tests showed that this difference was between the Picture Story and Art Description [*Z*= -2.245, Asymp. sig.= 0.02]. By comparing means in Table 5.38, it can be seen that the high proficiency group perceived the Art Description to be significantly more difficult than the Picture Story.

Table 5.38

Task perception for high proficiency group (N=24)

	Picture Story		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
Task Difficulty: easy (0) – difficult (7)	*2.58*[a]	1.69	*4.00*[a]	1.78	3.42	1.77
Anxiety: relaxed (0) – anxious (7)	2.67	1.81	3.05	1.86	2.79	1.98
Interest: interesting (0)-boring (7)	2.96	2.12	3.02	2.07	2.52	1.60
Self Efficacy: I did well (0)-I did badly (7)	3.58*	1.53	3.86	1.46	3.50	1.64
Future Motivation: motivated (0)–not motivated (7)	2.46	2.04	2.86	1.93	2.35	1.83

*Significant difference (Mann Whitney, p< .05) between low and high proficiency groups.
Significant difference (Friedman-Wilcoxon Tests, p< .05) between:
a - Picture Story and Art Description

For the low group, descriptive statistics are presented in Table 5.39. Friedman tests showed that there was a significant difference across tasks for task difficulty [*Chi-Square*=16.800, df(2), *p*= .00]. Post-hoc Wilcoxon tests showed differences were significant between the Picture Story and Art Description [*Z*= -3.69, Asymp. sig.= .00] and between the Art Description and Information Gap [*Z*= -2.73, Asymp. sig. = .01]. By comparing means in Table 5.39, it can be seen that the low proficiency group found both the Picture Story and Information Gap significantly easier than the Art Description.

Table 5.39

Task perception for low proficiency group (N=24)

	Picture Story		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
Task Difficulty: easy (0) – difficult (7)	*3.33*[a]	1.17	*4.82*[ac]	1.47	*3.54*[c]	1.64
Anxiety: relaxed (0) – anxious (7)	3.88	2.23	3.77	2.09	3.33	2.06
Interest: interesting (0)-boring (7)	2.79	1.64	3.00	1.38	3.04	1.78
Self Efficacy: I did well (0)-I did badly (7)	4.79*	1.47	4.55	1.63	3.75	1.78
Future Motivation: motivated (0)–not motivated (7)	2.54	2.00	2.23	2.00	2.33	1.66

*Significant difference (Mann Whitney, p< .05) between low and high proficiency groups.
Significant difference (Friedman-Wilcoxon Tests, p< .05) between:
a - Picture Story and Art Description
c–Art Description and Information Gap

Stimulated recall comments from all eight (4 low and 4 high) participants in the sub-sample supported these results for task difficulty. Task transcripts of native speakers also confirmed learners' perceptions that the Art Description was difficult. These excerpts are representative of the causes of difficulty that learners identified in the tasks:

Picture Story

(1) *Recall (High Proficiency)*

MiGu0103: yes, this was the easiest, yes **it was the easiest of all because there were things like here, where you can see the vocabulary in the pictures** and it's not difficult and **if you saw something and you didn't know it, well ,you just didn't say it** and that was it.

(2) *Recall (High Proficiency)*

Researcher: so this was definitely the easiest (Picture Story)

BeGa0103: yes **maybe because the activity was familiar.**

Art Description

(3) *Recall (Low Proficiency)*

Researcher: was it really difficult?

NaAl0202: yes **first you had to think about what you were imagining then you had to think of it in Spanish and then turn it into English and then say it correctly**.

Researcher: of course a lot of steps

NaAl0202: yes **a lot of steps in too little time**.

(4) *Recall (High Proficiency)*

BeGa0202: First I thought **I've got no idea about art** and when you have to do something like this and **you don't know even in Spanish the vocabulary** so in English it's really **difficult to think about what you have to say.**

On the Information Gap stimulated recall comments from three of the four participants in the high group referred to the overall difficulty of the task whereas the low group commented about difficulty of comparing particular pictures but there were no comments about the overall task difficulty, except for the following participant, who found the task easy:

Information Gap

(5) *Recall 1(Low Proficiency)*

GeMu0303: No I didn't think it was that difficult you had to compare certain words but more or less.

(6) *Recall 2 (High Proficiency)*

MiGu0202: After the activity I thought it was a lot more difficult that I had imagined. You see the pictures and you think oh it's easy but when you do it you realise that we lacked a lot of vocabulary a lot a lot. They are like little kiddie pictures and you can't describe them and you feel useless because it's not easy.

Between-groups comparisons were made with Mann-Whitney tests. One difference in task perception was found on the Picture Story. As can be seen by comparing the means in Tables 5.38 and 5.39, the high group reported higher self efficacy [Mann-Whitney: Z= -2.70 and Asymp. sig. (2-tailed) p= .01] on the Picture Story. Otherwise, there were no significant differences between groups.

The following conclusions can be made from the RQ results: 1) for both groups, the Picture Story was the easiest task and the Art Description was the most difficult one, which confirms the predictions made before the study was carried out, 2) the Information Gap posed some difficulty for the high group compared to the Picture Story whereas the low group perceived it to be equally easy and, 3) self efficacy was higher on the Picture Story for the high group.

5.6 The Strategy Questionnaire as a predictor of spoken production

So far, spoken performance has been described in terms of spoken production measures and strategy use on three different tasks**.** The last question that remains is RQ5: *How well does perceived strategy use on the Strategy Questionnaire (measured as five strategy groups) predict spoken production (measured as eight spoken production measures)?* as it provides a measure of the predictive power of the SQ. Multiple regression was carried out to find out how much variance in the eight spoken production measures could be explained by the five strategy groups on the SQ and which strategy group was the best predictor of which spoken measure. A standard multiple regression was carried out for each spoken production measure on each task. The five strategy groups were the independent variables and each spoken production measure the dependent variable. Assumptions testing showed that the data did not violate assumptions of multicolinearity and that there were no major deviations in terms of outliers, normality, linearity, homoscedasticity and independence of residuals. Standard multiple regression gives rise to a model with an *R square* value that explains how much variance in the data is explained by the model. As the sample size was small, the *adjusted R square* value is presented, which corrects the possible overestimation by the R square of the true population value. Results are presented in Table 5.40. By using the *enter* method, it shows that a significant model emerged for lexical complexity, accuracy and speech rate on each task, as shown in the column labelled *Model* ($p< .05$) .

On the Picture Story the five strategy groups on the SQ predict 15% (Adjusted R square = .15 x 100) of the variance in lexical complexity, 21% of the variance in accuracy and 31% of speech rate. Of the 5 strategy groups, Compensation strategies (beta = -.36, $p= .02$) make the strongest unique contribution of 10.9% [Part correlation coefficient: (.33 x .33) x 100] to the variance in lexical complexity. As the B value is

Table 5.40

Summary of multiple regression analysis (N=48)

	Model	Adjusted R square.	Unstandardised B coefficient	Standardized Coefficient ß	Sig.	Part correlation coefficient	Unique contribution
Picture Story							
Lexical Complexity	$F_{5,42}$=2.61, $p < 0.04$	.15	Compensation: -5.25	-.36	.02	-.33	10.9%
Accuracy	$F_{5,42}$=3.51, $p < 0.01$	.21	Compensation: -2.28	-.35	.02*	-.32	10.2%
			Evaluating: -1.79	-.28	.06*	-.26	6.8%
Speech rate	$F_{5,42}$=3.11 $p < 0.03$	.31	Compensation: -8.66	-.56	.02	-.45	20.2%
			Planning: -7.21	-.43	.03	-.40	16.0%
Art Description							
Lexical Complexity	$F_{5,42}$=6.19, $p < 0.00$	.36	Compensation: -9.27	-.56	.00	-.45	20.2%
			CFM: 6.23	.30	.03	.26	6.8%
			Planning: 5.43	.25	.04	.24	5.8%
Accuracy	$F_{5,42}$=3.35, $p < 0.01$	.20	Compensation: -9.48	-.49	.00	-.39	15.2%
Speech rate	$F_{5,42}$=3.34, $p < 0.01$	.20	Compensation: -7.27	-.45	.01	-.36	13.0%
Information Gap							
Lexical Complexity	$F_{5,42}$=6.04, $p < 0.00$	.35	Interactional: 4.92	.42	.00	.35	12.3%
			Compensation: -5.79	-.56	.00	-.49	24.0%
			Evaluating: -2.77	-.28	.04	-.24	5.8%
Accuracy	$F_{5,42}$=3.79, $p < 0.01$	.23	Compensation: -8.37	-.47	.00	-.41	16.8%
Speech rate	$F_{5,42}$=2.72, $p < 0.03$	.15	Compensation: -6.02	-.39	.02	-.34	11.6%

negative it means that the more Compensation strategies learners perceive using, the lower their lexical complexity will be. Compensation and Evaluating strategies account for 10.2% and 6.8% of the unique variance in accuracy, respectively. Again, as values are negative it means that the more learners perceive using Compensation and Evaluating strategies, the lower their accuracy will be. In addition, Compensation and Planning strategies account for 20.2% and 16% of the unique variance in speech rate, with the more Compensation and Planning strategies perceived, the slower the speech.

On the Art Description the SQ predicts 36% of lexical complexity, 20% of accuracy and 20% of speech rate. For lexical complexity, Compensation strategies make the strongest unique contribution of 20.2%, followed by CFM strategies with 6.8% and Planning strategies with 5.8%. Once again, the B value for Compensation strategies is negative, therefore the more Compensation strategies the less lexical complexity. In contrast, the B value for CFM and Planning strategies is positive, so the more use of these strategies, the more lexical complexity. Again for accuracy and speech rate Compensation strategies predict 15.2% and 13% of unique variance, respectively, with the more Compensation strategies perceived, the less accuracy and the slower the speech.

On the Information Gap the SQ predicts 35% of lexical complexity, 23% of accuracy and 15% of speech rate. Lexical complexity is predicted uniquely by Compensation (24%), Interactional (12.3%) and Evaluating (5.8%) strategies and accuracy and speech rate are predicted by Compensation strategies (16.8% and 11.6%, respectively). The more learners report using Interactional strategies and the less they report Evaluating and Compensation strategies, the higher the lexical complexity. Also, as for the other tasks, the less they report using Compensation strategies the higher the accuracy and faster the speech.

Concluding from the findings of the regression analysis, the SQ is a weak predictor of three of the eight spoken production measures on all of the three tasks: lexical complexity (15-36%), accuracy (20-23%) and speech rate (15-31%). Furthermore, the SQ seems to be a better predictor of these measures on tasks where more strategies are used (Art Description and Information Gap). However, the SQ does not predict structural complexity, fluency breakdown (pausing), fluency repair (repetition and reformulation) or self-repair in any way. Compensation strategies make the strongest unique contributions in predicting lexical complexity, accuracy and speech rate. In other words, the more frequently learners perceive using Compensation strategies the lower their accuracy, lexical complexity and speech rate is likely to be.

5.7 Chapter summary

This chapter has presented the across-task comparisons for spoken production and PSU, for both high and low proficiency groups. Comparisons of spoken production and PSU were also made between proficiency groups. The extent to which PSU reflects ASU was described for each proficiency group and the potential of the SQ to predict spoken production was then analysed. In this section a summary of the most relevant results is provided.

Firstly, the findings for PSU versus ASU are addressed as further strategy comparisons are made, taking these results into account. PSU was consistent with ASU for 48% of strategies for the low group and 63% of strategies for the high group. In other words the SQ accurately reflected at least half of the strategies learners employed. When differences across tasks and between groups were reassessed in light of these results, it was confirmed that, on the whole, strategy use was indeed generally low, as learners had perceived and more differences were found across tasks. For the high group there were actual differences for 20 strategies (compared to 15 strategies on the SQ) and for the low group there were 22 strategies (compared to 4 strategies on the SQ). The between-groups analysis of PSU revealed some discrepancies with ASU but confirmed that there was little difference in strategy use between proficiency groups on any one task.

Results which, so far, have been presented separately are now brought together. Table 5.41 and Table 5.42 combines the across-task differences in strategy use, spoken production and additional results for the high and low proficiency groups, respectively, and Table 5.43 presents the between-groups differences.

For the high group, as shown in Table 5.41, the Picture Story was the most familiar, the easiest and shortest task. Compared to the Information Gap, the use of Interactional, and Compensation strategies and *gesture* was low and *organisational planning* was medium. Structural complexity was highest on this task, lexical complexity was medium and accuracy and fluency were low.

In contrast, the Art Description was the least familiar, the most difficult and took longer compared to the Picture Story. The use of Interactional and Compensation strategies was also mainly low, although there were more *comprehension checks* and *expressions of non-understanding*. *Organisational planning* was medium, as for the Picture Story, but *gesture* was higher on this task. Lexical complexity was highest in this task, structural complexity and fluency were medium and accuracy was low.

The Information Gap was more familiar and easier than the Art Description but less familiar and more difficult than the Picture Story. The task took about as long as the Art Description and so was longer compared to the Picture Story. The contrast with this task compared to the others was that Interactional, Compensation strategies and *gesture* were all highest and *organisational planning* was lowest. This was accompanied by high accuracy and fluency and low structural complexity and lexical complexity.

Table 5.41

High proficiency: summary of significant differences across tasks

	Level of strategy use	***Additional Results***	***Strategies***				***Spoken Production***
			Factor 1 Interactional	*Factor 2 Compensation*	*Factor 3 CFM*	*Factor 4 Planning*	
Picture Story	High			retrieval* *long pause**	task familiarity		structural complexity
	Medium					organisational planning	lexical complexity
	Low	task difficulty task duration	comprehension check clarification by circumlocution clarification by repetition clarification request asking for repetition guessing expressing non-understanding circumlocution	code switching appeal for help* message abandonment* foreignising* approximation*	gesture *avoiding error**		accuracy fluency
Art Description	High	task difficulty task duration	comprehension check	retrieval*			lexical complexity
	Medium		expressing non-understanding	*long pause**	*avoiding error** gesture	organisational planning	structural complexity fluency
	Low		clarification by circumlocution clarification by repetition clarification request asking for repetition guessing circumlocution	code switching appeal for help* message abandonment* foreignising*	task familiarity		accuracy
Information Gap	High	task duration	comprehension check clarification by circumlocution clarification by repetition clarification request asking for repetition guessing expressing non-understanding circumlocution	code switching appeal for help* message abandonment* foreignising* approximation*	gesture *avoiding error**		accuracy fluency
	Medium	task difficulty			task familiarity		
	Low			retrieval* *long pause**		organisational planning	structural complexity lexical complexity

*strategy differences found in ASU, Strategies in *italics* overlap with spoken production measures

Table 5.42 shows that there are many similarities to the high group in the results for the low group across tasks, particularly on the Picture Story and Information Gap. As for the high group, the Picture Story was the most familiar and easy. On the whole, Interactional and Compensation strategies and *gesture* were used to a lesser extent compared to the Information Gap. Structural complexity and self-repair were high while lexical complexity, accuracy and fluency were low. Differences with the high group were that self-repair was high compared to the Information Gap, *advance organisation* was medium and *risk-taking* was low compared to the Art Description.

The Art Description was the least familiar, most difficult and longer task compared to the Picture Story, as for the high group. The low group used a few more Interactional and Compensation strategies and risk-taking was higher compared to the Picture Story. As for the Picture Story, *advance organisation* was medium. In terms of spoken production, lexical complexity and self-repair were high, structural complexity medium and accuracy and fluency low. Self-repair was higher than on the Information Gap and fluency was low, as for the Picture Story.

The Information Gap was also more familiar than the Art Description, as for the high group. Interactional, Compensation strategies and *gesture* were highest on this task accompanied by high accuracy and fluency and low lexical complexity, structural complexity and self-repair. The low group perceived this task as equally easy as the Picture Story. *Advance organisation* was low compared to the Art Description and Picture Story and *risk taking* was medium, more than the Picture Story but less than the Art Description.

Table 5.42

Low proficiency: summary of significant differences across tasks

	Level of strategy use	*Additional Results*	*Strategies*				*Spoken Production*
			Factor 1 Interactional	*Factor 2 Compensation*	*Factor 3 CFM*	*Factor 4 Planning*	
Picture Story	High			long pause, retrieval*	task familiarity* *self-repair**		structural complexity self-repair
	Medium					advance organisation (pre-task planning time)	
	Low	task difficulty task duration	comprehension check* clarification by circumlocution* clarification by repetition clarification request* expressing non understanding* circumlocution	foreignising*, restructuring* literal translation*, clarification by code switch, appeal for help*, approximation*, risk taking	*avoiding error** use of fillers* gesture*		lexical complexity accuracy fluency
Art Description	High	task difficulty task duration	comprehension check* expressing non understanding* clarification by circumlocution*	literal translation*, retrieval* clarification by code switch appeal for help*, risk taking	use of fillers* *self-repair** gesture*	advance organisation	lexical complexity self-repair
	Medium		clarification by repetition		*avoiding error**		structural complexity
	Low		circumlocution clarification request*	restructuring*, foreignising*	task familiarity*		accuracy fluency
Information Gap	High	task duration	clarification by repetition clarification by circumlocution* clarification request* expressing non understanding* circumlocution	foreignising*, restructuring* clarification by code switch appeal for help*, approximation*	*avoiding error** gesture*		accuracy fluency
	Medium			risk taking	task familiarity*	advance organisation	
	Low	task difficulty		long pause, literal translation* retrieval*	*self-repair**		structural complexity lexical complexity self-repair

*significant differences found in ASU as seen in Friedman-Wilcoxon tests in Appendix x. Strategies in *italics* overlap with spoken production measures

Table 5.43 highlights the differences between groups. As can be seen, the low group took significantly longer to plan the Picture Story and the high group felt more confident about their performance (self-efficacy). The low group used *code switching* and *appeal for help* more whereas *use of fillers* was higher for the high group.

On the Art Description the low group took longer planning the first part and used *clarification request*, *guessing*, *code switching* and *appeal for help* strategies more whereas the high group used more *interpretive summary*.

On the Information Gap the high group found the task more difficult and used *clarification by circumlocution*, *restructuring* and *gesture* strategies more whereas the low group used more *clarification by code switch* and *code switching*. In terms of spoken production, the high group were more accurate, structurally and lexically complex and spoke faster across all three tasks. They used more repetition on the Art Description and more self-repair on the Information Gap.

Finally, the last set of results presented in this chapter were those for the multiple regression analysis which examined the relationship between the five strategy categories on the SQ and the eight spoken production measures. The SQ seemed to be a weak predictor of accuracy, lexical complexity and speech rate with Compensation strategies making the strongest unique contribution to these predictions.

Table 5.43

Summary of between-groups comparisons

		Higher results	Higher use of strategies				Higher Spoken Production
			Factor 1 Interactional	*Factor 2 Compensation*	*Factor 3 CFM*	*Factor 5 Evaluation*	
Picture Story	Low Group	pre-task planning		code switching appeal for help word coinage*		other evaluation	
	High Group	self efficacy			use of fillers*		accuracy lexical complexity structural complexity speech rate
Art Description	Low Group	pre-task planning in Part 1	clarification request* guessing*	clarification by code switch* code switching* appeal for help literal translation			
	High Group		interpretive summary*				accuracy lexical complexity structural complexity repetition speech rate
Information Gap	Low Group			clarification by code switch* code switching			
	High Group	task difficulty	clarification by circumlocution	restructuring message abandonment*	gesture self-repair		accuracy lexical complexity structural complexity self-repair speech rate

*significant differences found in ASU see Appendix x for Mann Whitney Tests

Chapter 6

Discussion

In light of the main findings from this study, the research questions posed at the beginning of this thesis are discussed. The results of this study centred on EFL learners' strategy use and spoken production as well as strategy questionnaire validity. In this chapter the validity of the SQ is discussed first, so that the implications can be incorporated into the subsequent analysis of strategy use across tasks and between proficiency levels. This is followed by across-task comparisons for spoken production and then for strategies for each proficiency group. Next, between-groups comparisons are discussed, once again, for spoken production and strategy use. Additional results are incorporated into the discussion where relevant. Finally, the value of the SQ as a predictor of spoken production is considered. Findings are discussed from a cognitive perspective, in terms of speech processing mechanisms (Kormos, 2006; Levelt, 1999) and task features (Robinson, 2005; Skehan, 1998) and compared with claims made in related fields.

6.1 Perceived strategy use versus actual strategy use

Research Question 4: Does perceived strategy use reflect actual strategy use for low and high proficiency learners?

This question was analysed by comparing learners' perceived strategy use, gathered on the strategy questionnaire, with actual strategy use, identified from task performances and in learners stimulated recall comments. Data from the two sources was quantified and compared, not only on one task but across three different tasks. The answer to this research question, according to findings in this study, is that perceived strategy use reflected learners' actual strategy use, on the whole, and that the strategy questionnaire was quite consistent. This claim has been made with the support of the several findings. Firstly, there was PSU:ASU consistency for both low and high proficiency groups for at least half the strategies on the SQ (high group: 63% PSU=ASU, low group: 48% PSU=ASU). Secondly, significant differences were found in actual strategy use across three different tasks, some of which were also reflected on the SQs for both groups, which shows that the SQ could also discriminate between tasks. Thirdly, for the high group, the majority of actual differences (15 out of 20) across tasks were reflected on the SQ at a statistically significant level, showing that the high group could report strategy use very accurately.

This claim is also based on the particularly rigorous procedures that were used to establish consistency between ASU and PSU. ASU was collected from the whole sample of 48 participants, rather than a smaller sub-sample and an attempt was made to trace all the 44 strategies on the SQ rather than a representative sample from each strategy group. Furthermore, consistency was based not only on one task but on comparisons between three different tasks, which permitted a more accurate interpretation of learners' PSU. Comparing these procedures with those of others (Bråten & Samuelstuen, 2007; Khan & Victori, in press), they seem more thorough. Khan and Victori (in press) compared ASU and PSU of four intermediate proficiency learners. Fewer (86%, compared to about 90% in the present study) of the questionnaire's strategies were traced in the qualitative data and lower consistency (41%, compared to 48% and 63% in the present study) was found. In contrast, in a study by Bråten and Samuelstuen (2007) a larger sample was used (N=177) but only three of a possible twenty strategies were traced on an L1 reading strategy questionnaire to validate it.

A crucial question often posed in the literature is how precise learners' responses on strategy questionnaires really are. Triangulation of strategy data has often been proposed (Macaro, 2006; Gao, 2007; Phakiti, 2003; Victori, 2004; Victori et al., 2009) to validate questionnaire findings, but it has less frequently been carried out (Bråten & Samuelstuen, 2007) and, to the author's knowledge, it has not been carried out for oral communication strategies. It would be unrealistic to expect learners to report their strategies with a hundred percent accuracy, even immediately after doing a task, because of the difficulty of recalling cognitive processes and the speed and automaticity of much of speech processing (Cohen, 1998; O'Malley & Chamot, 1990). Nevertheless, the objective of gauging the extent to which questionnaire data was consistent with actual strategy use was achieved, as well as gaining insights into the nature of the consistencies and discrepancies.

As for these consistencies and discrepancies, among the consistencies for both proficiency groups were strategies which learners either did not use or used very little. These strategies were a mixture of Interactional and Compensation strategies and *other evaluation*. Therefore, it seems that learners can report strategies that they do not put into practice precisely. This finding is supported by the results from the structured interviews carried out during questionnaire piloting (see Section 4.2.1.2 and Table 4.2, for rationales for a "0" scale response). When learners were interviewed about scale and item interpretation, they never doubted or hesitated about strategies that they had not used.

On the whole, both groups were also consistent in reporting Evaluating strategies and some Planning strategies. These metacognitive strategies may be easier to report because they are not language specific but they manage the task of oral communication more generally and require conscious reflection. The distinct hierarchical nature of these strategies and the fact that they do not involve language directly may make them easier to distinguish compared to Interactional, Compensation and CFM strategies.

Code-switching was also reported consistently by both groups. One reason learners were accurate in recalling this strategy may have been because, at moments when this strategy was employed, learners were made aware of what they were doing by the fact that they were not able to find a way of expressing themselves in English. Also, code switching involved a complete language switch, and as learners had to do the tasks in English, they may have regretted that they were not complying with the task demands when employing this strategy.

Learners were also accurate in reporting various Interactional and Compensation strategies and even gauging differences across the three tasks. As mentioned for the high proficiency group significant differences in ASU (20) were also significant in PSU (15). The low group also gauged differences, as seen by comparing means for PSU across tasks (see Appendix P), although not as many (4 out of 22) came out as statistically significant.

Another point worth noting is that the high group were slightly more accurate in reporting strategies (63% compared to 48% for the low group). One reason, which has been recognised in the strategy literature (Grenfell & Harris, 1999; Macaro, 2001; Pinyana, 2009, among others) could be that for high proficiency learners L2 oral communication poses a lower cognitive challenge than for low proficiency learners. As high proficiency learners have a wider knowledge of the L2 and greater control over their L2 linguistic resources, it leaves more attentional capacity free for them to be more aware of their performance. In contrast, for the low group who have fewer L2 resources at their disposal and less control over them, their attentional capacities are more fully absorbed by doing the task and less attention remains for recalling strategy use. LLS researchers have described such differences in terms of higher or lower metacognitive awareness (Green & Oxford, 1995; Purpura, 1999; Victori, 1999).

Turning to the discrepancies in PSU, the reasons for these also need to be addressed. Neither group reported the following strategies accurately: *avoiding error (CFM), appeal for help (C)*[58]*, foreignising (C), retrieval (C), approximation (C), use of fillers (CFM), interpretive summaries (I)*[59] *and word coinage (C).* As well as the above strategies, both groups reported various other Compensation strategies inaccurately and the low group reported some Interactional strategies inaccurately, too.

One reason for these discrepancies could be that learners lack awareness of some strategies. As noted by some scholars, it could be that the nature of oral communication makes it difficult to complete a task and report strategies accurately afterwards (Cohen & Macaro, 2007; Victori, 2004). In the case of Compensation strategies, such as *foreignising, approximation* or *word coinage*, they often involve the inability to access a single L2 lexical item. Therefore, they may be easier to forget as these strategies originate in the planning stage of speech, involve little or no change in the ongoing discourse and so may be less accessible to verbal report. This is in line with Khan (2006), who found that learners reported difficulty in recalling Compensation strategies. Lack of awareness of strategy use may also be true for strategies which involve no overt speech, such as *gesture, feigning understanding, message abandonment* and *long pause*, which showed discrepancies for one proficiency group or the other. In contrast, Interactional strategies occur in the post-articulatory phase of speech processing, triggering negotiation of meaning sequences which are more time consuming and may occur over a number of turns. Consequently, these strategies may be more memorable

[58] C=Compensation strategy
[59] I = Interactional strategy

as they trigger a change in the conversation and as they are embedded in a larger articulated sequence of speech.

A second reason could be that learners' interpretations of some strategy descriptions on the SQ differed from how the researcher identified them in the qualitative data. This is another drawback with questionnaires based on psychological constructs, often reported in the literature (Block, 1998; Dufva, 2003; Kalaja and Barcelos, 2003). For example, this may have been the case for *use of fillers*, which both proficiency groups overestimated. ASU for this item had been measured as L2 fillers such as *well* and *one moment*, however, task transcripts revealed that learners used several L1 fillers such as *bueno, pues, espera't* and *a veure.* Therefore, learners might not have distinguished between L1 and L2 fillers when recalling strategy use. Another example is *avoiding errors*, where differences across tasks were not perceived. However, this may have been because only overt errors[60] were identified in ASU, whereas in reporting their strategies learners may have taken into account covert errors[61] which they may have corrected before articulation (Kormos, 2006). Another case could have been that of *interpretive summaries,* which was perceived to be used more on the Information Gap task. ASU was consistently low for both groups across tasks. Therefore, it could be that learners misunderstood the strategy description, which was *"When I didn't understand my partner I repeated what he/she had said in my own way to ensure that I had understood".* By focusing on the first part of the description *"...I repeated..."* instead of reading to the end *" I repeated in my own way..."*, learners may have interpreted this item as *clarification by repetition*, which *was* used more on the Information Gap. The fact that students draw on a variety of sources when answering

[60] Overt errors occur in articulated speech and so can be detected in transcripts.
[61] Covert errors occur during the planning phase of speech production and are detected before speaking.

questionnaire items and ignore the specificity of a prompt is a problem which has already been acknowledged (Barcelos, 2003; Victori et al., 2009).

A third reason for discrepancies could be due to *social desirability bias* (Dörnyei, 2003), which refers to the natural tendency for people to present themselves in a good light. This may have been the case, for example, for the low group, who overestimated their use of some Interactional strategies: *comprehension checks*, *clarification by circumlocution* and *clarification requests*, because they may have viewed them as positive or desirable strategies for oral communication, but which they had not used. In contrast, they underestimated *expressing non-understanding*, which they may have viewed negatively.

Learners not responding sincerely to the SQ items was not considered a major reason for the discrepancies, as the learners were filmed doing the tasks, which made them aware that if they had reported falsely it would become evident to the researcher by watching their task performance.

This part of the study has delimited the scope of the strategy questionnaire pointing to its strengths and weaknesses. The results show that within the context of a task, a strategy questionnaire is a general indicator of what learners actually do, with learners accurately reporting a mixture of Planning, Evaluating, Compensation and Interactional strategies and high proficiency learners being more accurate in reporting particular Interactional and CFM (*self-repair* and *gesture*) strategies. As for discrepancies, they could be due to the nature of some strategies (particularly Compensation strategies) which make them difficult to recall or social desirability bias, which are inherent problems for all questionnaire-based data. On the other hand, the means used to measure some strategies in the qualitative data may not always have been equivalent to learner's interpretations of those particular strategies, which could have lead to discrepancies in this particular study.

6.2 Across-task comparisons

6.2.1 Spoken production across tasks

Research Question 1.1 Are there differences across tasks in spoken production for high proficiency learners?

Research Question 1.2 Are there differences across tasks in spoken production for low proficiency learners?

In order to answer these questions, descriptive statistics of the spoken production measures representing the dimensions of CAF and self-repair were examined across the three tasks and statistical comparisons were made with Friedman-Wilcoxon tests. Results were presented for high and low groups separately in relation to native speaker benchmarks. As will be recalled, there were significant differences in several spoken production measures across tasks. As the pattern of differences was similar for both proficiency groups, in the following sections the spoken production dimensions: accuracy, complexity, fluency and self-repair are addressed for both proficiency groups at the same time and findings are interpreted according to the characteristics of the tasks performed in the study, which were described in Chapter 4, as well as with reference to Levelt's (1999) model of speech processing. Additional results are included where relevant.

6.2.1.1 Accuracy

As will be recalled accuracy was reported as error-free clauses, where errors were considered grammatical, lexical and phonological errors. Accuracy represents freedom from error, control of existing resources and conformity to L2 rules. Skehan (2009), using Levelt's (1989) model of speech production, assumes that accuracy is the consequence of attention being available when the speaker is encoding their message in the form of language, after the pre-verbal message has been conceptualised. In other words, accuracy requires attention during message formulation.

In sum, for native speakers accuracy was high (see Table 6.1) and did not change across tasks. For both proficiency groups accuracy was significantly higher on the Information Gap, compared to the Art Description and Picture Story. However, for both groups, accuracy was also slightly higher on the Art Description, although not significantly so.

Table 6.1

Summary of relative differences in accuracy across tasks

		Accuracy	
	Picture Story	*Art Description*	*Information Gap*
Native Speakers	high	high	high
High proficiency	low	low	high
Low proficiency	low	low	high

Firstly, **accuracy was significantly higher on the Information Gap** compared to the other two tasks. One reason may have been the interactional features of the task [closed/two-way/convergent] with the subsequent requirement for precise information exchange. These features resulted in the most negotiation of meaning, reflected in Interactional strategy use, which were highest on this task (see Section 6.2.2.2). This kind of result has been found in numerous interaction studies (for example, Gass & Varonis, 1985; Long, 1980; Pica & Doughty, 1988; Yule & McDonald, 1990) for information gap tasks. These researchers claim that as learners repeat or rephrase what they say to make sure that their information is accurate and understood, they simultaneously pay more attention to the forms encoded in their utterances, which prompts them to be more accurate in their language use. Lambert and Engler's (2007) results concur with those in this study as they also found more accuracy in tasks where information was split compared to shared information tasks.

Another explanation for higher accuracy on the Information Gap may be that it was a relatively easy task, compared to the Picture Story, which required some simple reasoning for the events in the story and compared to the Art Description, which required even more complex reasoning. In these latter tasks, a more complex pre-verbal message had to be formulated placing greater demands on the learner's mental lexicon and so message formulation was more easily disrupted (Skehan, 2009), which resulted in lower accuracy. In contrast, message conceptualisation on the Information Gap was limited. Learners often had to repeat the same syntactic structure, which was simple. This was reflected in the low lexical and structural complexity scores on this task, even for native speakers. Simple message conceptualisation allowed learners to pay more attention to formulating an accurate message. The following extracts illustrate differences in meaning negotiation and reasoning on the three tasks for a high proficiency pair.

Picture Story [+reasoning/-meaning negotiation]

(7) *Task (High Proficiency)*

*FER: ok so in the second picture I think it's the day when: they marry and: I think they look very happy **because** they are looking forward to arrive to the honeymoon in the paradise.

The learner is describing the second picture in the sequence (see Appendix H1).

Art Description [++reasoning/+meaning negotiation]

(8) *Task (High Proficiency)*

*FER: and about the reason that he needs to wear these so old fashioned sunglasses?

*TOM: no my friend you are mistaken **because** these are retro glasses and they are very very [///] they are only on the: [/] on the top now **so** the painter is also interested in fashion **so** also try to [/] to [/] er # to: # impress other people with his knowledge of fashion.

The learner is describing the sunglasses in Part 1 (see Appendix H2).

Information Gap [- reasoning/++meaning negotiation]

(9) *Task (High Proficiency)*

*FER: ok so the third one I think it's er mountains and: there are three [/] three mountains one two on the front and one in the back in the middle.

*TOM: on the bottom there is a flat line.

*FER: yes.

*TOM: yes I think it's the same.

*TOM: it's not coloured or anything?

*FER: not at all.

*TOM: yes I think that it's [/] it's the same.

The learner is describing the third picture (see Appendix H3).

As noted after each extract, each extract refers to one particular element in the visual input. By comparing the task excerpts it can be seen that on the Picture Story and Art Description longer turns are taken and connectors such as *because* and *so* mark where the speaker gives reasons. In contrast, in the Information Gap, turns are mostly shorter and less complex as no reasoning is given, simply description.

Secondly, **accuracy was slightly higher on the Art Description compared to the Picture Story, although differences were not significant**. As the Art Description was the more difficult of these two tasks, one would expect lower rather than higher accuracy on this task, as learners attention to form is compromised by complex message formulation (Skehan, 1998). The Art Description was the most cognitively complex task [+reasoning/+number of elements/-prior knowledge] as established by the researcher and according to learners' own perceptions of task difficulty. However, slightly more accuracy was found on this task. One explanation could be that it was the more open nature of the Art Description that elicited more accuracy compared to the Picture Story. Learners could covertly avoid explaining certain elements in the painting or delay discussing them until they had prepared an explanation, which was not possible on the Picture Story, where participants were constrained to describe the particular events in the pictures in the order that they had been assigned. This meant that participants could not easily change the topic or avoid using problematic language and so they had to persevere in trying to express themselves with the consequence of being less accurate (Gass & Varonis, 1985).

An alternative explanation could be that the task difficulty, imposed by the resource-directing dimensions [+reasoning/+number of elements] of the task, elicited slightly more accuracy compared to the Picture Story. According to Robinson (2005), among others, this dimension directs learners' attention to the way concepts are linguistically coded in the L2 and so may elicit greater accuracy. The fact that there were more instances of Interactional strategies (*comprehension checks* and *expressions of non understanding*) on this task supports such an explanation, as such strategies also direct learners' attention to form. However, a drawback of this explanation is that it does not explain why accuracy was lower on the Picture Story [+reasoning] compared to the Information gap [-reasoning].

For native speakers accuracy was not affected by the three task characteristics, as their L1 mental lexicon is more complete, with lexical items being fully specified compared to L2 speakers (who may lack some of the rules associated with an item) and therefore they are far less prone to the type of low level structural errors identified in this study to measure accuracy.

6.2.1.2 Structural complexity

Structural complexity was measured as the level of subordination in utterances: the number of clauses per AS-unit. Structural complexity is thought to originate from the formulation of a more complex idea at the conceptual preparation stage of speech. It represents the use of more elaborate language and syntactic patterns and involves the development, restructuring or extension of existing resources and so may lead to interlanguage development (Housen & Kuiken, 2009; Skehan, 2001). For both proficiency groups and native speakers, structural complexity was highest on the Picture Story, lower on the Art Description and lowest on the Information Gap, as summarised in Table 6.2.

Table 6.2

Summary of differences in structural complexity across tasks

		Structural Complexity	
	Picture Story	*Art Description*	*Information Gap*
Native Speakers	high	medium	low
High proficiency	high	medium	low
Low proficiency	high	medium	low

The Picture Story elicited high structural complexity. Other researchers have found high structural complexity in narrative tasks (Foster & Skehan, 1996; Skehan & Foster, 1997; Swain & Lapkin, 2001), such as this one. This is because storytelling, as a discourse mode, involves the linking together of the events in time and justification of the characters actions which gives rise to structural complexity and extended turns. Both Skehan (2003) and Robinson (2005) claim that the need for justification leads to greater linguistic complexity. Furthermore, learners found the Picture Story to be the easiest task, which meant more attention was available for more complex message formulation on this task. These examples from the first picture frame in the Picture Story task illustrate the high structural complexity elicited for all groups[62]:

Picture Story

(10) *Task (Native Speaker)*

*DAN: er: well first of all er Tom and Judy er plan their honeymoon by er [= ::] looking through brochures [= ::] which is [///] er looks like a very enjoyable part of the er process [= ::] [= |].

(11) *Task (High Proficiency)*

*IGN: yes so Tommy and Judy started their trip their honeymoon by going to a travel agent [= ::] and looking for a place to go after their: marriage [= ::] they have just arranged [= ::] and they looked for several pri(ce) [//] for several price and several opportunities [= ::] and they decided to go to [/] to a: paradisiac: island in the Mediterranean sea [= ::] [= |] .

(12) *Task (Low Proficiency)*

*LAU: in the picture one er: ## er Tom and Judy er # look at the diary er or or the catalogue of the: of travel for: for: their married [= ::] and you: and you have the: in the in your honeymoon [= ::] [= |].

Structural complexity was lower on the Art Description than the Picture Story because message conceptualisation may have been more complex. As participants had to express abstract concepts, it involved more complex reasoning than the Picture Story. It is more difficult to justify interpretations of art than to justify concrete actions in a simple story retelling. As participants struggled more to express their ideas they changed their original intentions or reduced or repeated what they wanted to say or

[62] [= ::] = clause boundary, [= |] = AS-boundary.

replaced their original intentions with more simple language. The examples below illustrate disruptions to structural complexity on the Art Description for all groups.

Art Description: Part 2

(13) *Task (Native Speaker)*

*DAN: well I think [= ::] this goes back to the artist's childhood [= ::] [= |] the er figure in the chair is definitely an older figure a figure of power [= ::] **and is connected to a young girl by a line [= ::] [= |] ok it's control over the young girl** [= ::] [= |] **no I think [=::] that this is a reference to the artist's childhood** [= ::] and how older people are in a position [= ::] to repress children er: [= ::] and this has consequences later in life [= ::] which we see in in other parts of the painting [= ::] [= |].

*PAU: ok yes that sounds plausible.

(14) *Task (High Proficiency)*

*MAR: it means the: relationship between two: people [= ::] **one is in love** [= ::] **and: another # looking** &=ges:handmoves +/.

*MAR: **it's a: representation** [//] representation of life in general [= ::] [= |] # **you must feel the** +/.

*ANN: 0 [=! laughs].

*MAR: **I can't explain** &=ges:handsplay [= ::] [= |] .

Art Description Part 1

(15) *Task (Low Proficiency)*

*SER: be(cause) [//] why the background is blue [= ::] [= |] ?

*SEP: er .

*SER: sí que xx xx .

*SEP: er if [///] because +/.

*SEP: *perque es veu a darrere no?* [Why you can see it behind, no?]

*SER: xx xx xx sí. [yes]

*SEP: because [/] er **because is # er symbolise** +/.

*SEP: **the: [/] the [///] these people are: good people** &=laughs [= ::] [= |] .

*SER: 0 [=! laughs]

Least structural complexity was found on the Information Gap, as it did not require reasoning, as the other two tasks did. Therefore, message conceptualisation and formulation were a lot simpler. Furthermore, the two-way task design elicited shorter turns, which also compromised structural complexity. These features are illustrated in Excerpt 9 from the Information Gap above (p.261). These results provide further evidence in line with other research which claims that the narrative discourse mode promotes structural complexity (Ellis, 2003; Foster & Skehan, 1996) and interactional features [closed/two-way/convergent] detract from it (Robinson, 2001). The presence of reasoning demands (Robinson, 2005) also seems to be a crucial factor in promoting structural complexity as illustrated in the Art Description task. The fact that even native speakers displayed the same pattern across tasks for structural complexity as NNS groups gives further support that it was the task features and not proficiency that determined the degree of structural complexity.

6.2.1.3 Lexical complexity

Lexical complexity was measured as the statistic D, a formula which measures the lexical diversity in a given length of transcript. It reflects the ability to successfully retrieve and encode a variety of lexical items during performance. Summarising results across tasks, Table 6.3 shows that lexical complexity was lowest on the Information Gap and highest on the Art Description for both proficiency groups and native speakers.

Table 6.3

Summary of differences in lexical complexity across tasks

		Lexical Complexity	
	Picture Story	*Art Description*	*Information Gap*
Native Speakers	high	high	low
High proficiency	medium	high	low
Low proficiency	low	high	low

The Information Gap elicited the least lexical complexity, even for native speakers. This seemed to be due to the task topic, which limited participants to a particularly narrow lexical domain, the description of particular parts, positions and dimensions in each picture. Furthermore, participants could not change the topic without deviating from the task goal of finding out if the pictures were the same or different. In other words, the closed feature of the task as well as topic seemed to limit the language used.

The Art Description elicited most lexical complexity, possibly because it was the most open task. Learners were not limited to a lexical domain, such as the fixed storyline in the Picture Story, or to specific descriptions in the Information Gap. Instead they could use their imaginations and their world knowledge, activating a lot more of their mental lexicon in order to explain how they interpreted elements in a painting in any way that they wanted to.

Another explanation for the high lexical complexity could, therefore, also be the reference to abstract concepts, outside what was visible in the picture, such as death, oppression, suffering, poverty and power. As abstract concepts are more difficult, both to express and comprehend, they involve elaboration, reformulation or reasoning, which requires more lexical variety. Abstract concepts require more complex conceptual preparation which drive the retrieval and encoding of a greater variety of lexical forms (Skehan, 2009). The excerpts below illustrate lexical complexity in the description of one element on the Information Gap compared to one element on the Art Description for low proficiency learners:

Information Gap

(16) *Task (Low Proficiency)*

*SEP: in picture six I can see a cube with six face and the top face er have a cross in the centre.

*SER: er and in the: [/] in the face of: *bueno* in the: [//] in the front face or side ano(ther)
there [//] *joder* are there some triangle?
*SEP: no its er only have a cross in the top part.
*SEP: the other faces are [/] are white.
*SER: ok in my picture I see a [///] *bueno* two triangles in [/] in fronts face or side.
*SEP: ok it's the difference .

In the above excerpt from picture-frame six in the task (see Appendix H3), it can be seen that there is reference to lexis which is repeated by the participants in the interaction. Much of the same language was also used in describing the other pictures in the task. These factors led to low lexical complexity.

Art Description

(17) *Task (Low Proficiency)*
*SEP: no because have [/] er have a plant in her mouth?
*SER: yes er: this man er means +/.
*SEP: *un naturalista* +/.
*SER: the: [/] the wrath of the pers(ons) [//] of the people
*SER: we can see a plant in his mouth and its mean the nature that try to [/] to [/] to go
out of our and we: [/] we # for(bid) +/.
*SER: forbid *és prohibir* ? [Does forbid mean prohibit?]
*SEP: for(bid) [/] forbid [/] forgive.
*SEP: *ah no, és perdò*. [Oh no, it's forgive]
*SER: and we forgive [//] forbid [/] forbid er er [= ::] that the nature go out.
*SER: ok .
*SER: er I think that also means er the soul [/] the soul of the [/] of the per(sons) people
that er try to [/] to go out.

The learner is referring to the person with a plant coming out of their mouth in Part 2 (see Appendix H2).

In Excerpt 17, the Art Expert (*SER) refers to more abstract concepts (*soul*, *wrath*), less common words, which is even surprising to hear a low proficiency learner using. In fact, stimulated recall comments showed how participants tapped into their world knowledge more in this task, as the following example shows:

Art Description

(18) *Recall and Task (low proficiency)*

*SER: we can see that [/] that er this person have a dog er it er [/] # it er: means the *bueno i* [///] we can compare this dog with Cervero the [/] the [/] the guardian of hell [= ::] [= |] .

SeRu0202: It's from mythology I think I wanted to say Cervero, the guardian the dog with three heads that guards the gates to heaven and I think maybe it's like a metaphor or something like that.

Unlike the Information Gap, totally different language was used in interpreting each of the elements in the Art Description, which altogether resulted in high lexical complexity. Other researchers (Read, 2000) have found more complex tasks (such as the Art Description in this study) lead to greater lexical complexity.

The Picture Story elicited higher lexical complexity than the Information Gap, for the high group, but, for the low group, lexical complexity was equally low on both tasks. Firstly, the high group had produced higher lexical complexity on the Picture Story because it was more open than the Information Gap, allowing them to use a wider range of lexis. It also had higher reasoning demands, which may also have contributed to lexical complexity. This leads to the question of why there was not the same increase in lexical complexity for the low group due to these task features [+open/+reasoning]. On the more difficult task, the Art Description, the low group had shown higher lexical complexity, therefore it cannot be said that they had reached their maximum threshold and could not have produced more complex language on the Picture Story.

One explanation could be the fact that the Picture Story depicted a familiar situation and events, information which both participants shared. This meant that even if a speaker was incomprehensible, the listener could understand what they were saying by looking at the pictures and did not need to ask for clarification. It also meant that little elaboration was actually necessary to complete the task, resulting in low lexical complexity. On the Art Description, in contrast, the speaker had to explain abstract ideas which were not visible in the picture and for that reason was encouraged to use more elaborate language. As the Picture Story did not pose too much of a challenge to the high group, it may be that they set themselves higher communicative goals and chose to give more detailed accounts, resulting in more lexical complexity, an explanation put forward by Dobao (2000) for similar results in her study.

6.2.1.4 Fluency

Fluency was measured in terms of several different subdimensions: speech rate, fluency breakdown (long pauses) and fluency repair (repetitions and reformulations). Speech rate reflects the speed of speech processes. Fluency breakdown reflects the ability to speak without disruption by pausing and fluency repair the ability to speak without disruption by repetition or reformulation. It has been proposed (Gilabert, 2007; Levelt, 1989) that fluency is not a result of paying attention to speech processing mechanisms but that it is the consequence of effective (quick and easy) conceptual planning and lexical access, selection and encoding. It is the capacity to cope with real-time communication.

Fluency, in terms of speech rate, did not vary across tasks, which suggests that speech rate may be a more stable trait which is only susceptible to change in the long term, as learners' overall L2 proficiency improves.

Table 6.4 summarises results across tasks for fluency breakdown and repair, which was low on the Picture Story and high on the Art Description for both groups.

Table 6.4

Summary of differences in fluency across tasks

	Fluency Breakdown & Fluency Repair		
	Picture Story	*Art Description*	*Information Gap*
Native Speakers	low	low	high
High proficiency	low	-	high
Low proficiency	low	low	high

Firstly, fluency was highest on the Information Gap for both proficiency groups and native speakers in terms of less frequent breakdown, repetition and reformulation. Again, this must have been due to the [closed/two-way/convergent] interactional nature of the task which led to shorter turns and meant that speakers could take advantage to think at natural pausing positions, such as AS boundaries[63], of which there were many more than for the other tasks. Some other researchers have found more fluency on closed interactional tasks (Rahimpour, 1997) compared to more open tasks. Furthermore, the absence of reasoning demands and the low number of elements made this task less cognitively complex than the other tasks, meaning conceptual preparation was simpler, reducing pressure on speech processing mechanisms and leading to greater fluency. Other researchers of task complexity who have investigated the dimensions of [+/- elements], and [+/- reasoning] (Niwa, 2000; Robinson, 2005) have found that reducing task complexity increases fluency.

Secondly, fluency was lowest on the Picture Story. Low fluency suggests that participants required more online planning. This was necessary for two reasons. First, turns were longer, placing greater demands on the learner's speech processing

[63] As will be recalled, pausing at AS boundaries was not included as a dysfluency marker.

mechanisms and working memory. Participants had to conceptualise, retrieve and encode a longer message or more than one message during their turn. Therefore, more long pauses occurred as learners needed time to recall a greater quantity of information. Secondly, although the story was sequenced, participants could only continue the story appropriately if they had paid attention to what their partner had said, in order to link the parts of the story together. Consequently, during performance, pre-established turn taking restrictions interfered with preparing and rehearsing their own turn.

On the Art Description fluency (in terms of less breakdown) was higher for both proficiency groups than on the Picture Story, although not significantly so for the low group, despite the task's difficulty and the fact that the task was less familiar. Once again the explanation for this could be that the Art Description was more open so learners could avoid certain elements, as described earlier in relation to accuracy and complexity, which was not possible on the Picture Story. For the same reason, learners were free to use any method of expression and could keep talking about anything, which led to fewer long pauses.

Fluency was low on the Art Description and Picture Story (in terms of more repetition and reformulation) compared to the Information Gap. This could, once again, be put down to the higher reasoning demands of these two tasks, which meant more attention was needed for the conceptual planning phase of speech processing leading to more complex output, but at the same time interfering with attention to form and resulting in more repetition and reformulation as message articulation was disrupted.

Finally, as most empirical research has shown that planning improves fluency (Foster & Skehan, 1996; Gilabert, 2004; Mehnert, 1998; Ortega, 1999; Skehan and Foster, 1997; Wendel, 1997; Yuan and Ellis 2003; Zhang, 2007), this factor will be considered here. In this study there was no significant difference in planning time across tasks for the high group. Therefore, the effect of planning time on fluency can be considered to be equal on all tasks. For the low group, however, there was significantly more planning on Part 1 of the Art Description compared to Part 2, and fluency was higher than the Picture Story. Therefore, for this group, the extra planning time may have also contributed to higher fluency on the Art Description.

6.2.1.5 Self-repair

Self-repair reflects the level that learners monitor the speech production process. It reflects post-articulatory monitoring of overt speech and requires attention (Gilabert, 2007; Kormos, 1999; Poulisse & Bongaerts, 1994). Self-repair, measured as the percentage of errors repaired, was nil for native speakers, did not vary significantly for the high group across tasks and was significantly lower on the Information Gap for the low group.

Table 6.5

Summary of differences in self-repair across tasks

		Self-repair	
	Picture Story	*Art Description*	*Information Gap*
Native Speakers	-	-	-
High proficiency	-	-	-
Low proficiency	high	high	low

In other words, the three tasks posed no differences in constraints on native speakers' or the high proficiency group's attentional resources for post-articulatory monitoring. However, low proficiency learners self-repaired significantly less on the Information Gap compared to the other two tasks, which suggests that some characteristic of the Information Gap removed attentional resources from the self-repair behaviour for this group.

The low group self-repaired less on the Information Gap. This may be because turns were shorter compared to the other tasks, as seen above. This meant learners had less time available to monitor their output before their partners responded to them. Turns were shorter because learners had to convey precise information to their partners and listen carefully to their partners' responses in order to do the task. As low proficiency learners carry out more speech processing mechanisms serially rather than in parallel, both in speech production and speech perception, the time pressure created by the shorter turns and requirement for precise information exchange caused more problems for monitoring their overt speech.

It must be noted that the level of self-repair was generally low for both proficiency groups across tasks [High proficiency: 12.80%; Low proficiency: 10.71%, maximum across the three tasks]. This may have been because many errors did not obscure the meaning of the message, so speakers were not prompted to self-repair. Other researchers have pointed out that the discourse salience of a linguistic form affects how much attention is paid to its correct production (Kormos, 1999; Poulisse & Bongaerts, 1994; Tarone, 1985). As learners shared a common L1 (Catalan), many errors could be understood, as they often derived from L1. Furthermore, the salience of incorrect utterances was aided by the visual input provided in the tasks. The following excerpt illustrates these features as this low proficiency pair make several erorrs but still understand each other.

Art Description

(19) *Task (Low Proficiency)*

Key: [*] error, [//] self-repair, [/] repetition, &=ges: gesture

NAT: be(cause) [/] because [l:why] [* ms:does] the [/] the person in on [* ms:in] the picture is: [//] *bueno* have yellow hair?

SAB: who person [l:which] ?

*NAT: er: &=ges:pointpic +/.

*SAB: the man or the woman?

*NAT: both.

Summing up the discussion for spoken production across tasks, for both proficiency groups the fewest differences were found between the Picture Story and Art Description whereas the Information Gap was the task that differed most. The fact that many of the same trends in spoken production measures were found for both proficiency groups, as well as native speakers is strong evidence that it was the task constraints that had the greater influence on the type of oral communication than proficiency level. For example, when complexity was high, it was high for both proficiency groups and native speakers, high on the Picture Story for structural complexity and on the Art Description for lexical complexity, and when structural complexity was low (Information Gap) it was also low for all groups. In other words, the three tasks could be distinguished as particular types of task, which elicited characteristic and predictable language production, even from native speakers.

To end the discussion on spoken production, the implications of the findings for Skehan's Limited Attentional Capacity Model (Skehan, 1998) and Robinson's Multiple Resources Attentional Model (2001) are discussed. On the whole for both proficiency groups low structural complexity was generally accompanied by high accuracy or vice versa. These results sit well with the Limited Attentional Capacity Model, which predicts that there is a trade-off between accuracy and complexity, which are in competition for attentional resources.

Comparing the Picture Story with the other two tasks, learners produced structurally complex speech to the detriment of fluency and accuracy. In other words, the extra attention needed to produce a more complex message meant more time was required for speech processing (reducing fluency) and less attention was available to focus on language form (reducing accuracy).

A similar picture emerged on the Art Description for both groups with respect to the Information Gap, as the Art Description had a positive impact on lexical complexity and structural complexity but negative effects on accuracy and fluency. Comparing it with the Picture Story, the Art Description had a positive impact on fluency, accuracy and lexical complexity but negative effects on structural complexity. In line with Skehan's Limited Attentional Capacity Model, structural complexity and accuracy seem to be in competition. However, in a small respect, one result seem to be in line with Robinson's predictions, as greater task difficulty elicited both more lexical complexity *and* accuracy on the Art Description.

Finally, the Information Gap had a positive impact on accuracy and fluency but a negative impact on structural and lexical complexity compared to the other two tasks. This could be interpreted according to Skehan, as more attention to accuracy provoked by the requirement for precise information exchange detracted attention from complexity. However, I would argue that, as even native speakers had lower complexity scores on this task, it was the closed two-way design of the task that compromised complexity, rather than competition for scarce attentional resources between accuracy and complexity. In other words, the task was easy enough (as perceived by learners themselves) so that there was no strain on forming a complex message, but learners could not be more complex because of the task design.

6.2.2 Strategies across tasks

6.2.2.1 **Low overall strategy use**

As described in the previous chapter, aggregated strategy use, was just below the midpoint (2.5) on a scale which ranged from *not at all* (0) to *a lot* (5) for PSU. This meant that learners perceived using strategies to some extent on these particular tasks but that they were not used extensively. These results were confirmed by ASU (see Table 5.35), where the means for individual quantifiable strategies ranged between .55 and 2.56 strategies per task. In other words, despite the differences in strategy use found across tasks, these differences occurred mainly within a low level of strategy use.

One explanation for low overall strategy use given by other researchers has been the classroom context. Some studies on interaction (Aston, 1986; Foster, 1998) have found that learners use few interactional strategies in NNS-NNS interaction in the classroom compared to NS-NNS interaction. The reasons given were that learners fear losing face in front of their peers (looking ridiculous by expresssing non-understanding) or because they find negotiation of meaning episodes (for example, being continually asked for clarification) frustrating. Further support for such an explanation comes from LLS studies that have used general strategy questionnaires. Higher overall frequency of strategy use has been found in second language contexts (Chaudron, 2003; Oxford, 1996a) where learners use the L2 for daily survival, rather than in foreign language contexts such as the one in this study, where the L2 is used in NNS-NNS interaction and is rarely used outside the language classroom.

Another reason for low strategy use in the EFL classroom context, which emerged from findings in this study, can be put down to empathy between participants. In other words, the fact that participants empathised with the difficulty that L2 oral communication posed for their partners led to generally lower strategy use. This was not just the researcher's intuition, but was supported by task transcripts and stimulated recall comments, as the Excerpts 20 and 21 illustrate. The task difficulty meant that the Art Experts often got lost while delivering their explanations (Excerpt 20) or gave up. In Excerpt 20 *GEM admits in the recall session that she did not understand what her partner was trying to say, but instead of asking for clarification she went on with the task, asking him a different question, not to save face, as Foster (1998) suggested, but to save her partner the trouble of having to provide a difficult explanation.

Art Description

(20) *Task & Recall (low proficiency)*

*EST: I think that the [/] the painter try to says that someone is looking [/] # looking him &=ges:hands but they [/] ## they don't know who is and [/] ## and [///] +/.

*EST: I don't know

*GEM: 0 [=! laughs].

...

*GEM: and er w(hy)[/] why the man # &=ges:handeye wear sunglasses ?

GeMu0202: I asked him just to start up but I knew that **I was putting him in a position that he wouldn't know what to say**.

Researcher: Did you understand what he was trying to say?

GeMu0202: No

(21) *Task (low proficiency)*

*GEM: I don't think [///] I don't know about the: [/] the meaning of these [///] of two persons but I think er ## the [///] there are ##

*GEM: I don't know

*EST: *ja pots tirar.*

*EST: *ja has dit algo no passa res*.

Finally, another contributing factor to low overall strategy use was that the strategy questionnaires were completed in relation to a task. The context which learners refer to is narrower, in this case a specific oral task, compared with general questionnaires, where learners refer to the whole of their language learning experience and take into account all their language skills. Findings from Ikeda & Takeuchi (2000) support this explanation, as they found learners reported between 30% and 40% more reading strategies when no task was provided.

Research Question 2.1 Are there differences across tasks in perceived strategy use for high proficiency learners?

Research Question 2.2 Are there differences across tasks in perceived strategy use for low proficiency learners?

Descriptive statistics of perceived strategy use were examined across the three tasks. As will be recalled a three-level analysis was undertaken of aggregated strategy use, strategy groups and individual strategies, and results were presented for the whole sample as well as high and low proficiency groups separately. Firstly, aggregated PSU was generally low across tasks, as described above but within this low strategy use there were some differences across the three tasks according to both PSU and ASU for both low and high proficiency groups, supporting claims that strategy use is task-based (Cohen et al., 1996; Nakatani, 2006; Swain et al., 2009). Fewest differences were found between the Picture Story and Art Description. The strategies which differed were mainly due to Interactional and Compensation strategies, which were used more on the Information Gap according to both ASU and PSU. However, ASU, for the high group, revealed even more Compensation strategy use on the Information Gap and, for the low group, more Compensation and Interactional strategies on the Art Description as well as the Information Gap.

The following sections discuss reasons for the differences in strategy use for both proficiency groups, taking into account ASU of Interactional, Compensation, CFM, Planning and Evaluating strategies, as summarised in Tables 5.41 and 5.42 in Chapter 5, and, once again, drawing from research into task features and theory on speech processing[64].

6.2.2.2 Interactional strategies

As described in Chapter 4, these strategies occur during post-articulatory monitoring of speech, when a problem is noticed during one's own or the interlocutor's speech (Dörnyei & Scott, 1997). They are also known as strategies for negotiating meaning (Long, 1983) and include strategies such as *clarification requests* and *comprehension checks*. On the whole, for both proficiency groups, as seen in Tables 5.41 and 5.42, Interactional strategy use was lowest on the Picture Story, higher in the Art Description and highest on the Information Gap.

The reason **Interactional strategy use was low on the Picture Story** can be put down to lower task difficulty. As both proficiency groups found it easy, they did not come across as many communication problems arising from the discourse. What made the task *easy* could have been the visual input, which was shared, the content, which was familiar, and the fact that the story was ordered, which meant that the structure of the output was pre-established to some extent. Stimulated recall comments support these claims as illustrated in Excerpts 1 and 2 (Chapter 5, p239). These results are in line with task-based research by Wigglesworth (2001) and Skehan (1998, 2001), who conclude that structured tasks are easier. This may be because they require less macro-

[64] It must be noted that the strategies *long pause, avoiding error* and *self-repair* are not included in this analysis as they have been discussed as fluency breakdown, accuracy and self-repair, respectively, among the spoken production measures.

planning and, therefore, free up more attention for smooth message formulation and comprehension (Skehan, 2001, 2009). Even if the participants came across a communication problem; if they didn't understand their interlocutor or if they found it difficult expressing themselves, they could rely on the ordered picture sequence to deduce or convey meaning and so did not need to use Interactional strategies to explicitly negotiate meaning.

For the same reason, greater task difficulty led to the **higher use of Interactional strategies (*comprehension checks* and *expressing non-understanding)* on the Art Description** for both groups**.** Other researchers (Brown et al., 1984; Prabhu, 1987) have claimed that the more abstract a task is, the more difficult it is. In this study such claims are supported by learners' perceptions of the Art Description as illustrated in Excerpts 3 and 4, (Chapter 5, p. 239). These strategies may have been necessary, because the interpretations of the paintings by the Art Experts involved reference to abstract ideas which were not visible in the pictures, therefore, Art Experts felt the need to overtly check that they had been understood, as their interpretations were not obvious from the visual input. For example, Art Experts tapped into their world knowledge, making analogies with films and stories or by referring to famous people, as seen in Excerpt 22 below. Therefore, whether their partners understood them also depended on how much of this world knowledge they had in common.

Art Description

(22) *Task (low proficiency)*

*JAU: that's the influence er # of Warhol.

*JAU: **do you know Warhol? [Comprehension check]**

*FRA: Warhol, yes it's a *play* **[the speaker means a computer *game* called Warlords].**

*JAU: no it's another artist.

*FRA: oh ok &=laughs .

In addition, there were many elements in the pictures of the Art Description that were not easy to distinguish from one another. For example, whether the person being referred to was at the back or front of the picture or whether something was an animal or human or male or female was open to interpretation, as described by a learner in Excerpt 19 (p.275). Therefore checking comprehension and expressing non-understanding could clarify these issues. These results are in line with Robinson (2001), who found more comprehension checks and clarification requests on a map task with more elements.

For the same reason (greater task difficulty)**, the low group used clarification more on the Art Description** (clarification by repetition, clarification by code switching and clarification by circumlocution) **than on the Picture Story**. More clarification was required to distinguish between elements or clarify abstract ideas which were not evident in the visual support.

In contrast, **the high group used Interactional strategies more on the Information Gap,** but this was not due to inherent task complexity (learners found the task easier than the Art Description) but rather to the closed, split, two-way design of the task. As described in the previous section, and in Chapter 3, such results are in line with much of the empirical research in Interaction studies (for example, Long, 1980; Newton, 1991; Pica, 1993; Pica & Doughty, 1988; Rahimpour, 1997) who claim that two-way/required information/closed tasks lead to more negotiation of meaning. Further support for these results comes from psycholinguistic research, where Poulisse and Schils (1989) found a higher use of analytic compensatory strategies such as *circumlocution* (included as an Interactional strategy in this study) on a picture naming task, similar to the Information Gap in this study.

On the Information Gap, as learners could not look at each other's pictures, there was no shared context, so they were forced to admit that they did not understand and they had to ask for clarification (*asking for repetition, guessing, clarification request, comprehension checks*) and give clarification (by *code switching* or *circumlocution*) in order to compare their pictures, as precise information exchange was required. Furthermore, they had to use *circumlocution* as the task had been designed to elicit this strategy by including lexical items participants were not familiar with.

6.2.2.3 Compensation strategies

As previously mentioned Compensation strategies are used to overcome lexical deficits, known as resource deficit strategies by Dörnyei and Scott (1997). They included strategies such as L1-based (code switching, literal translation) L2-based (approximation, restructuring) and avoidance strategies (omission and message abandonment). Whereas Interactional strategies arise from problems detected during post-articulatory monitoring, Compensation strategies are mainly related to lexical deficits which occur during the planning and encoding phase of the pre-verbal message (Poulisse, 1990), when a speaker cannot access a lemma in their mental lexicon. Compared to the Interactional strategies (such as circumlocution and clarification by circumlocution) these types of strategies have been described as less cognitively demanding (Dobao, 2000; Poulisse, 1993) as they require smaller changes to the pre-verbal plan or they are less time consuming.

For both groups**, more Compensation strategies were used on the Information Gap** than for the other two tasks, as shown in Tables 5.41 and 5.42. This was expected from the task design. As learners had to describe the pictures precisely to achieve the task goal of finding differences if they existed, they could not avoid referring to certain lexical items, as they could in the other tasks. In addition, as they sometimes did not know the lexical items in the L2, they used Compensation strategies as illustrated in Excerpts 23 and 24:

Information Gap

(23) *Task (low proficiency)*

*CRI: I see: a: +/. **[message abandonment]**

*CRI: *como se llama* **[appeal for help]** ?

ALB: a reptile [p:ɾepti:l] . **[approximation]**

(24) *Task (high proficiency)*

*GIS: er what you put to **limitate** a garden &=ges:handturns. **[word coinage]**

*MAR: a fence.

For both proficiency groups, ***retrieval* was higher on both Picture Story and Art Description** compared to the Information Gap**.** Retrieval is an attempt to retrieve a lexical item uttering a series of incomplete or wrong forms or structures before reaching the optimal form (Dörnyei & Scott, 1997), as shown in the following excerpt for a low proficiency pair:

Art Description

(25)*Task (low proficiency)*

*SUS: *espera't* er er # the picture is er [///] the style [/] the: [///] # of the [/] the: create [* l:child] [///] the face **is ma [//] is more** er ah [///] I don't know stay one moment. **[retrieval]**

*SUS: ah !

*SUS: ah &=ges:clicksfingers er the art style is style &=ges:handsplay I not explain.

This may have been due to the longer turns in these tasks arising from more complex message formulation, which put more pressure on the smooth flow of lexical retrieval.

In the above excerpt it seems as though *retrieval* occurs because the speaker cannot find the next words she wants to use, which causes disruptions in the articulation of previous words the speaker has already retrieved. In other words, parallel processes of lexical retrieval and articulation are disrupted. As the speaker dedicates more attention to trying to access less frequently used lexical items, less attention can be paid to smooth articulation of already retrieved lexis and syntactic encoding, and errors occur.

For the low group *literal translation* and *risk taking* were high on the Art Description in comparison to the other two tasks. This was because the low group were challenged to use language they were less familiar with in this task. As they lacked these items they used literal translation to get their meaning across, which was a successful strategy, as it was understood by their partners due to their shared L1. For the same reason, they felt they were taking more risks as they were less sure that they had retrieved the correct lexical items, as revealed in stimulated recall comments such as the following:

Art Description
(26) *Task & Recall (low proficiency)*
*SEP: er er what simbolitzise er this bird ?
*SEP: the bird of the door [//] in the door.

SePi0202: We were saying *simbolitzise* the whole time but we didn't know if it was right...yes I risked a a bit with *symbolising.*

6.2.2.4 Conversation-flow Maintenance strategies

CFM strategies included strategies to maintain or enhance the conversation, keeping the channel of communication open as the speaker searched for a way to overcome their L2 resource deficits. Among these strategies *gesture* and *task familiarity* differed across tasks, as well as *use of fillers* for the low group. For *gesture*, as will be recalled, two types of strategy were coded, gestures which accompanied the utterance to *elaborate* on what the speaker was saying (McNeill, 2000) and a gesture which was used in place of a word or phrase, which *substituted* language.

Both proficiency groups used *gesture* most on the Information Gap. This seemed to be because a lot of the information they had to relay was either spatial (*behind, to the right, in the corner*) or related to shapes (*square, triangular, spiral*) on the Information Gap or motion (through the door, out of the mouth) on the Art Description, which typically elicits *ionics* which "simulate or portray movement or objects" (McCafferty, 1998:78), as this example from high proficiency learners indicates:

Information Gap

(27) *Task (High Proficiency)*

*SAN: ok I think that my: [/] my picture is different because I have first a cross and then I have that square with the four triangles but I have the [/] the [/] the &=ges:handhoriz top one painted.

On the Art Description learners also used more *gesture* than on the Picture Story. On the former task they may have felt the need to elaborate on the difficult concepts which they could not fully express in speech, as seen in Excerpt 25 above. As described by Kellerman (1992) gesture reduces ambiguity in the verbal message and enhances comprehension by increasing redundancy. In contrast, on the Picture Story gesture was not as necessary as participants could both see the task, they did not have to differentiate between spatial referents and did not have to express difficult concepts.

***Task familiarity* was higher on the Picture Story,** lower on the Information Gap and lowest on the Art Description, which was confirmed in recall comments.

Therefore, more strategies were used on the less familiar tasks. As described in Chapter 3, many task-based researchers (Bygate, 2001; Foster & Skehan, 1996; Prabhu, 1987; Robinsion, 2001; Skehan, 2009) have acknowledged task familiarity or prior knowledge as one of the factors that makes tasks easier, because when a task is more familiar the cognitive load is lower, so fewer communication problems arise, which leads to lower strategy use. This was also confirmed by learners perceptions in this study, as task difficulty was lowest on the Picture Story where familiarity was high, and highest on the Art Description, where familiarity was low.

For the low group *use of fillers* occurred more frequently on the Art Description. As the task was difficult and required reasoning, learners needed time to think about what to say, as well as search for the necessary language, so they used fillers to hold the floor while they completed their turns. This is illustrated in Excerpt 25, above. When *SUS says “I don't know stay one moment”, she is asking her partner to wait while she thinks of what to say before she continues her turn.

6.2.2.5 Planning strategies

Planning strategies were metacognitive strategies not directly involved in language use. Strategies which differed were *organisational planning***,** which was planning the macro-structure of the task and order of what was to be said.

***Organisational planning* was higher for the high group on both Picture Story and Art Description** compared to the Information Gap. On the Picture Story pre-task planning transcripts showed that learners discussed what was happening in the story, usually by following the order of the picture frames or they referred to certain picture-frames or between pictures where they could not work out the connection, as illustrated in Excerpt 28. Recall comments suggested that planning was carried out online, as learners were performing the tasks, as well as pre-task planning, before the tasks, as shown in Excerpt 29:

Picture Story

(28) *Task (High Proficiency)*

...

*TOM: he's drunk already

*FER: no

*TOM: I know because he fell but what's the bottle doing

*FER: and he break +/.

*TOM: look at this .

*FER: ok so

*TOM: I don't know if he's suffering from the fall or alcohol poisoning.

*FER: I don't know [=! whispers] .

*FER: I expect it's not blood.

*FER: well anyway he broke his leg.

*TOM: I I I don't understand the picture before this one so he fell and after that he was +/.

*FER: I think she's trying to help him to arrive to the hotel or something .

*TOM: ah, ok.

...

(29) *Recall (High Proficiency)*

Researcher: Did you think about how you would explain it beforehand?

MaVi0202: Well I thought about it *while* not before.

The reason *organisational planning* was higher on the Picture Story and Art Description compared to the Information Gap was because they were more open tasks so learners could prepare a lot more beforehand: either their part of the story for the Picture Story or interpretations for the Art Description. On the Information Gap, due to its more closed interactive design, far less planning could be done as the task was developed in the course of the interaction, which could not be predicted beforehand.

***Advance organisation* was higher for the low group on the Art Description.** This may have been because they needed more time to think about the meaning of the elements in the task, as well as the language. In contrast, in the other tasks meaning was evident and they only needed to search for the appropriate language.

6.2.2.6 Evaluating strategies

Evaluating strategies are also hierarchical metacognitive strategies. **Task had no effect on Evaluating strategies**. As recall comments concerning evaluating were of the same nature across tasks for both proficiency groups; learners evaluated by either making a general negative or positive judgement, or by identifying one particular problem, it was decided that PSU and ASU were consistent, as the quality of evaluation did not change across tasks. The reason for no change in evaluating strategies may be that they are more *trait*-like strategies than *state*-like ones, determined more by internal learner factors (cognitive learning style, intelligence, personality) than external ones. Although, as some strategy training studies have shown, these strategies can change in the long term with awareness raising and instruction (see for example, Cohen, 1998; Dörnyei, 1995, for strategy training studies, and Foster & Skehan, 1996; Gilabert, 2004 and Zhang, 2007, for strategic planning studies).

6.2.2.7. Few differences across tasks

As previously described, according to PSU less than half of the individual strategies (34%: high proficiency, 9%: low proficiency) on the SQ differed across the three tasks. ASU revealed that PSU underestimated differences, as 45% differed for the high group whereas 50% differed for the low group. Nevertheless, between any two tasks it was still less than half of the strategies that differed, with most differences being between the Information Gap and the other two tasks. These results are also in line with a previous questionnaire study (Khan & Victori, in press) where even fewer differences in PSU were observed for intermediate proficiency learners across the same three tasks. However, as in the present study, PSU was confirmed by ASU, it brings further evidence forward to suggest that strategies do not vary much between tasks in this context.

One explanation why many strategies did not change may be that although the three tasks differed in particular characteristics, other variables, such as the task conditions, were the same, overriding the influence of task features on strategy use. As will be recalled from Chapter 4, the tasks had other factors in common: they were all communicative, they involved interaction, participants interacted with the same partner on each task, the tasks were performed in the classroom and the tasks had been designed to provide each learner with an equal opportunity to participate. These factors may have had a stronger influence in determining strategy use than the specific features of each task. A pilot study (Khan, 2006) supports this argument, as only very few differences in individual strategies and no significant differences across groups of strategies were found when a narrative task was manipulated for certain cognitive and interactional characteristics.

6.3 Between-groups comparisons

6.3.1 Spoken Production

Research Question 3.1: Are there differences between low and high proficiency learners' spoken production on each task?

In order to answer this question statistical comparisons between the two proficiency groups were made for all the spoken production measures with Mann-Whitney tests. Findings showed that there were differences in accuracy, lexical complexity, structural complexity and speech rate, which were consistently higher for the high group on all tasks. However, there was little difference between proficiency groups in terms of fluency breakdown and fluency repair. In terms of self-repair the only difference was that the low group used less self-repair on the Information Gap. Native speaker benchmarks served to see if the spoken production measures were distinguishing between proficiency levels, which was found to be true for fluency, accuracy and lexical complexity, as NS scored higher than both NNS groups for these measures. However, it was not so for structural complexity, where NS scored slightly lower than the high group on the Picture Story and Art Description. Neither was it so for reformulation, as NS reformulated more than both NNS groups on the Art Description.

Firstly, regarding the differences between low and high proficiency groups, **the high group were found to have more accuracy, lexical complexity, structural complexity and faster speech rate** on each task. This was to be expected due to their more efficient speech processing mechanisms, greater L2 resources and more parallel processing (Poulisse & Bongaerts, 1994). Native speakers scored higher on all these measures than the high proficiency group. This suggests that these production measures were suitable indicators of proficiency, with more error-free, fluent and lexically complex speech denoting more proficiency.

In terms of fluency breakdown and fluency repair, on the whole, there was little difference in long pauses, repetition and reformulation between groups on all three tasks. However, there were significant differences in speech rate, with speech rate being consistently and significantly higher for the high proficiency group across all tasks. Therefore, these results must be interpreted with caution. Speech rate clearly distinguished between the fluency of low and high proficiency groups, but the number of long pauses, repetitions and reformulations did not distinguish well between proficiency groups. Other researchers have found similar results for fluency breakdown (Niwa, 2000; Skehan, 2009) and have claimed that different proficiency levels may pause and repair for different reasons. For the low group they may have come across more problems in lexical access due to their smaller L2 resources. In contrast, for the high group pausing and repair may have allowed them more time to produce more complex output, as they made greater efforts to meet the demands of the tasks. Niwa (2000) came to a similar conclusion when finding that learners with high aptitude were less fluent on a complex narrative task compared to low aptitude learners.

On the Art Description, for native speakers, fluency in terms of reformulation was lower[65] in comparison to both NNS groups [NS: *M*= 5.74, High group: *M*= 7.18, Low group: *M*= 8.19]. In other words NS reformulated more. The reason for this could be that the task also posed a challenge to NS in terms of how to interpret the paintings, as confirmed in task transcripts. As native speakers did not make long pauses to think about what to say, they thought about what to say while articulating their messages and this interfered with smooth articulation, resulting in more reformulation.

The level of self-repair was not significantly different between the low and high groups on the Picture Story and Art Description although the low group made more errors on these tasks. As previously reported, self-repair was measured as correction of lapses in lexical, grammatical and phonological errors (Kormos, 1999). Similar results have been found by other researchers studying self-repair (Gilabert,

[65] As will be recalled reformulation was a fluency measure, measured as AS units divided by the number of reformulations. Therefore, a low mean represents low fluency, or more reformulation.

2007; Kormos, 1998; O'Connor, 1988). O'Connor (1988) found that the nature of self-repair differed between high and low proficiencies rather than the number of self-repairs, with advanced learners paying more attention to monitoring discourse level aspects of speech rather than lexical and grammatical accuracy. Both Kormos (1998) and Gilabert (2007) also explained their results in this way, as they found no difference in the number of self-repairs of low level structural errors for low and high level learners.

On the Information Gap, however, the low group self-repaired significantly fewer errors [High: *M*= 11.79%, Low: *M*= 3.37%]. The reason for this may be found by turning to learners' perceptions of this task and the task duration. The low group found the Picture Story and Information Gap easy compared to the Art Description, whereas the High Group only found the Picture Story easier. Furthermore, the high group took slightly longer to do the Information Gap (High group: *M*= 12.58m, Low group: *M*= 11.16m). These findings imply that the high group perceived difficulty in the Information Gap and, possibly, in making more effort to meet the task demands they took longer compared to the low group, and self-repaired more. In other words, as argued before in Section 6.2.13, the high group had higher communicative goals on the Picture Story but possibly on the Information Gap, as well. This meant they tried to be more precise and compared their pictures more thoroughly, which resulted in more self-repair. This finding is complemented by the high group's higher lexical complexity [*M*= 40.54] and accuracy [*M*= 81.04] scores compared to the low group's [lexical complexity: *M*= 29.21, accuracy: *M*= 54.62], which were nearly as high as the NS benchmarks [lexical complexity: *M*= 49.92, accuracy: *M*= 99.18]. These excerpts, comparing a high and low proficiency pair describing the same element in a picture, illustrate this:

Information Gap

(30) *Task (High Proficiency)*

*TOM: do you have er: [///] does this truck er carry something some luggage or something like that?

*FER: yes .

*FER: yes it's like a: little mountain +/.

*TOM: like a sand [//] like a pile of sand or something like that or the earth or something similar ?

*FER: well yes like er [/] it's like [///] yes probably it's like ear(th) [/] like earth you know &=ges:handcup.

(31) *Task (Low Proficiency)*

*JOS: the: number two have got a: [/] # a: little truck with er # something [/] with something +/.

*JOR: object &=ges:back.

*JOS: yes .

As for native speakers, they did not self-repair on any of the tasks as they did not make any of the types of errors identified in the study. In a study by Kormos (2000) native speakers used self-repair less than L2 speakers but they corrected the informational content of their speech more. This could have been the case in this study as several instances of *self rephrasing* were identified, as this excerpt illustrates:

Information Gap

(32) Task (Native Speakers)

*GRY: ok I've got that in the second column +/.

*SUE: three windows a door **well a door on the right hand side**.

In terms of structural complexity, NS scores were lower than for the high group on both the Picture Story and Art Description. Other studies have found similar results (Ortega, 1999; Skehan, 1998) for oral performance. Considering structural complexity was measured as the amount of subordination, native speakers used subordination less, in other words, fewer clauses per AS unit. Therefore, subordination seems to be a way for high proficiency learners to express complexity. However, native speakers may take other routes towards complexity. In fact Norris and Ortega (2009) have pointed out some of the limitations of the *clauses per unit* measure used in this and many other studies, one of these being that a clause may be lengthened by several non-subordinating means. For example, adding adjectives or prepositional phrases modifies and complexifies elements, but this will not alter the score for the number of clauses per AS unit. Subclausal complexification such as this may be evident in lexical complexity scores, and this was indeed the case in this study where native speakers' lexical complexity scores were significantly higher across all tasks than the high proficiency group.

Some spoken production measures did not distinguish between the two different proficiency levels on the same task. In addition, it seemed as though some tasks were more appropriate than others in distinguishing proficiency levels. On the Information Gap, differences in accuracy and lexical complexity were small between NS and the high group, as described above, and differences in structural complexity were small between *all* groups [NS: 1.31, High: 1.27, Low: 1.20 clauses per AS unit]. In other words highly controlled tasks, such as the Information Gap in this study, in constraining language use, do not distinguish well between different proficiency levels. This has important implications for oral language testing (Bachman & Palmer, 1996; Swain et al., 2009).

In the few CAF studies which have included native speakers (Davies, 2003; Skehan and Foster, 2008; Skehan 2009), Skehan (2009) describes fluency and lexis as the main difference between native and non-natives, which is in line with the results of this study, where accuracy, fluency (speech rate) and lexical complexity were consistently higher for native speakers. Skehan claims that for fluency, it is the position of pauses rather than the quantity which distinguishes NS from NNS (Davies, 2003; Skehan & Foster, 2008), with NS pausing more at the end of clauses at AS boundaries, probably for online planning. NNS, in contrast, pause more mid-clause, probably due to less smooth speech processing caused by lexical deficits. As for lexis, Skehan (2009) claims that "the value of D was not particularly revealing regarding task effects" in comparing NS and NNS. This did not seem to be the case in this study, however, as the three task types were clearly distinguished by different D values (the measure used to measure lexical complexity), with scores being significantly higher for NS across all three tasks.

Summing up, expected differences between proficiency groups were found in terms of overall accuracy, speech rate and complexity with high groups scoring higher due to more efficient speech processing. On the other hand fluency breakdown, fluency repair and self-repair did not distinguish between proficiency levels, possibly because the underlying reasons for these phenomena occurring are different. Including native speaker benchmarks also helped to reveal that structural complexity does not distinguish between learners at high proficiency levels and that accuracy and complexity are not reliable measures for distinguishing proficiency on information-gap type tasks.

6.3.2. Strategies

Research Question 3.2: Are there differences between low and high proficiency learners' perceived strategy use on each task ?

As previously described, high and low proficiency learners' PSU was compared on each task. Firstly, between-group comparisons of PSU revealed that there were few significant differences between proficiency groups on any task. Secondly, the few differences were mainly for Compensation strategies, of which the low group used more. ASU confirmed these results as summarised in Table 5.41.

Firstly, **the majority of strategies did not differ between proficiency groups.** This suggests that task characteristics determine the extent of strategy use more strongly than proficiency. When each group performed a task they adjusted their strategy use in the same way, resulting in few between-group differences. These results contradict some general LLS questionnaire studies which have claimed that high proficiency or more effective learners use more strategies (Chamot et al., 1987; Green & Oxford, 1995; Griffiths, 2003; Oxford & Crookall, 1989; Vogely, 1995). However, such studies focused on general language learning strategies and did not contextualise strategy use to a task, as in this study, which could have caused this discrepancy.

However, it must be recognised that results in strategy research have been mixed. The finding that there were few differences in strategy use between proficiency groups is in line with results from other studies, such as Sanaqui (1995), for example, who did not find differences in vocabulary strategy use between proficiency groups and Oxford et al. (2004), who found few differences in reading strategy use between proficiency groups. In terms of speaking, Swain et al. (2009) found no difference in perceived strategy use between proficiency levels on TOEFL speaking tests. Nakatani (2006), who contextualised oral communication strategies to an oral roleplay task, found that, of the 15 strategy categories on the OCSI, there were significant differences between proficiency levels for only four categories.

Secondly, the one difference that was found was that **the low group used more Compensation strategies on the Picture Story and Art Description**. This was possibly because they encountered more lexical problems, due to their smaller set of L2 lexical resources compared to the high group. Also, as described in the previous section, these strategies were less cognitively demanding than Interactional strategies and therefore more accessible to the less proficient learners. These are some of the reasons other researchers, with similar results, have given (Chen, 1990; Labarca & Khanji, 1986; Liskin-Gasparro, 1996; Paribakht, 1985; Poulisse, 1990; Rossiter, 2005; Victori, Tragant & Thompson, 2008; Yoshida-Morise, 1998).

On the Information Gap, as the task design specifically elicited Compensation strategy use, the high group increased their use of these strategies, which they had not needed on the other tasks, and the low group continued to use them as they had done on the other tasks. The types of Compensation strategies differed, however. Whereas the low group continued to use *code switching* and *clarification by code switching* more than the high group, the high group used *restructuring* and *message abandonment* more. This is in line with other studies which have found that low proficiency learners used more L1-based strategies compared to L2-based strategies (Bialystok, 1983; Liskin-Gasparro, 1996; Manchón, 1989; Paribakht, 1985; Ting & Phan, 2008).

Apart from Compensation strategies, there were **a few differences in individual Interactional strategies on the Art Description and Information Gap tasks**. These strategies were used to overcome comprehension problems which were caused by the task difficulty. However, it seems that the low group used less cognitively challenging strategies (*clarification requests and guessing*) more suitable to their particular developmental stage of learning while the high group used a more cognitively challenging strategy, *interpretive summary*, as they had sufficient L2 resources to employ it. This explanation is in line with claims made in other studies (Corrales & Call, 1989; Khanji, 1996; Oxford et al., 2004).

As for CFM strategies, the high group employed *use of fillers* more on the Picture Story and *gesture* more on the Information Gap. On the Picture Story *use of* *fillers* was employed more because the high group were able to explain a lot more of the story more quickly, without coming across as many lexical problems, so, at the end of utterances they tended to use fillers as they thought of more details to add. In contrast, the low group required all their attention to just explain the basic events and they took much longer to do this. Therefore, instead of using fillers to extend their turns they handed over the floor to their partners. This is also reflected in the lower structural complexity scores of the low group on this task. The following excerpts from the second picture in the sequence illustrate these differences:

Picture Story

(33) *Task (low proficiency)*

*CRI: they: decided goes to the beach and when [/] when [/] when they arrive at the beach they see very many #2 +/.

*CRI: *basura*?

*ALB: dirty.

*CRI: dirty.

*CRI: the [/] the beach is very: dirty and [/] and they: er are very: surpren(ded) [/] surprended +/.

(34) *Task (high proficiency)*

*FER: ok and in the next one I think they have decided go to the beach but another time they have realised that the beach is very dirty so it's impossible to swim and: # **I don't know** maybe they want to try to clean but it's a bit difficult because it's really dirty so maybe they decide to go to another place to follow with the her honeymoon.

As for more *gesture* being used on the Information Gap by the high group, it may have been because the high proficiency group were generally more concerned to elaborate on details, and so using gesture was another means for doing this. Gregersen et al. (2009) also found that advanced learners of Spanish used more gesture that accompanies speech (illustrators) than lower levels.

> Advanced learners, for instance, often had adequate lexicons to retrieve low-frequency words and were using a combination of the verbal and nonverbal in tandem to create meaning through the use of illustrators. Gregersen et al. (2009:201)

It may be that the low group tried not to use gesture, if they viewed it as a negative strategy which would undermine their spoken performance. However, following Gregersen et al. (2009) it could be that learners' increased verbal proficiency is accompanied by a corresponding improvement in their non-verbal prowess. Another explanation, noticed during strategy coding, was that specific participants tended to use gesture more than others. If more of these participants happened to be in the high group, this would have skewed the results in this way.

In sum, the higher use of Compensation strategies by the low group can be explained in terms of their smaller L2 lexicon and the difference in use for the few other strategies can be explained by the ability of the high group to carry out faster speech processing, to use more cognitively challenging strategies and having higher communicative goals. As for the strategies which did not differ, it may be that different proficiency levels use the same type and quantity of strategies but they may be employing them in different ways or for different reasons, as the clear differences in spoken production imply.

6.4 The Strategy Questionnaire as a predictor of spoken production

Research Question 5: How well does perceived strategy use on the Strategy Questionnaire predict spoken production?

As described, perceived strategy use, in terms of the five factors (Interactional, Compensation, Conversation-flow Maintenance, Planning and Evaluating strategies) on the SQ, was examined to see how much the questionnaire could predict the eight measures of spoken production (error-free clauses, lexical complexity, structural complexity, speech rate, long pauses, repetition, reformulation and self-repair). Findings revealed that the five factors or strategy categories on the SQ are a weak predictor of three of the eight spoken production measures: lexical complexity (15%-36%), accuracy (12%-23%) and speech rate (15-31%) and that the SQ is a better predictor of these measures on tasks where more strategies are used, which, in this study, were the Art Description and Information Gap.

Compensation strategies made the strongest unique contribution to these predictions. In other words, the more learners perceived using Compensation strategies on the SQ the lower their accuracy, lexical complexity and speech rate was likely to be. As will be recalled from Chapter 4, Compensation strategies are strategies employed mainly to overcome lexical deficits. Therefore, it is not surprising that their use is associated with lower lexical complexity. Compensation strategies in this study were L1-based strategies such as *code switching* and *literal translation*, avoidance-based strategies such as *omission* and *message abandonment* and L2-based strategies such as *approximation* and *restructuring*. As previously explained these strategies involve small changes to the preverbal message compared to Interactional strategies. As these strategies interrupt the smooth flow of the L2, as learners switch to L1, abandon simplify or restructure their message, it seems fitting that their use results in lower accuracy and speech rate, too.

In this study accuracy, lexical complexity and speech rate have distinguished clearly between learners' proficiency levels. Considering this, these results provide further evidence that the more CS used, the lower the proficiency (Chen, 1990; Labarca & Khanji, 1986; Liskin-Gasparro, 1996; Paribakht, 1985; Poulisse, 1990; Rossiter, 2005). For example, Labarca and Khanji (1986) found negative correlation between CS use (Tarone's taxonomy), equivalent to the Compensation strategies in this study, and oral test scores.

As for metacognitive strategies, on two tasks (Picture Story, Information Gap) the more learners used metacognitive strategies (Planning or Evaluating) the less accurate they were or the slower the spoke. In contrast, on the Art Description planning strategies correlated positively with lexical complexity. Therefore, where Compensation strategies appeared clearly to be detrimental across the three tasks, mixed results were obtained for metacognitive strategies. Many strategy researchers have advocated that metacognitive strategies have a positive impact on performance (for example, O'Malley et al., 1985; Victori, 1999; Wenden, 1998). However, what distinguishes the present study from these ones is that the results are concerned only with spoken performance. Two recent studies on strategies and spoken performance also found negative effects of metacognitive strategies (Huang, 2010; Swain et al., 2009). Huang found *Evaluating content*, *planning* and *setting goals* (metacognitive strategy categories) were negatively correlated with oral production scores for some tasks. Also, Swain et al., (2009) also found negative correlations with some metacognitive strategies and speaking test scores. It may be that the unique nature of spoken performance, which requires fast and parallel speech processing mechanisms, means that attention to metacognitive strategies detracts attention from producing fluent, complex and accurate speech, and so metacognitive strategies may be detrimental, particularly for low proficiency levels or, as this study shows, for particular tasks. Therefore, the present study does not advocate across-the-board use of metacognitive strategies in the case of oral communication.

The regression analysis in this study also provides further confirmation of other results in the study, such as the between-groups analysis, where the low proficiency group used more Compensation strategies and had lower accuracy and complexity scores. In addition, the fact that the SQ is only a weak predictor of accuracy, lexical complexity and speech rate and the presence of negative correlations between some groups of strategies and spoken production measures further contradicts claims that the relationship between strategies and proficiency is linear or that the more strategies used the better.

Chapter 7

Conclusion

7.1 Final conclusions

This final chapter draws conclusions from the multiple findings in this investigation and acknowledges the limitations of the study. Some implications for learning and teaching in the EFL classroom are put forward and suggestions are made for future research directions within this field of enquiry.

The motivation for this research was to find out what learners do when they perform oral tasks in pairs in the EFL classroom. Performance was examined in terms of language learner strategies and spoken production measures (complexity, fluency and accuracy) in the context of three different tasks. As for strategies, those that were reported by learners (PSU) were compared with those actually used (ASU), primarily to test the validity of a strategy questionnaire but also to obtain deeper insights into strategy use. Particular task characteristics were considered as well as learners' proficiency levels, to see if they affected the outcomes in spoken performance. Although many studies have investigated either strategy use or spoken production across different tasks, few studies, such as this one, have considered both of these aspects of oral communication and even fewer have contrasted PSU and ASU. Hence, five main research questions guided this study, which were introduced and elaborated in Section 0.3. In brief these were:

1) *Are there differences across tasks in spoken production for high and low proficiency learners?*
2) *Are there differences across tasks in perceived strategy use for high and low proficiency learners?*
3) *Are there differences between low and high proficiency learners' spoken production and perceived strategy use?*

4) *Does PSU reflect ASU for low and high proficiency learners?*

5) *How well does PSU on the SQ predict spoken production?*

The following conclusions drawn from this study are presented in relation to these questions:

1) *Across-task differences in spoken production and strategy use can be predicted from task characteristics*

One conclusion which emerged from findings in answer to Research Questions 1 and 2 is that *across-task differences in spoken production and strategy use can be predicted from task characteristics,* particularly in terms of CAF and to some extent in terms of strategy use. Task-based researchers have generally come to the same conclusion and justify researching task features in order to make more informed decisions about task sequencing in the language classroom.

Closed, two-way, split information tasks (Information Gap) elicit more accuracy, fluency and Interactional strategies, as the tasks require information exchange and meaning negotiation. If such tasks also include unknown lexical items, as in this study, it is predictable that the task will elicit Compensation strategies. Such tasks will result in low lexical complexity as they are usually limited to focusing on a particular grammatical structure or lexical domain, and also structural complexity due to their interactive nature (Robinson 2001). In contrast, tasks with abstract concepts (Art Description) elicit the greatest lexical complexity. Tasks which require reasoning promote structural complexity, which is higher if simple reasoning is required (Picture Story) compared to complex reasoning (Art Description). Task complexity (Art

Description) promotes accuracy and Interactional and Compensation strategy use, but to a lesser extent than if tasks are designed to be more interactive (Information Gap). More one-way/+reasoning tasks (Picture Story, Art Description) elicit more pre-task planning and long pauses (online planning), whereas little or no pre-task planning is possible for two-way Information Gap tasks. All in all these findings add to the evidence that strategy use is an integral part of the task being performed. Task designers can manipulate tasks to elicit certain strategies and strategic competence is indeed an important component of communicative competence, as Bachman (1990) and Bachman and Palmer (1996) claim..

Furthermore, spoken production results mainly support Skehan's (2001) Limited Attentional Capacity Model which predicts a trade-off between accuracy and complexity which are in competition, because when complexity was high, accuracy was low and vice-versa. However, comparing the Picture Story and Art Description, both accuracy and lexical complexity were higher on the latter more complex task, which also supports Robinson's (2005) claim that accuracy and complexity are not always in competition.

Although many of these findings have already been reported in other task-based research, as cited in previous sections, what distinguishes our results from these studies is that both strategies and spoken production measures were examined together in the same sample population and for the same tasks, allowing us to observe directly how differences in accuracy, fluency or complexity were accompanied by differences in strategy use. Furthermore, the strategies were not only identified in transcripts by the researcher, but also perceived by the learners themselves as reported on a strategy questionnnaire. Their reports described predictable differences across tasks on the basis of speech processing theory and cognitive and interactional task characteristics. All in all, analysing tasks according to strategy use as well as spoken production measures provides a richer picture of spoken performance.

2) *Strategy use for oral communication in the EFL classroom context is low but highly diverse*

The generally low level of strategy use on the three tasks was put down to certain learner factors in the EFL context which remove the need to employ strategies. These were identified as the need to save face, frustration that may be caused by negotiating meaning and learner's empathy for each other. As previously mentioned, similar results were found by Khan and Victori (in press). Therefore it is important to take this into account when designing strategy research, as NNS-NS speaker contexts may be more fruitful in eliciting strategies than NNS-NNS contexts.

Poulisse (1993) describes the motivations learners have for using certain strategies as based on Grice's conversational maxims. It is easy to see the Least Effort Principle (Grice, 1975) at work in the EFL classroom where performing oral communication tasks, particularly for low proficiency learners, involved a great deal of L1 strategies. If learners came across a problem they reverted to L1 to resolve it, sometimes even carrying out parts of the task in L1. They prepared the task in their L1 and they even negotiated meaning in their L1. It seems to be that the lack of purpose for authentic communication and the *artificial* classroom context has an important effect on strategy use.

As the focus of this study has been mainly on differences between tasks and proficiency groups and not describing the strategies on each task, it is easy to overlook the diversity of strategy use. About 90% of the 44 strategies on the questionnaire were confirmed in the qualitative data, as well as, at least, eight additional strategies which have not been reported in this study, for both proficiency groups. This shows that, between them, the 48 participants brought a broad range of about 50 kinds of strategies to the tasks, despite low extent of strategy use. This result is in line with Swain et al (2009) who identified 49 different strategies from stimulated recall sessions after 30 participants performed the six tasks in their study.

3) Task characteristics influence strategy use more than proficiency

Another conclusion reached from findings to Research Question 3 is that strategy use, despite being low, is determined more by the task undertaken than by a learner's proficiency level. This was drawn from the fact that there were fewer differences in strategy use between low and high proficiency learners on each task than across tasks. In other words, both proficiency groups altered their strategy use in a similar way in response to the task demands. It was suggested that different proficiency levels use the same type and quantity of strategies, but they may be employing them in different ways or for different reasons, as the significant differences in spoken production between proficiency levels imply. The few strategy differences between groups were explained by the low proficiency group's smaller L2 resources and the ability of the high group to carry out faster speech processing, to use more cognitively challenging strategies and having higher communicative goals.

4) *Task-based strategy questionnaires are moderate indicators of actual strategy use*

One important outcome from this study is concerned with the strategy questionnaire and the validity of perceived strategy use. Concluding from the results from Research Question 4, *task-based strategy questionnaires are a moderate indicator of actual strategy use* as learners reported about half the strategies on a questionnaire consistently, as well as detecting actual differences in strategy use across three different tasks. These findings have important practical implications concerning the use of strategy questionnaires in strategy research, which have so far been the predominant method of data collection. Firstly, providing learners with a task, which has not always been done in LLS research, seems to be crucial in obtaining accurate reports on strategy use, as it ensures that all learners draw from the same source (the just-completed task). Our findings show that learners can correctly report the extent of use of a mixture of strategies, even when strategy use is low. Furthermore, making statistical comparisons across tasks with a task-based questionnaire is more accurate with higher proficiency levels as low proficiency learners were less precise in reporting differences across tasks in this study. In addition, in terms of validation, the task provides the essential source from which a researcher can trace strategy use, especially if complemented with stimulated recall. Also, comparing more than one tasks allows for a more precise assessment of validity than if only one task is used.

As explained above, very few strategy studies have examined the validity of strategy questionnaires (Bråten & Samuelstuen, 2007), despite calls by strategy researchers for the need to do so (Gao, 2007; Nakatani, 2006; Phakiti, 2003). This lack of validation carried out so far may be due to the difficulty in tracing strategies (thought processes or behaviours) in qualitative data to be able to contrast them with learners' reports as well as the fact that it is time consuming. Considering no other studies, to the author's knowledge, have undertaken validity measures with such a big sample (N=48), and taking into account that an attempt was made to trace all the strategies on a questionnaire, this study brings fresh evidence and a unique contribution to research in this area.

5) The relationship between strategies and spoken production in non-linear.

The conclusion drawn from Research Question 5 was that the SQ could only serve as a weak predictor of spoken production as it was mainly Compensation strategies that were the strongest predictors of accuracy, lexical complexity and speech rate. These results confirmed the between-groups results of this study, as it was Compensation strategies, accuracy, lexical complexity and speech rate that distinguished most between proficiency groups. The lack of correlation between the other strategy groups and spoken production measures suggests that the relationship between them is non-linear and complex. Other results in this study generally point to the same conclusion, as some spoken production measures, such as structural complexity between NS and high proficiency levels and fluency breakdown and fluency repair between low and high proficiency levels, and most strategy groups (Planning, Interacational, CFM and Evaluating) did not distinguish between proficiency groups. This means that learners may use the same strategy for different reasons and achieve different results in terms of spoken production. It also supports those researchers (Grenfell & Harris, 1999; Macaro, 2006; Tragant & Victori, 2006) who claim that strategies cannot be viewed as inherently good or bad.

These results have important implications for research into oral communication. Firstly, more representative ways of measuring complexity and fluency need to be found. For example Skehan (2009) suggests comparing the position of pauses rather than the number of pauses for fluency and Norris and Ortega (2009) suggest accounting for sub-clausal complexity as well as subordination for complexity. Secondly, results suggest that a strategy questionnaire is put to better use to study task effects rather than proficiency ones and that more qualitative studies would shed light on between proficiency group differences.

7.2 Limitations of the study

Some limitations of the present study will be acknowledged in this section. They are concerned with the generalisation of the findings to larger groups, the need to isolate the influence of particular task variables and some more minor considerations of task design and performance.

Firstly, the most obvious limitation concerns generalisation of the findings from the SQ to a broader group. As participants were university EFL students, findings can only be generalised to this context. Furthermore, although the sample of 48 was large for the qualitative analysis of actual strategy use, perceived strategy use was collected from relatively small samples (N=24, for each proficiency group), and in such cases non-parametric tests had to be used, with which differences may not reach significance (Pallant, 2005). If the SQ had been administered to a larger sample population after the three tasks, more significant differences may have been observed between tasks. Questionnaires are ideal for gathering large amounts of quantitative data, so in future research, this factor should be capitalised on.

Another limitation was that a few strategies on the strategy questionnaire could not be identified in the dataset, which meant some items were unconfirmable. For these items (*use of expressions, avoiding risks, planning sentence structure*) not enough evidence had been found in the stimulated recall sessions. A more intrusive approach, involving the researcher asking more probing follow-up questions, and stopping the video at crucial moments during these sessions, may be required to elicit more substantial information about them.

Finally, a minor limitation concerns the tasks employed. The design of the Art Description meant that the participant who described their piece of art second was at an advantage as they had already heard the task being performed by their partner, despite the content of the two paintings being different. This advantage is reflected in the shorter pre-task planning time for the second part of the task compared to the first (M= 104.05s for Part 1, M= 52.02s for Part 2, for the whole group). However, this factor is only likely to have had a small effect on individual learners' strategy use and spoken production, but would not have had a notable effect on the combined scores of the groups analysed.

As for the Information Gap, the split information design made it the only task where participants could not share their information, but despite being told not to look at each others' pictures and despite being filmed on camera, some students couldn't resist the temptation. Such behaviour cut short or completely cut out negotiation of meaning sequences and the Interactional or Compensation strategies involved, a factor which would affect strategy use or spoken production results. Nevertheless, the results of this study do reflect task performance as it would occur in an EFL classroom, rather than in an experimental setting, so in this sense they provide a more realistic picture of task performance.

7.2 Pedagogical implications

This study gives several indications of the appropriacy of certain task types and possible applications for strategy questionnaires in the EFL classroom. Firstly, the question of which task in this study is more appropriate for language learning is addressed, according to the kinds of strategies and spoken production that were elicited.

In my opinion, of the three tasks examined, the Art Description was the best choice. The need to explain abstract concepts clearly stretches learners to tap into more of their world knowledge, which has a clear positive impact on lexical complexity. This was particularly evident for the low group, as greater lexical complexity occurred despite greater use of some Compensation strategies (*literal translation, appeal for help, clarification by code switch*) and this was the only task of the three that enhanced the low group's lexical complexity. Furthermore, for both groups, accuracy, fluency and structural complexity were not severely compromised as they were "medium", between the Picture Story and Information Gap, despite the task's complexity. Besides, longer pauses, despite having a negative effect on fluency scores on the Art Description, may not necessarily have been detrimental to language learning, as it gave learners time to produce more complexity and accuracy. In terms of strategies some Interactional strategy use was enhanced, which could also be positive for language learning if the resulting meaning negotiation sequences led to learners focusing on form, and even more so if meaning negotiation sequences were correctly resolved. Therefore, this task provided the most equal balance between the different spoken dimensions and strategy use.

As for the Picture Story, although structural complexity was high, it was to the detriment of both accuracy and fluency. Therefore, narrative tasks such as this one, which was already sequenced and have a clear storyline, seem to be suitable for focusing on this aspect of spoken production, developing more extended speech.

The Information Gap had the greatest impact on accuracy and fluency, which represents learners using their existing L2 knowledge efficiently. Therefore, information-gap tasks may be suitable for learners to practise what they already know or perfect their knowledge of a particular L2 rule, as the closed split-information format focuses learners on a particular aspect of the language. However, the task in this study sacrificed both lexical and structural complexity, which are aspects of spoken production that push learners to extend their existing L2 knowledge and lead to interlanguage development. Furthermore, Interactional and Compensation strategy use was high on this task for both proficiency groups. As will be recalled, the task was designed purposely to elicit Compensation strategy use and these strategies seemed to “get the task done” but seemed negative in terms of language learning, as at the end of the Information Gap task, learners still did not know most of the lexical words required. It may be justifiable to elicit Compensation strategies in tasks for research purposes but from a pedagogical point of view, if task design encourages learners to use such strategies, learners may come to depend on avoidance and L1-based strategies such as *code switching, literal translation* and *foreignising* if they share the same L1, and they could become a permanent part of their interlanguage, possibly leading to fossilization[66]. It could leave learners ill-prepared for communication with native speakers in more authentic contexts.

In the same way that meaning negotiation promotes noticing of correct form-meaning relationships and so encourages SLA, it may also promote noticing and acquisition of incorrect forms. For this reason, Interactional strategies could be

[66] Fossilization occurs when language errors become a permanent feature of a learners’ interlanguage system (Canale & Swain, 1980; Selinker, 1972).

detrimental to learners of similar levels. This is particularly evident in cases of pronunciation. As learners share the same L1, they can understand each other even when their pronunciation is unacceptable to the native speakers.

This study also provides valuable insights for designers of task-based tests of spoken language, particularly because NNS-NNS pairs are a commonly employed format, such as in the speaking section on the UCLES EFL examinations. It has furthered our understanding of how different task features influence spoken output and the underlying speech processing mechanisms involved in NNS-NNS interaction. Drawing from these findings, more informed decisions can be made regarding the task features that make a task more cognitively complex or more interactive. More accurate predictions can be made concerning the type of speech that will be elicited in order to design effective test tasks which will, on the one hand, bring out the best in all three CAF performance areas and strategy use and on the other hand distinguish well between different proficiency levels.

Another question concerns the value of the SQ as an instrument for strategy training. Firstly, the results of this study clearly show that prescribing particular strategies to learners or warning learners not to use strategies would not be an advisable approach, even in relation to particular tasks, as there was no direct linear relationship between individual strategies and spoken proficiency. This stance, therefore, does not favour the type of strategies-based instruction (SBI) (Cohen et al., 1996) where learners are introduced to individual strategies and then given situations in which to practise them. However, learners could certainly use the SQ to develop their own effective selection and orchestration of strategies in conjunction with specific oral tasks they are required to perform in class.

One argument which has been used to justify strategy training and is also relevant for the SQ, is that heightening awareness to strategies focuses learners' attention on the process of language learning and their stage in L2 acquisition, improving comprehension, storage, retrieval and use of the learning material and ultimately improving language learning (Oxford, 1990). This contrasts to a product-oriented approach of feedback in the classroom. For this reason, strategy training with the SQ may be fruitful, by making learners more aware of why they are doing a particular learning task (for example to practise fluency, to use newly learnt vocabulary or grammatical structures) and allowing them to reflect on the choice of strategies available, which will determine how successfully they do the task. It may allow learners to critically evaluate which strategies are effective or ineffective for them on any particular task and may guide them more precisely towards the areas they need to change or improve.

Another argument in favour of strategy training is that it gives learners the tools to be more self-directed or autonomous and less dependent on the teacher. Using a strategy questionnaire encourages a learner-orientated approach to learning. Researchers in this field (Benson & Voller, 1997; Dickinson, 1987; Holec, 1981) claim that learners who are responsible for their own language learning, take control of how, where and when they learn the language, they are more aware of their language learning goals and are consequently more effective at attaining them, independently of a teacher.

7.3 Future research directions

As with many such investigations, some findings have provided answers to questions but others have been less conclusive and have given rise to even further questions. These could be addressed in future research. Firstly, further research could be undertaken with the dataset already available in this study. A large quantity of data was collected, only a part of which has actually been examined to answer the research questions posed. It became apparent during data analysis, however, that the seeds for future research had already been planted, by taking alternative approaches to analysing the same data.

For example, the content of pre-task planning could be compared across the three tasks to examine its possible influence on spoken performance or strategy use. Another line of investigation would be to measure successfully resolved negotiation of meaning sequences across tasks and compare them to unresolved sequences. As resolved sequences represent incidental focus on form and involve the resolution of correct form-meaning relationships, the assumption is that they will lead to comprehensible input (Long, 1980) and output (Swain, 1985) which in turn leads to SLA. Hence, this would be a more effective way of determining which tasks were more suitable for language learning, as it does not assume that more interactional strategies leads to more SLA, but takes into consideration the quality and outcome of negotiated sequences.

An interesting question which arose by comparing the study's results with the researcher's impressions of how learners performed the tasks is to examine how successfully the task outcomes were achieved by each proficiency group. Although spoken production and strategies were examined in this study, successful task completion or communicative success was not. By studying this essential side to task performance the more effective learners in each proficiency group could be identified and characterised according to their distinguishing features in terms of spoken production scores and strategies.

In this study the stimulated recall comments which were required to validate the SQ have been reported. However, a more in-depth analysis of this data could shed light on more qualitative differences across tasks and between proficiency levels.

Apart from continuing the analysis on the data in this study, further studies on task characteristics are needed. As particular task features, such as reasoning or planning time, had not been examined in isolation, the interpretation of the results could not be conclusive about which of several possible task variables was responsible for the results obtained. Already a great deal of research has been done (see Robinson & Gilabert 2007; Robinson, 2007 for a review) to identify task variables which are involved in the nature of oral communication. Although it is very difficult to design research tasks so that particular variables may be studied in isolation, this is an area which is particularly interesting because of its immediate implications in classroom practice and syllabus design.

Furthermore, what is essential in making results from different studies on oral communication comparable is the standardisation of both tasks and the task-based strategy questionnaires employed. In other words, future researchers should use the same tasks or strategy questionnaires, such as Nakatani's (2006) OCSI and the SQ in this study, as previous researchers.

With regard to questionnaire validity, another question to address would be the influence of the SQ on learners' reports. Some influence of the SQ was noted by the researcher in analysing the stimulated recall comments, as there were a few instances of learners paraphrasing the SQ strategy descriptions when they were making their comments. Therefore, by identifying strategies in tasks and in stimulated recall sessions, strategy use across tasks with and without filling in questionnaires can be compared.

Finally, longitudinal studies which address the question of how task sequencing could lead to second language acquisition would be of great importance both in research and teaching. Most studies, like this one, have been transversal and, therefore, can at most explain which tasks, for example, will elicit fluency or Interactional strategies. However, acquisition of a second language is not directly examined. To this end longitudinal studies examining task effects on spoken production and strategies are needed. Taking on the approaches outlined here would certainly enrich our knowledge of the complex interplay between task, learner and oral communication in the EFL classroom.

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Appendices

Appendix A. Strategy Questionnaire (English translation)

Date: .... Identity number: ....

HOW DO YOU SPEAK IN A FOREIGN LANGUAGE?

We would like you to help us by answering this questionnaire about the strategies you use when you speak English. This questionnaire is part of the GRAAL (Grup de recerca en autonomia i aprenentatge de llengües) at the University of Vic. It's not a test so there aren't any correct or incorrect answers. We're just interested in your perceptions. Please answer sincerely because only that will guarantee the success of our study.

....

Here is a list of strategies that students use when they speak a foreign language in class.

Think about the speaking activity you've just done and circle an answer (from 0 to 5) corresponding to your level of strategy use. When you answer don't think about what you normally do or what you think you should do, simply mark what you have just done in the speaking activity.

BEFORE SPEAKING

Not at all---A lot

1. I recognised the activity because I had done a similar one.	0	1	2	3	4	5
2. I spent a while thinking about what I was going to say.	0	1	2	3	4	5
3. I thought about how I would explain (how to begin, how to end).	0	1	2	3	4	5
4. I made notes to help me do the activity.	0	1	2	3	4	5

WHILE SPEAKING

Not at all---A lot

5. I used expressions in English that I remembered. ("That's just the *tip of the iceberg*", "It came *out of the blue*").	0	1	2	3	4	5
6. I avoided errors.	0	1	2	3	4	5
7. I used words or phrases like ("*well.*", " *let me see*") to Gain time while I thought of what to say.	0	1	2	3	4	5
8. I risked saying things even though I wasn't sure they were correct.	0	1	2	3	4	5
9. I focused on the activity without being distracted.	0	1	2	3	4	5
10. I used English I was sure of.	0	1	2	3	4	5
11. I used gesture to help my partner understand me (eye contact, gesture).	0	1	2	3	4	5
12. I maintained the conversation as much as possible.	0	1	2	3	4	5
13. I thought about how to structure sentences before saying them.	0	1	2	3	4	5

When my partner didn't understand me properly...

	Not at all					A lot
14. When my partner didn't understand me **I spoke slower.**	0	1	2	3	4	5
15. When my partner didn't understand me **I asked questions to check if she had understood** (*"Ok?" "Do you understand?"*).	0	1	2	3	4	5
16. When my partner didn't understand me **I explained in another way.** (*"The ice **melts**"... " I mean, It's when ice turns to water"*.	0	1	2	3	4	5
17. When my partner didn't understand me **I explained in Catalan / Spanish.**	0	1	2	3	4	5
18. When my partner didn't understand me **I repeated The word or phrase.**	0	1	2	3	4	5

When I didn't understand my partner...

	Not at all					A lot
19. When I didn't understand my partner **I asked him/her to speak slower.**	0	1	2	3	4	5
20. When I didn't understand my partner **I asked for an explanation.** (*"What do you mean?" "What?"*)	0	1	2	3	4	5
21. When I didn't understand my partner **I asked him/her to repeat.** (*"What?" "Can you repeat that please?"*)	0	1	2	3	4	5
22. When I didn't understand my partner **I carried on as if I'd understood.** (*"Yes... yes"*)	0	1	2	3	4	5
23. When I didn't understand my partner **I guessed what He/she was trying to say** (*"Do you mean 'car park'?"*).	0	1	2	3	4	5
24. When I didn't understand my partner **I told him/her** *("I don't understand", **"**I don't know what you mean", arronsava les celles).*	0	1	2	3	4	5
25. When I didn't understand my partner **I repeated what he / she had said in my own way to ensure that I had understood.** **(**"*So... you mean that something bad happened*.")	0	1	2	3	4	5

When I had a problem with language...

	Not at all					A lot
26.When I made a mistake I corrected myself Out loud. ("*The weather get... ge**ts** better*").	0	1	2	3	4	5
27. I asked for help. (*"It's a ... com es diu 'rellotge'?"*)	0	1	2	3	4	5
28. I got stuck in the middle of a sentence (*"It's a... I don't know"*).	0	1	2	3	4	5
29. I spoke in Catalan / Spanish (words, sentences or whole turns).	0	1	2	3	4	5

Not at all---A lot

30. I invented a word using a structure from English (*"It's a bromation", per a* 'una broma').	0	1	2	3	4	5
31. I used a Catalan / Spanish word but with English pronunciation *("I **reparo** the car").*	0	1	2	3	4	5
32. I used an example or a description to express a word ("*It's a type of yellow flower*").	0	1	2	3	4	5
33. I used gesture to get my meaning across.	0	1	2	3	4	5
34. I paused for a particulary long time to think about what I wanted to say.	0	1	2	3	4	5
35. I started saying something and then I restructured the sentence ("*If he leaves...well... he's walking in the mountain*").	0	1	2	3	4	5
36. I translated literally from Catalan/Spanish. (To say 'safe deposit box' *I said 'strong box' (un caixa forta).*	0	1	2	3	4	5
37. I mumbled something because I wasn't sure about what I was saying. ("*It's a type of XXX*)	0	1	2	3	4	5
38. I left out a word and continued as if I had said it *(The sun is... and people are walking).*	0	1	2	3	4	5
39. I tried various incorrect forms before I got to what I wanted to say *(They break... **broke**... **broken**.).*	0	1	2	3	4	5
40. I used a more general or simple word when I didn't know the specific one. (To say 'beak', I said '*mouth*')	0	1	2	3	4	5

AFTER SPEAKING

Not at all---A lot

41. I asked someone to tell me how I had done.	0	1	2	3	4	5
42. I thought about how I'd done in general.	0	1	2	3	4	5
43. I remembered specific problems I'd had.	0	1	2	3	4	5
44. I thought about which aspects I had to improve for the next time.	0	1	2	3	4	5

If you think of other strategies which are not listed, note them down here:.

45.	0	1	2	3	4	5
46.	0	1	2	3	4	5

Thank you!

Appendix B. Strategy Questionnaire Piloting

B1. Pilot Questionnaire 1

(English Translation)

SPEAKING A FOREIGN LANGUAGE

Think about the speaking activity you have just carried out and circle (on the scale 1-4) the strategies you used. When you answer do not think about what you usually do or what you should do. Simply mark **what you have just done**. If you think of other strategies you have used that are not listed, note them down in the space at the end of the list.

BEFORE SPEAKING

	not at all	a little	quite a bit	a lot
1. I checked that I had understood the instructions.	1	2	3	4
2. I recognised the task, as I had done a similar one before.	1	2	3	4
3. I spent a while thinking about what I was going to say.	1	2	3	4
4. I thought about how to organise my ideas (how to begin/end...).	1	2	3	4
5. I tried to relax (breathing deeply, laughing etc).	1	2	3	4
6. I encouraged myself to do the activity well.	1	2	3	4

WHILE SPEAKING

<u>In general</u>...

	not at all	a little	quite a bit	a lot
7. I thought about what I wanted to say in Catalan and then translated it.	1	2	3	4
8. I thought about how to structure sentences before saying them.	1	2	3	4
9. I focused on grammar when I spoke.	1	2	3	4
10. I avoided talking about topics I didn't know the vocabulary for.	1	2	3	4
11. I focused more on how I spoke than what I was saying.	1	2	3	4
12. I used expressions I remembered.	1	2	3	4
13. I tried not to make mistakes.	1	2	3	4
14. When I realised I had made a mistake, I tried to correct it.	1	2	3	4
15. I used exclamations and other typical English expressions.	1	2	3	4
16. I tried to speak like a native speaker.	1	2	3	4
17. I only used language I was sure of.	1	2	3	4

	not at all	a little	quite a bit	a lot
18. I summarised or repeated an idea I wanted to emphasize.	1	2	3	4
19. I used words (like 'well', 'so') to fill pauses.	1	2	3	4
20. I concentrated on the activity without feeling distracted.	1	2	3	4
21. When my conversation partner spoke, I paid attention.	1	2	3	4
22. I helped my conversation partner when he/she had problems.	1	2	3	4
23. I adjusted my speech so that I would be understood better (speaking more slowly, pausing more, using simpler language).	1	2	3	4

When I had <u>a problem with the language</u>...

	not at all	a little	quite a bit	a lot
24. I asked my partner or someone else for help.	1	2	3	4
25. I didn't finish my sentence.	1	2	3	4
26. I changed the topic.	1	2	3	4
27. I used words from my own language.	1	2	3	4
28. I invented a word/phrase.	1	2	3	4
29. I used other ways of expressing what I wanted to say (descriptions, synonyms etc).	1	2	3	4
30. I used gestures to help my partner understand me.	1	2	3	4
31. I used more general words when I didn't know the specific ones.	1	2	3	4
32. I used a word from another language (French, German etc).	1	2	3	4

AFTER SPEAKING

	not at all	a little	quite a bit	a lot
33. I was satisfied with the way I had completed the activity.		1	2	3
4				
34. I assessed how well I had done.	1	2	3	4
35. I identified my problems.	1	2	3	4
36. I asked someone to tell me how I had done.	1	2	3	4
37. I thought about the aspects I should improve for the next time.	1	2	3	4
38. Other strategies which are not listed:				
....	1	2	3	4
....	1	2	3	4

B2. Pilot Questionnaire 2

COM PARLES EN UNA LLENGUA ESTRANGERA?

Ens agradaria que ens ajudéssiu responent aquesta enquesta sobre les estratègies que utilitzeu quan parleu en anglès. Aquest enquesta forma part de la recerca del GRAAL (Grup de recerca en autonomia i aprenentatge de llengües) de la Universitat de Vic. No és una prova per tant no hi ha respostes correctes o incorrectes. Simplement ens interessen les vostres percepcions. Si us plau respongueu amb sinceritat perquè només això ens garanteix l'èxit del nostre estudi.

Data: .... Carrera: ....
....

Aquí tens una llista de les estratègies que els estudiants fan servir quan parlen en la llengua estrangera a classe.

*Pensa en l'activitat oral que acabes de fer i encercla una resposta (de 0 a 3) sobre el teu nivell d'ús de les estratègies. Quan contestis, no ho facis pensant en el que fas normalment, ni en el que creus que hauries de fer, sinó **simplement en el que acabes de fer en aquesta activitat**.*

ABANS DE PARLAR

Gens **Poc** **Bastant**

Molt

1. He reconegut el tipus d'activitat perquè n'havia fet alguna de semblant.	0	1	2	3
2. He estat una estona planejant què diria.	0	1	2	3
3. He pensat en com ho diria (com començaria, com acabaria etc).	0	1	2	3
4. M'he donat ànims a fer l'activitat ben feta.	0	1	2	3
5. He buscat ajuda al diccionari / al llibre.	0	1	2	3
6. He escrit notes per ajudar-me planejar l'activitat.	0	1	2	3

EN GENERAL **MENTRES** PARLAVA**...**

7. Pensava com construir les frases abans de dir-les.	0	1	2	3
8. Feia servir expressions en anglès que recordava.	0	1	2	3
9. Intentava evitar errors.	0	1	2	3
10. Em fixava en la meva pronunciació per parlar com un nadiu.	0	1	2	3
11. M'arriscava a dir coses, encara que no sabés si eren correctes.	0	1	2	3
12. Resumia o repetia una idea, perquè volia destacar la seva importància.	0	1	2	3
13. Feia servir paraules o frases (*well... let me see...*) per guanyar temps mentre pensava què havia de dir.	0	1	2	3

	Gens	Poc	Bastant	Molt
14. Només feia servir llenguatge del que estava segur.	0	1	2	3
15. Em centrava en l'activitat sense distreure'm.	0	1	2	3
16. Corregia la meva parella.	0	1	2	3
17. Intentava mantenir la conversa com fos.	0	1	2	3
18. Feia servir gestos per fer-me entendre (contacte d'ulls, un gest).	0	1	2	3
19. Quan la meva parella parlava, em fixava en el que deia.	0	1	2	3
20. Em fixava en el llenguatge que feia servir la meva parella, i que no coneixia.	0	1	2	3
21. M'enrotllava massa per explicar una cosa.	0	1	2	3
22. Demanava ajuda en anglès.	0	1	2	3
23. Quan parlava jo, mirava com reaccionava la meva parella.	0	1	2	3
24. Demanava ajuda en català/castellà.	0	1	2	3

<u>Quan pensava que no m'entenien bé...</u>

25. Parlava més a poc a poc.	0	1	2	3
26. Feia servir paraules més senzilles.	0	1	2	3
27. Feia preguntes per comprovar si m'entenia (*M'entens? Saps?*).	0	1	2	3
28. M'explicava utilitzant un exemple o explicació.	0	1	2	3
29. M'explicava en català/castellà.	0	1	2	3
30. Repetia la paraula o frase.	0	1	2	3

<u>Quan no entenia una cosa...</u>

31. Demanava la meva parella que parlés més a poc a poc.	0	1	2	3
32. Demanava una explicació.	0	1	2	3
33. Demanava que ho repetís.	0	1	2	3
34. Continuava la conversa fent veure que seguia.	0	1	2	3
35. Feia preguntes per confirmar que ho havia entès bé.	0	1	2	3
36. Endevinava, en veu alta, el que volia dir (*Vols dir 'car park'?*).	0	1	2	3
37. Deia (verbalment o no) que no ho entenia.	0	1	2	3
38. Repetia el que em deia a la meva manera, per assegurar si ho havia entès bé.	0	1	2	3

	Gens	Poc	Bastant	Molt
<u>Què feia quan tenia un problema amb el llenguatge?</u>				
39. Feia servir una paraula que sonava com la que necessitava (*Volia dir ‘coat’ però he dit ‘boat’*).	0	1	2	3
40.Quan m’equivocava m’he autocorregit en veu alta. (*The weather get... get**s** better*).	0	1	2	3
41. Quan m’equivocava, no deia res perquè no hi havia temps.	0	1	2	3
42. Quedava parat a mitja frase (*Its a... I don’t know*).	0	1	2	3
43. Canviava de tema.	0	1	2	3
44. Deia una cosa totalment diferent perquè no trobava la paraula que buscava.	0	1	2	3
45. Parlava en la meva llengua materna (paraules, frases o intervencions senceres).	0	1	2	3
46. Inventava una paraula fent servir alguna estructura en anglès (‘*It’s a bromation’*, per a una broma).	0	1	2	3
47. Feia servir una paraula del català però amb la pronunciació anglesa *(I **reparo** the car).*	0	1	2	3
48. Feia servir altres maneres (un exemple, descripcions) d’expressar el que volia dir.	0	1	2	3
49. Utilitzava gestos per ajudar a fer-me entendre.	0	1	2	3
50. Feia servir paraules més generals o senzilles quan desconeixia les paraules específiques.	0	1	2	3
51. Feia servir una paraula d’una altra llengua (francès...) expressament perquè pensava que m’entendrien.	0	1	2	3
52. Feia una pausa especialment llarga per pensar en el que volia dir.	0	1	2	3
53. Feia servir paraules més generals (*that thing... it’s something...*) perquè no sabia la paraula exacta.	0	1	2	3
54. Començava a dir una cosa i llavors he reestructurat la frase (*We can see a... so he’s walking in the mountain*).	0	1	2	3
55. Traduïa una paraula, expressió o estructura del català	0	1	2	3
56. Parlava baix menjant algunes paraules perquè no estava segur del que deia.	0	1	2	3
57. Ometia una paraula i continuava com si l’hagués dit *(The sun is... and people are walking).*	0	1	2	3
58. Provava varies formes incorrectes abans d’arribar a la que volia dir *(It’s break... broke... broken.)*	0	1	2	3
59. Repetia el que havia dit la meva parella mentre pensava què volia dir.	0	1	2	3

	Gens	Poc	Bastant	Molt
60. Repetia una cosa que havia dit la meva parella mentre guanyava temps per respondre.	0	1	2	3
61. Quan dubtava, repetia el que deia en forma de pregunta (A *It's a horse.* B *A horse?*) per confirmar si ho havia dit bé.	0	1	2	3

DESPRÉS DE PARLAR

62. He avaluat com ho havia fet.	0	1	2	3
63. He recordat els problemes que havia tingut.	0	1	2	3
64. He demanat a la meva parella que em digués com ho havia fet.	0	1	2	3
65. He pensat en quins aspectes havia de millorar per a la pròxima vegada.	0	1	2	3

Si penses en altres estratègies que has fet servir i que no estan llistades, anota-les aquí.

66.	0	1	2	3
67.	0	1	2	3

Moltes gràcies!

B3. Structured interview excerpts

Structured interviews were carried out during the second pilot study with the 65-item strategy questionnaire on a 4-point rating scale (0-3). Two high proficiency students, Student HD and Student HM, and two low proficiency students, Student LD and Student LS, were interviewed. The following translated excerpts illustrate items which were considered either problematic or unproblematic.

Problematic items

Item 4 (I encouraged myself to do well)
[Multiple item interpretation, comprehension problems- REMOVED]

High Proficiency

Student HD	I don't understand this very much. (repeats question). Do you mean before starting... You encouraged yourself - like you can do it - like I motivated myself to do it well? Well no. Not much. Maybe a "1".
Researcher	Because did you think about how you were feeling?
Student HD	Well I always try to do it well and maybe because it was a test I tried to do it a bit better than usual. *(Scale score = 1).*
Student HM	Well... "encouragement" (laughs)?
Researcher	How do you understand this one?
Student HM	Like you're thinking that it has to turn out perfect. And it doesn't have to be perfect but you think up a new story and it comes out how it comes out and that's it. So, not at all. *(Scale score = 0).*

Low Proficiency

Student LD	yes.
Researcher	How do you understand this question?
Student LD	Well, that I came and did it enthusiastically. I didn't say well I can't be bothered or I came...
Researcher	Ok *(Scale score = 3).*
Student LS	Yes, this one yes, yes, a lot.
Researcher	How do you understand this one?
Student LS	If I was into it or not.
Researcher	Ok *(Scale score = 3).*

Item 12 (I summarised or repeated an idea to highlight its importance)
[Alternative item interpretation - REMOVED]

High Proficiency

Student HD	No, I didn't do it. I said it all in one go and I didn't want to repeat or highlight anything. *(Scale score = 0).*
Student HM	Quite a bit. And especially when you don't know how to say it, I repeat it again to see if they'll really understand.
Researcher	But here I wanted to say repeat when you want to highlight an idea. Do you know what I mean? Like you want to say my argument is really important or my point.
Student HM	Oh I don't know.

Researcher	So you didn’t understand this sentence this way?
Student HM	I understood that if you’ve got an idea instead of looking for a difficult explanation to explain it you repeat it, trying to say it in another way. *(Scale score = 3).*

Low Proficiency

Student LS	Yes, especially for the “he broke his leg”. I was three hours saying he’d broken his leg because you keep saying it and then you think about what you’ve said after. *(Scale score = 3).*

Unproblematic items

Item 49 (I used gesture to make myself understood)

High Proficiency

Student HD	No.
Researcher	A book (gesture).
Student HD	No. *(Scale score = 0).*
Student HM	No, I don’t know, no, maybe a little with my hand.
Researcher	So why haven’t you put “not at all” because?
Student HM	Because of the non-verbal vocabulary “the beach, the rubbish” and you use gestures. *(Scale score = 1).*

Low Proficiency

Student LD	when the word wouldn’t come out. Yes. *(Scale score = 3).*
Student LS	Yes, I do this a lot. I won’t put a lot because in this case...
Researcher	Ok *(Scale score = 2).*

Item 50 (...I used more general or simple words when I didn't know the specific one)

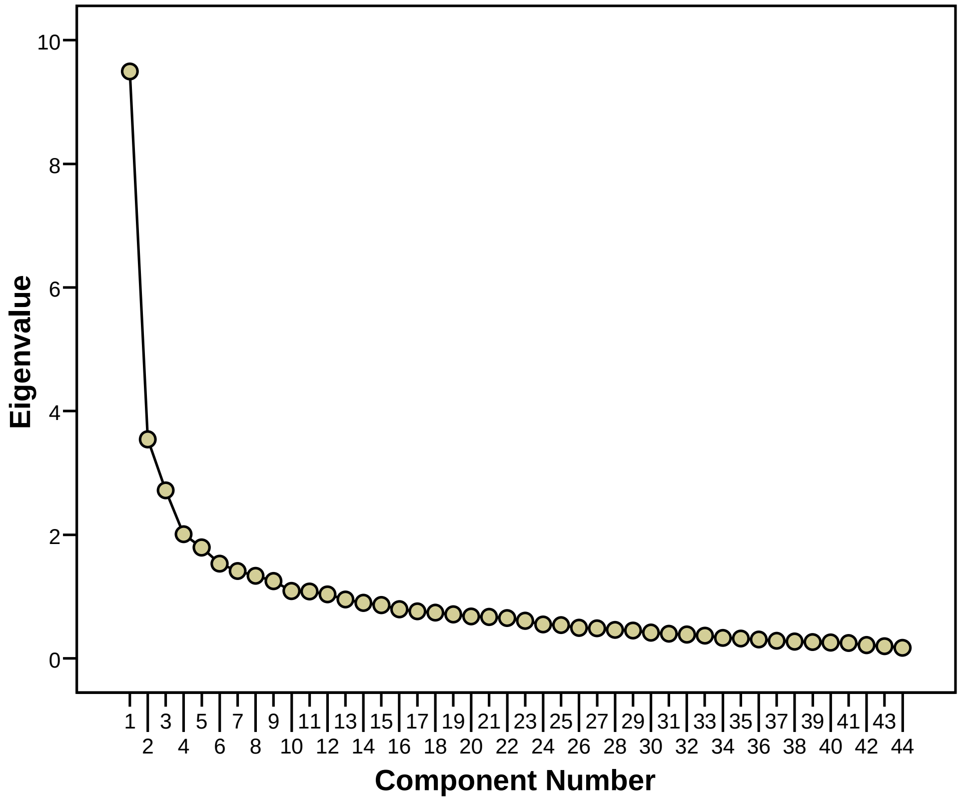
High Proficiency

Student HD	Yes this one yes. Sometimes you want to say something specific and you end up saying “big”. *(Scale score = 2).*
Student HM	No. Little.
Researcher	Ok.
Student HM	Because my vocabulary isn’t that broad. I use general words usually and then its the opposite I try to put in a more complicated one, you know. *(Scale score = 1).*

Low Proficiency

Student LD	Yes. *(Scale score = 3).*
Student LS	Yes, maybe four times. *(Scale score = 3).*

Appendix C. Scree plot from principal components analysis of Stratetgy Questionnaire data (N=330)



Appendix D. Participant biodata

	Name Code	*QPT*	*CEFR level*	*Oral Test*	*Sex*	*Age*	*Nationality*	*University Entrance Marks*	*Years of Instruction*
1	BeGa	31	B2	7	F	19	E	6	12
2	AnOt	23	A2	5.5	F	20	C	5	6
3	JoGo	14	A1	3.77	M	20	E	6	7
4	JoMa	17	A2	3.69	M	21	E	4	5
5	MaAr	30	B2	6.58	F	18	C	7	10
6	GiGa	29	B1	6.95	F	18	E	6	10
7	SePi	16	A2	3.4	M	20	C	5	11
8	SeRu	19	A2	4.1	M	18	E	6	11
9	MaVi	30	B2	5.25	F	18	C	8	11
10	AnFe	32	B2	5.95	F	18	C	8	11
11	ToSm	50	C1	10	M	23	C	7	6
12	FeFe	50	C1	9	M	22	C	5	14
13	AlGa	21	A2	4	M	20	C	5	9
14	AdSa	21	A2	3.25	M	19	E	5	9
15	CrRa	15	A1	4	F	22	C	5	7
16	AlFe	19	A2	3.25	F	20	E	5	12
17	GeMu	19	A2	2	F	19	C	6	11
18	EsCa	28	B1	4.25	M	20	C	4	10
19	LaPa	15	A1	3.5	F	24	C	5	11
20	SuCo	17	A2	2.94	F	21	E	4	9
21	AnSe	19	A2	3.75	F	20	C	4	9
22	MaPa	19	A2	3.75	F	20	C	4	9
23	DaAm	27	B1	7.25	M	19	E	5	13
24	SeGu	27	B2	6	M	19	C	9	13
25	EmRi	23	A2	6	F	19	C	5	9
26	ElBa	26	B1	5.75	F	20	E	5	9
27	SeMa	23	A2	4.5	M	19	C	5	11
28	LlLi	17	A2	3.98	M	24	E	5	11
29	FrTr	21	A2	4	M	24	E	5	14
30	JaVi	21	A2	4.5	M	20	C	4	17
31	JaPu	24	B1	4.75	M	19	C	5	10
32	AlMa	29	B1	4.25	M	19	E	5	10
33	JuEs	24	B1	6.25	F	19	C	6	10
34	SaPe	34	B2	8	F	19	C	8	11
35	SaCi	17	A2	3.4	F	24	E	4	5
36	NaAl	15	A1	2.5	F	19	E	6	5
37	SaAl	14	A1	4	M	24	C	5	5
38	MoOr	15	A1	2.5	F	24	C	4	9
39	GeSo	25	B1	6.5	F	20	C	7	9
40	MiGu	33	B2	7.5	F	19	E	7	10
41	LoBa	33	B2	8.3	M	19	C	6	6
42	QuCa	33	B2	5	F	21	C	5	14
43	LaJi	40	B2	8	F	21	E	8	7
44	IgTo	45	C1	10	M	21	C	6	15
45	MaCo	50	C1	10	M	23	E	8	6
46	JoTu	45	C1	10	M	23	C	7	12
47	CaSu	48	C1	10	M	23	E	8	9
48	ClAu	50	C1	10	F	18	C	9	11

Appendix E. Oral test

Universitat de Vic
Escola Politècnica
Superior

Student **A**

FCE Speaking (Pairwork)

Part 1 (3 minutes) Personal details

Introduce yourself and ask your partner one or more questions from any of these categories.

Homelife
Do you come from a small or large family?
Does your family live in a house or a flat? Tell me something about it.
What do you enjoy doing when you're with your family?
Who are you most similar to in your family? In what ways are you similar?

Personal Experiences
What do you enjoy doing with your friends?
What's your favourite month of the year? Why?

Travel & Holidays
Do you enjoy travelling? Tell me a place that you've visited?
Have you ever been on holiday without your family? Where did you go?
What was your favourite sort of holiday when you were younger?
Where would you like to go for your next holiday? Why?

Part 2 (1-minute description) Markets

It's your turn first. Show your two photographs to your partner. Compare and contrast the photographs saying where you would prefer to go shopping and why. Your partner will just listen and stop you after 1 minute.

Now listen to your partner describing two photographs. Don't interrupt. Stop your partner after 1 minute.

Part 3 (3 minutes) Discussion

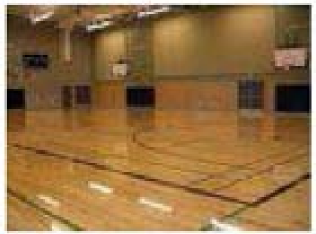
The university has decided that it wants to improve it's facilities for students. Here are some ideas they have come up with. Talk together about each option and decide which would be the best.

Part 2 MARKETS

1A

1B

Part 3



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Appendix F. Background Questionnaire

QÜESTIONARI INICIAL

La finalitat d'aquest qüestionari és conèixer les teves dades personals. Tota la informació que dónes es farà servir confidencialment i només per a la recerca.

Data .... Numero d'identitat ....

1. Sexe ....
2. Edat ....
3. Llengua materna: □ Espanyol □ Català □ Altra (especificar-la) ....

4. Quina nota mitjana vas treure al final del curs passat?
   □ menys de 5 □ 5 - 5,9 □ 6 - 6,9 □ 7 – 7,9 □ 8 - 8,9 □ 9 -10

5. Quines altres llengües, *a part de la materna*, saps parlar?
   1 ....
   2 ....
   3 ....

6. Quina mitjana de notes *d'anglès* has tret fins ara?
   □ menys de 5 □ 5 – 5,9 □ 6 - 6,9 □ 7 - 7,9 □ 8 – 8,9 □ 9 -10

7. Quant fa que estudies anglès a l'escola? ……………………….. anys
   (per exemple: des de 3r de primària són 9 anys)

8. Quant de temps extra has dedicat a l'anglès fora de l'escola ? *(Marca amb una creu totes les quadres que calgui)*
   □ viatjant (en setmanes)
   □ en una acadèmia (hores / setmana)
   □ en altres cursos (hores / setmana)
   □ amb família i amics (hores / setmana o setmanes / l'any)
   □ altres. (especifica-ho aquí) ……………………………………………………

9. Quantes oportunitats tens de parlar anglès durant la setmana?

   (un cop a la setmana)... *(tres cops)*... *(cada dia)*
   0 1 2 3 4 5 6 7

1

Aquestes són algunes raons que la gent dóna per aprendre anglès. Quines són les teves?

	Totalment en desacord				Totalment d'acord
10. Algun dia m'anirà bé per trobar feina.	1	2	3	4	5
11. És una assignatura obligatòria si no, no l'estudiaria	1	2	3	4	5
12. M'ajudarà a apreciar altres cultures.	1	2	3	4	5
13. Em permetrà conèixer més gent de tot el món.	1	2	3	4	5
14. M'agrada aprendre idiomes.	1	2	3	4	5

	dolenta				bona
15. La teva habilitat per parlar en anglès és...	1	2	3	4	5
16. La teva habilitat per parlar en anglès comparada amb els companys de classe és...	1	2	3	4	5

	poc				molt
17. M'avergonyeixo parlant anglès a classe.	1	2	3	4	5
18. No em sento segur quan parlo anglès a classe.	1	2	3	4	5
19. Em sento nerviós quan parlo en anglès.	1	2	3	4	5
20. Tinc por que els altres estudiants se'n riguin de mi.	1	2	3	4	5

	poc				molt
21. M'encanta estudiar anglès.	1	2	3	4	5
22. L'anglès és una part important del meu aprenentatge a l'escola.	1	2	3	4	5
23. Odio l'anglès	1	2	3	4	5
24. M'estimo més dedicar-me el temps a altres assignatures	1	2	3	4	5

2

Appendix G. Reflective Questionnaire

Date: ....   Identity number: ....

Encercleu la resposta adient:

	Gens--------------------------------Molt	
L'activitat era fàcil	0 1 2 3 4 5 6 7	L'activitat era difícil
Em sentia relaxat	0 1 2 3 4 5 6 7	Em sentia nerviós
L'activitat no era interessant	0 1 2 3 4 5 6 7	L'activitat era interessant
Ho he fet bé	0 1 2 3 4 5 6 7	Ho he fet malament
Vull fer més d'aquests activitats	0 1 2 3 4 5 6 7	No vull fer més d'aquests activitats

....

Appendix H. Tasks

H1. Picture Story

TASK 1 HONEYMOON

Tom and Judy have just returned from their HONEYMOON. It's a holiday that they will never forget. Look at the pictures which describe their honeymoon. Picture 1 is the first picture in the story and Picture 12 is the last picture. Take turns DESCRIBING what happened in as much detail as you can. For example Student A explains picture 1 and Student B explains picture 2 etc. Remember - the most important thing is to tell a good story!

Tom and Judy have just returned from their honeymoon. They told us 'It was a holiday we will never forget . . .'

H2. Art Description

PART 1

Student A The Art Expert

Here is one of your favourite paintings in the art gallery. You are an art expert - you have a good knowledge of the art world. You are looking at this painting in the art gallery with a friend who knows nothing about art. With the confidence of an expert CREATE AN EXPLANATION for the painting (e.g. the artist, the style, the colours) and GIVE YOUR 'EXPERT' OPINION of it. Student B (your friend) will start the conversation and ask you questions.

H2. Art Description (continued)

PART 2

Student A The Art Novice

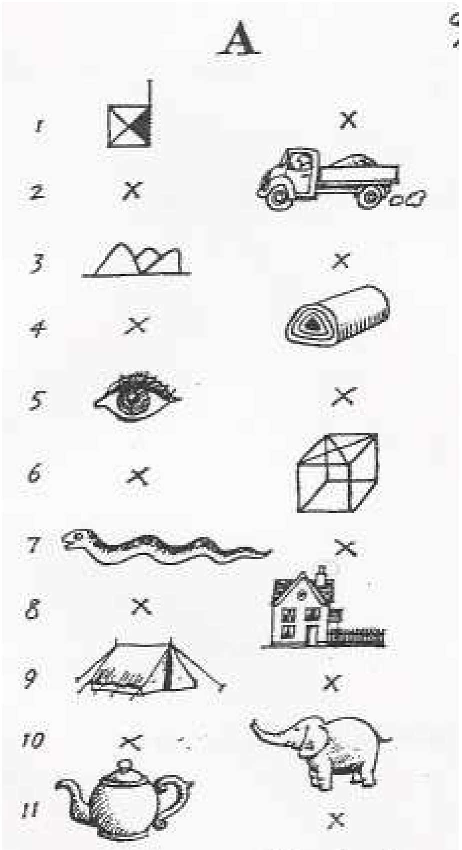
Now you have reversed your roles.

Here is an interesting painting in the art gallery. You are an art novice – you have no knowledge of the art world. You are looking at this painting with your friend who is an art expert. ASK your friend QUESTIONS about the picture because you don't understand what it means. Include the 5 numbered elements you see. You start the conversation.

H3. Information Gap

Student A

Look at the pictures below. DO NOT show them to your partner. DESCRIBE each picture to your partner IN DETAIL and decide together if you have the same or different pictures. Circle the number next to the pictures which are different. Student B starts.

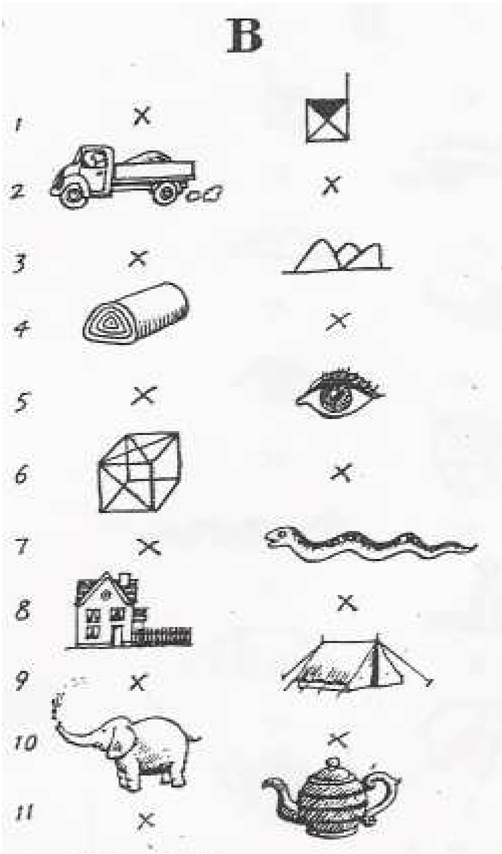


When you have finished, look at each other's pictures and check your answers.

H3. Information Gap (continued)

Student B

Look at the pictures below. DO NOT show them to your partner. DESCRIBE each picture to your partner IN DETAIL and decide together if you have the same or different pictures. Circle the number next to the pictures which are different. You start.



When you have finished, look at each other's pictures and check your answers.

Appendix I. Stimulated recall protocol

STIMULATED RECALL: RESEARCHER INSTRUCTIONS

1 READ OUT THE INSTRUCTIONS TO THE PARTICIPANT:

El que farem ara és mirar la gravació. M'interessa el que pensaves en el moment que parlaves durant l'activitat. Sentim el que deies i veiem el que has fet però no sabem el que pensaves. Per tant, m'agradaria que m'expliquessis el que pensaves, el que tenies al cap mentres parlaves.

Posaré la càmera aquí, davant teu i pots fer pausa en qualsevol moment. Per tant, si pots explicar en què pensaves, pitja la pausa. Si jo tinc una pregunta sobre què pensaves pitjaré la pausa i et demanaré que parlis sobre aquella part de l'activitat.

2 MODEL STOPPING THE RECORDING AND ASKING A QUESTION:

Play a segment, YOU stop the recording and ask a question:

En què pensaves en aquest punt/moment?
Digues en què pensaves aquí.
Aquí rius / fas una cara / fas aquest gest, en què pensaves?

Play another segment, THE PARTICIPANT stops the recording and explains.

3 PLAY THE RECORDING AS IN 2.

Non-responses by the researcher are preferable to answers or extended responses.

TROUBLESHOOTING

a) If participants say 'I DON'T KNOW' leave it there, don't fish for answers.

b) If participants don't stop the recording, stop it yourself and DIRECT ATTENTION by asking the following possible questions:

Recordes el que estaves pensant quan ***ella/ell ha*** *repetit això?*
Recordes en què pensaves quan ***ha dit*** *aquelles paraules?*
Recordes en què pensaves quan ***ha dit*** *això?*

Recordes el que estaves pensant quan ***has*** *repetit això?*
Recordes en què pensaves quan ***has dit*** *aquelles paraules?*
Recordes en què pensaves quan ***has dit*** *això?*

c) If the participant talks over the recording without pausing, pause and place the camera so that the participant can release the pause when they finish.

Appendix J. CHAT transcription excerpt

1 @Begin
2 @Languages: en, ca, es
3 @Participants: SEP XXXX Student, SER XXX Student, SAR Teacher
5 @ID: en|khan|SEP||male|low||Student||
6 @ID: en|khan|SER||male|low||Student||
7 @Date: 06-NOV-2008
8 @Coder: Sarah Khan
9 @Location: EPS, Universitat de Vic, Vic, Spain
10 @Warning: overlaps, phonetic transcriptions and gestures are not coded
11 accurately.
12 @Activities: Task 1 Picture Story
13 @Tape Location: tape 1.1
14 @Time Duration: 00:02:14-00:10:27
15 *SER: er er in picture one er we can see: a: a: ## +/.
16 *SER: pareja &=whispers ?
17 *SEP: a couple [* p:ku:pə] &=whispers [= ::] [= |] .
18 *SER: a couple [* p:ku:pə] er: [= ::] looking for er a journal [= item40]
19 doing his honeymoon in their honeymoon er: # they # they are: doing # plans
20 # for do this trip for doing this trip .
21 *SER: no@c sé@c.
22 *SEP: that's all.
23 *SEP: ok.
24 *SER: sí@c.
25 *SEP: ok.
26 *SEP: in the picture two we can see: this couple [* p:ku:pə] that er in
27 the day of his: marry ?
28 *SER: wedding [* p:wɪdɪŋ].
29 *SEP: oh wedding [* p:wɪdɪŋ] oh ok wedding [* p:wɪdɪŋ] .
30 *SEP: er er we can see the: the # er his friends.
31 *SER: throw rice.
32 *SEP: throw rice and er do photos .
33 *SER: take take pictures .
34 *SEP: take pictures &=whispers .
35 *SER: yes.
42 *SEP: oh sí@c és@c veritat@c &=whispers .
43 *SER: torna@c a@c començar@c .
44 *SEP: tu@c tu@c va@c .
45 *SER: er in the picture three [* ms:art] we can see er the car er
46 the [/] the car [= ::] [= |] er # it: go [* ms:goes] to the airport
47 [= ::] [= |] .
48 *SER: I suppose [= ::] that: [/] er that: er they start their trip
49 [/] # er their trip er [/] [= item28] [= ::] [= |] ## .
50 *SER: com@c es@c diu@c agafar@c un@c avió@c &=whispers [= item24] ?

Appendix K. Transcription codes

yes - all types of ‘yes’ including ‘yep’, ‘yeah’
@c - Catalan
@e - Spanish
@u - unfinished words which cannot be guessed from context
: - lengthening at the end of a word / syllable
eh? - What do you mean?
mmhm - uhuh etc, showing attentiveness
oh - surprise, all types of ‘puf’ ‘uf’ ‘ah’
+/ - interruption: line terminator for an interrupted utterance
[=! whispers] - action simultaneous with speech
&=laughs - action after speech
&=ges:* - gesture: type of gesture
- less than 1 sec pause
- more than 1 sec pause
- more than 2 sec pause
er - filled pause
[/] - repetition
[//] - correct self-repair
[///] - reformulation of own utterance
[////] - incorrect self-repair
+< - lazy overlap
+// - self interruption
xx -indecipherable word in L1 (not counted in TTR)
xxx -indecipherable word in L2 (counted in TTR)
0 - action not accompanied by speech
0 - [=! reads instructions]
[= |] -delimits AS unit
[= ::] -delimits clause / s-node

Appendix L. Instructions for coding spoken production

You are going to code students doing three oral tasks (Picture Story, Art Description, Information Gap). Code the following 12 task transcriptions

Group1	*Tape*	*Group2*	*Tape*
ClAu1& CaRi1	17,5/ 12,1/ 18,1	SaCi2 & NaAl2	7,2/ 15,3/ 23,2
DaAm1& SeGu1	6,1/ 15,2/ 17,2	FrTr2 & JaVi2	7,3/ 22,1/ 10,5

Code all Picture Story tasks first, then Art Descriptions and then Information Gaps. See **Transcription Codes** to familiarise yourself with codes for pauses, gesture etc. An example of a coded transcript is provided in *ExampleCoding.doc*.

1 Read through the transcript once to get a general idea and look at the task at the same time so you can see what students are talking about. This way you will be able to recognise errors, repair and reformulation more accurately.

2 **Accuracy**
Read through the transcript again, looking at the task and code for **errors** [*] <u>using the guidelines provided</u>.

3 Read through the transcript again and code for **codeswitching** using the guidelines provided. Add c for Catalan or e for Spanish to the end of L1 words.

4 **Fluency**
Read through it again and code for **repetition** [/], **self-repair** [//] and **reformulation** [///] <u>using the guidelines provided</u>.

5 **Complexity**
Read through it again and code **AS-units** [= |] and **s-nodes** [= ::] <u>using the guidelines provided</u>.

In the following guidelines excerpts from transcripts in this study are provided as examples.

1) Accuracy

Errors
An error is "a linguistic form or combination of forms, which in the same context and under similar conditions of production would, in all likelihood, not be produced by the speakers' native speaker counterparts." Lennon (1991: 182)

Lexical, morphosyntactic and phonological errors are considered (Kormos, 1999) as the following examples illustrate:

Lexical error [*l:]

... the down [* l:bottom] rectangle

oh, I think the rows coz # coz there's no one [* l:nothing] there.

Morphosyntactic error [*ms:]

-agreement + missing object
and there are [* ms:is] a triangle in front of [* ms:odrop] .

-incorrect preposition
on the left from [* ms:of] the snake

-missing article
yes I would say it's [* ms:artdrop] Aladdin lamp

-incorrect word order

but I can see as well the other lines [* ms:wo]

These types of question tags are not counted as errors:

the six ropes, no ?

Phonological error [*p:]

of triangle [* p:tri:æŋgəl] in front of .

yes striped [* p:stri:pt] yes

DO NOT include fine appropriacy errors.
DO NOT include use of L1 as an error.

2) Fluency

Repetitions [/]

A repetition is when the speaker repeats previously produced speech. Only count dysfluency repetitions [/].

Complete repetitions
so, what's your [/] your picture like ?

Partial repetitions
is a thee dimensional sha(pe) [/] shape?

Repetitions which do not represent dysfluency are the following:

DO NOT include repetitions for emphasis.

he's a very very nice man . / yes yes yes!

DO NOT include repetitions in response to a clarification request.
A: a fence .
B: sorry? .
A: a fence .

DO NOT include repetitions which are overlaps
A: +< it's a snake .
B: +< it's a snake .

DO NOT include repetition caused by interruption
A: in the +/.
B: and the four triangles &=ges:fingers
B: er yes yes.
A: in the: [/] the top of triangle

Reformulations [///]

A reformulation is considered to be an instance when the speaker *changes* their original utterance to say something completely different. They could be considered "different repair" Levelt 1983 . There is no *overt error* involved in the first version, for example:

an envelope which seems to be open by: **[///]** in the: [/] # in the upper.

how do you count the **[///]** er them ?

INCLUDE false starts

er: in the [* ms:art] picture one er I s:@u [///] I can see a: square...

yes, I [///] in this picture is a chimney and er in two parts.

Reformulations which do not represent dysfluency are the following:

DO NOT include reformulations which are made to elaborate meaning to improve the precision of their message (appropriacy repairs) (Levelt, 1983). In these cases the original message is not changed but elaborated. Part of the first version is repeated in the second version. Such phenomena represent complexity rather than disfluency, for example:

and then in the fifth and the fourth one I have the same one as you, that tube
or kind of a cake ...

the fifth picture is an eye a female eye .

DO NOT include code switches, for example:

and well the line of the: [/] of the: # del@c terra@c .

Self-repair [//]
This is when the speaker changes their utterance to correct an error due to a lapse (Kormos, 1999). These may be lexical, morphosyntactic or phonological.

Morphosyntactic repair
there is [* ms:agr] dark hairs [//] dark hair I mean.

yes in the centre of [* ms:art] triangle [//] of the triangle

Lexical repair
These are both covert repairs that you can only detect by looking at the pictures for the task.

there's another small room [* l:roof] [/] oh room [//] roof ?

it's er on the bottom [* l:top] of the tent [//] er on the top of the tent.

Phonological repair
I can see a snake [* p:snaik] [//] # snake.

er: my eye [* p:ei] seems [* ms:like] a woman's aye [= ::] [= |].

Incorrect repairs [////]

so at [* ms:in] **[////]** on [* ms:in] the first picture

when you go to a camping [* l:campsite] [////] to camping [* ms:prep] ?

3) Structural Complexity: AS units and Clauses.

An AS-unit: a single speaker's utterance consisting of *an independent clause*(s) *or sub-clausal unit,* together with any *subordinate clause*(s) associated with either. Examples of both simple and potentially difficult coding sequences are given.

An *AS-unit* is marked by an upward slash in square brackets at the end of the unit.

[= |]

A *clause* is marked by double colon in square brackets at the end of a clause.

[= ::]

An *independent clause* is minimally a clause including a finite verb:

it's definitely not mine [= |] [= ::]. 1 clause, 1 AS unit

I don't know [= |] [= ::] . 1 clause, 1 AS unit

no it isn't [= ::] [= |]. 1 clause, 1 AS unit

An *independent sub clausal unit* will consist of: *either* one or more phrases which can be elaborated to a full clause by means of recovery of *ellipted elements* <u>from the context of the discourse or situation</u>.

er the columns or the rows [= |] [= ::] ? 1 clause, 1 AS unit
(Do you count the columns or the rows?)

A: some curve lines on: like a [= |] [= ::] +/. 1 clause, 1 AS unit
(they are some curvy lines on like a ...)

ok the: [/] the first one [= |] [= ::] . 1 clause, 1 AS unit
(Let's do the first one)

picture number six [= ::] [= |] . 1 clause, 1 AS unit

sorry sorry [= ::] [= |]. (non sentences) 1 clause, 1 AS unit

A *subordinate clause* will consist minimally of a finite or non-finite verb element <u>plus at least one other clause element</u> (Subject, Object, Complement, Adverbial).

ok so my first picture is: a square: [= ::] which # is divided in # four triangles [= ::] [= |]. 2 clauses, 1 AS-unit

oh, I think [= ::] the rows [= ::] coz [/] # coz there's no one there [= ::] [= |].
3 clauses, 1 AS-unit

bueno in my figure it looks like a cake like a: typical cake from here from *Catalunya* [= ::] called *Braçdegitano* [= ::] [= |].
2 clauses, 1 AS-unit

Co-ordinated verb phrases belong to the same AS unit unless the first phrase is marked by falling or rising intonation and followed by a pause of greater than 0.5 second.

it cannot be yours [= |] [= ::] # but I think [= ::] that the second is the same as your first [= ::] because it's a square [= ::] and divided into er one two three four triangles [= ::] and one is black [= |] [= ::] . 6 clauses, 2 AS-units “it cannot be yours” is counted as an AS-unit as the next clause “ but I think that the second is the same as your first” is not linked to it although it begins with the linker “but”. It is a separate piece of micro-planning/thinking marked by intonation change/pause.

Inaudible turns
INCLUDE turns coded as xxx xxx xxx, as 1 clause, 1 AS unit.
(xx are inaudible transcriptions of L1 and should not be included)

Interruptions

Own interruption
A: I've got +//.
A: wait a second [= |] [= ::] one two three four five # er six seven eight nine ten eleven [= |] [= ::]. (2 clauses, 2 AS-units)

Other interruption

Interrupted but completed utterance

A:	ok is [* s:sdrop] the: same +/.	0 AS units
B:	er +/.	0 AS units
A:	picture [= |] [= ::] ?	1 clause, 1 AS unit

Interrupted and incompleted utterances

A: mine is [///] +/. 0 AS units
B: it's left [= ::] because on the right side the: [/] # the lines are er connected more sharply than on the left [= ::] [= |] (2 clauses, 1 AS unit)

DO NOT include the following as an AS-unit:

1 one-word utterances: yes, ok, no, er, right, so

Except INCLUDE one word utterances which represent comprehension checks, if they are in the form of a question, marked by rising intonation.

Yes? (do you agree?)
elephant? (do you mean elephant?)

2 echo responses which are verbatim:
A: on the ten there's this elephant [=::] [= |]
B: elephant .

3 False starts, repetitions and self-repair.
A false start is an utterance which is begun and then either abandoned or reformulated in some way.
A repetition is when the speaker repeats previously produced speech. Only dysfluency repetitions (as described above) are excluded from the AS-unit, coded as [/]. INCLUDE repetitions for emphasis, repetitions in response to a clarification request and repetitions which are overlaps.

A *self-repair*,coded as [//], occurs when a speaker identifies an error during or immediately after articulation. The errors are excluded from the AS-unit but the final version is counted in.

4 Reading aloud.

Appendix M. Instructions for coding strategies

1 Take an uncoded transcript to code strategies. DO NOT code strategies on the same transcript copy as Fluency-Accuracy-Complexity.

2 Use the list of strategies provided (StrategyCodingTable.doc) and write the number of the strategy after it occurs on the transcript.

3 *StrategyIdentification.doc* contains examples of each strategy to help you identify them.

4 First read through the transcript to identify episodes of non-comprehension (items15-25). It may be that no such episodes occur.

One problem is identifying instances of feigning understanding (item22) or guessing (item23), as these aren't always obvious. They are usually caused by some kind of phonological or lexical error in a previous utterance.

5 Then read the transcript again for strategies 27-40.

One problem is identifying instances of Item 40: using a more general or simple word. These are instances where the student isn't using exactly the right word, as you can see from the visual and they must be preceded by pausing or hesitation.

6 For lexical strategies, for example if a student invents a word, only code the word once, do not code repetitions of the word in the remaining transcript.

Appendix N. Strategy identification

Transcript excerpts are coded with the same participant name codes eg.*MIR:, as used in the CLAN programme. For an explanation of transcription codes see Appendix K, however, most codes have been removed for easier readability.

Recall comments are translated from Catalan. Recall excerpts are coded with participants' initials, proficiency group (H- high proficiency, L- low proficiency), the task (01- Picture Story, 02- Art Description, 03- Information Gap) and the sequence of task performance (01- first, 02- second, 03- third), for example: ClAuH0103. ClAu is the student's name, H means high proficiency group, 01 means the Picture Story and 03 means that this student performed the task third.

1. I recognised the activity because I had done a similar one.

CFM: task familiarity
Relating the material to prior knowledge of the task or of the world.

Researcher: Have you done an activity like this before?
SePiL0202: No I've never done this before

LaJiH0303: This was more interesting than the others because I've never seen this before. I've never done anything like this.

2. I spent a while thinking about what I was going to say.

PLANNING: advance organisation (O'Malley & Chamot,1990: 137; Oxford, 1990; Stern, 1992; Chamot et al.,1999).
Previewing the organising concept or principle of an anticipated learning task.

GeMu0303: We looked at it and had an idea, more or less, of what it was about but we didn't spend a long time preparing each picture,

SePi010: Here we were looking at the pictures trying to see a bit what was going on... but of course you think in Catalan and you think well its easy.

3. I thought about how I would explain (how to begin, how to end).

PLANNING: organisational planning (O'Malley & Chamot,1990: Oxford, 1990; Stern, 1992; Chamot et al.,1999).
Proposing strategies for handling an upcoming task; generating a plan for the parts, sequence, main ideas, or language functions to be used in handling the task.

NaAl0101: At the beginning I'm reading the instructions and looking at the pictures trying to see what they're about... When XXX says "picture number one start you", I'm not ready. I haven't prepared the pictures but as the camera is recording.

Pre-task planning A:
*JOR: ok.
*JOS: ok.
*JOR: 0 [= reading instructions].
*JOS: 0 [= reading instructions].
*JOS: I start.
*JOR: ok.
@End

Pre-task planning B:
*SER: veu es lo que t'he dit es casen i desprès els hi plou.
*LLU: estan com a dintre d'una botiga aquí em sembla, no?
*SER: no no això és llegan al aeropuerto.
*LLU: a vale.
*SER: i després don compta que plovia es que ja m'ho ha explicat ja.
*LLU: és Madrid això.
*SER: 0 [= laughs].
*SER: plou.
*LLU: llavors.
*SER: llavors volen +/.
*LLU: volen anar a comprar er cap allà a la platja això és Benidorm i després fan un viaje a Torrevieja.

4. I made notes to help me do the activity.

note taking (O'Malley & Chamot, 1990: 138, Oxford, 1990).
Writing down key words, and concepts in abbreviated verbal, graphic or numerical form to assist performance of a language task.

Identified by direct observation

5. I used expressions in English that I remembered.

CFM: using expressions (Oxford, 1990).
Placing a word or phrase in a meaningful sentence, conversation or story to remember it.

IgTo0101: Yes here at the beginning I was thinking of expressions like *check in* and these things but in that moment I didn't er thought of it and then I was thinking of the Spanish you know *deshacer la maleta* and you know *put the clothes in the wardrobe* so I didn't get to those expressions.

*IGN: finally they: they found another hotel where: they were able to stay for the whole honeymoon and: which was very close to the sea and they had beautiful views from from their room and they were very excited about going to the beach and so: er as soon as they: had: finished with their luggage they went straight to the beach.

6. I avoided errors.

CFM: avoiding error/self monitoring (O'Malley & Chamot,1990: Oxford, 1990; Stern, 1992; Chamot et al.,1999).
Checking verifying or correcting one's langauge production.

Researcher: You said you avoided errors a bit?
BeGa0201: Yes I tried. Sometimes I did, sometimes not.

Also identified as % error-free clauses.

7. I used words or phrases like (*"well", " let me see"*) to gain time.

CFM: use of fillers (Dörnyei & Scott, 1997).
Using gambits to fill pauses, to stall, and to gain time in order to keep the communication channel open and maintain discourse at times of difficulty.

*BEG: I have # <u>well</u> a cross &= ges:cross and next &= ges:handmove to the cross I have er: like a box...
*ANN: yes.

*JAU: at in the # &=ges:lefthandraw in the hand hand in the right hand there have an antenna that it will be a a continue of the the line &=ges:hand er <u>one moment eh</u>.

8. I risked saying something even though I wasn't sure it was correct.

COMPENSATION: risk taking

GeMu0303: I didn't know if triangle was a Catalan word or if it was different.
GEM: in the picture one I can see an square with four # triangles [p:tri:æŋgəlz]and one of them are painted in black.

SeRu010: Here 'looking for' I wasn't sure if I had said it right or if it was right for this context.
*SER: er xxx@e in the picture five the couple is: looking for the window # the the the environment.

9. I focused on the activity without being distracted.

PLANNING: directed attention (O'Malley & Chamot, 1990: 137; Oxford, 1990).
Deciding in advance to pay attention in general to a learning task and to ignore distractors; maintaining attention during task execution.

SePi0202: Focus on the activity – yes more because the other one was familiar but this one we focused a bit before on what we would say.

10. I used English I was sure of.

CFM: avoiding risk

MiGu0301: I think here we're both thinking whether it was called triangle or not
*GEM: an envelope which seems to be open by: in the: # in the upper.

IgTo0101: I didn't know if I was going to say that they were going to get a limousine or something but I wasn't sure if limousine was the correct word so I said a taxi although there wasn't any taxi sign.

*IGN: and the day after the wedding they: took a taxi at nine am in the morning to the airport where: they: took off from Barcelona to the island of er: Las Palmas Gran Canaria.

11/33. I used gesture to help my partner understand me.

CFM: Mime (Dörnyei & Scott, 1997; Tarone, 1977: Faerch & Kasper, 1983; Bialystok, 1990; Paribakht, 1985; Willems, 1987; Nijmegen group).
Two types of gesture were coded:

Elaborating
*QUE: er: when they: arrive at the room they saw the beach and: but behind other buildings &=ges:handsout.

Substituting
*FER: and there are like one two three three lines in the: pot # er well not different well there's a &=ges:grasp.
*FER: how do you say handle ?

Deictic gesture (interlocutors pointing to pictures, objects or to each other) was not included.

12. I maintained the conversation as much as possible.

CFM: maintaining conversation

LaJiH010: The picture didn't have much in it but as I saw that *XXX had talked a lot I tried to say more things but I just repeated what I has said ...

*LAU: er because of they had nothing to do in the hotel because Tom was very bad er they decided to write some postcards to their family and they: they explained that they had a wonderful time there but it's not true as we know and: they wrote a lot of postcards to friends and # and family.

13. I thought about how to structure sentences before saying them.

PLANNING: planning sentence structure

NaAl0202: I was thinking about how to structure the question. First the auxiliary then...
*NAT: er: # what ## &=ges:handstop what have #6 what #4
*NAT: what er: er &=ges:pointpic do: make #3 that er the boy &=ges:pointpic have: the sunglass ?

The following Interactional strategies (Item14-Item25) were only coded if preceded by an expresssion of non-comprehension such as *er* or *eh?*.

14. When my partner didn't understand me I spoke slower.

INTERACTIONAL: clarification by speaking slower
Speaking slower in response to an expression of non-understanding.

*SAB: and why oh er: &=ges:pointpic the plant isn't green?
*NAT: 0 [=! confused]
*SAB: 0 [=! laughs].
*SAB: why &=ges:pointpic the plant isn't green [=! speaks slower] ?

15. When my partner didn't understand me I asked questions to check.

INTERACTIONAL: comprehension check
Asking for confirmation in response to an expression of non-understanding.

*MIR: er this thing that you # your where you put inside when you go to a camping to camping?
*GEM: yes .
*MIR: do you know what I mean?
*MIR: like a bed.

16. When my partner didn't understand me I explained in another way.

INTERACTIONAL: clarification by circumlocution
Circumlocution in response to an expression of non-understanding.

*QUE: ah because they don't want to see what's happening behind the: behind them.
*LLO: oh!
*LLO: you mean the face behind that &=ges:pointpic behind them?
*QUE: yes the black face with er I think a woman who: who's hungry and from Africa.
*LLO: mmhm .

17. When my partner didn't understand me I explained in Catalan / Spanish.

COMPENSATION: clarification by code switch
Code switching in response to an expression of non-understanding.

*SEP: and the between mountain is in the behind ?
*SER: què@c ?
*SEP: in the between mountain in the +/.

*SER: behind és@c ?
*SEP: és@c darrera@c .
*SER: sí@c .

18. When my partner didn't understand me I repeated the word or phrase.

INTERACTIONAL: clarification by repetition
Repetition in response to *an expression of* non-understanding.

*SAN: legs ok.
*MON: what?
*SAN: legs four legs.

19. When I didn't understand my partner I asked him/her to speak slower.

INTERACTIONAL: asking to speak slower

Strategy not identified

20. When I didn't understand my partner I asked for an explanation.

INTERACTIONAL: clarification request
Requesting an explanation when not understanding properly.

*NAT: be(cause) because the the person in on the picture is: bueno@e have ## yellow hair?
*SAB: who person ?
*NAT: er: &=ges:picpoint +/.
*SAB: the man or the woman ?
*NAT: both.

21. When I didn't understand my partner I asked him/her to repeat.

INTERACTIONAL: asking for repetition
Requesting repetition when not hearing or understanding properly.

By repeating the stem
*GIS: er: my eye seems a woman's eye.
*MAR: sorry your eye seems?
*GIS: a woman's eye a woman's eye.

Explicitly
*SEP: er in picture two er er is a: a lorry and a driver and the lorry buy a: something and: and no more.
*SER: er could you repeat?

22. When I didn't understand my partner I carried on as if I'd understood.

INTERACTIONAL: feigning understanding
Making an attempt to carry on the conversation by pretending to understand, in spite of not understanding.

Researcher: Did you know what background meant?
SePi0202: I wasn't sure no.

*SER: be(cause) why the background is blue?
*SEP: er .
*SER: si@c que@c xx xx .
*SEP: er if because...

SePi0202: I didn't realise what sand meant.

*SEP: sand for example.
*SER: is full ?
*SEP: is: +...
*SER: or empty?
*SEP: empty .
*SEP: full full full.

23. When I didn't understand my partner I guessed what he/she was saying

INTERACTIONAL: guessing
Guessing is similar to a confirmation check/request but implies a greater degree of uncertainty and indecision regarding the key word.

*TOM: something similar to pie?
*TOM: rollade ?
*FER: yes, yes yes like a roll &=ges:roll yes yes and: +/.

*JUD: it's black but only on it # oh +/.
*SAN: the top the top of the skin +/?
*JUD: the top yes the: the top of the skin ...

24. When I didn't understand my partner I said so *("I don't understand"...).*

INTERACTIONAL: confirmation check
Requesting confirmation that one heard or understood something correctly.

*SER: on the: higher part &=ges:handup.
*DAN: the higher ?
*SER: yes .
*DAN: or the lower?
*SER: no the higher &=ges:handuphoriz .

25. When I didn't understand my partner I repeated what he /she had said in my own way to ensure that I had understood.

INTERACTIONAL: interpretive sumnmary
Extended paraphrase of the interlocutors message to check that the speaker has understood correctly.

*LLO: I think it's something about that &=ges:pointpic this this won (derful) wonderful nightlife.
QuCa0103: well they go to a club or a disco or something...

*QUE: ah because they don't want to see what's happening behind the: behind them.
*LLO: oh you mean the face behind that &=ges:pointpic behind them ?

26. When I made a mistake I corrected myself out loud.

CFM: self-repair Identified as % self-repair.

.

27. I asked for help.

COMPENSATION: appeal for help

Indirect appeal for help
Trying to elicit help from the interlocutor indirectly by expressing the lack of a needed L2 item, either verbally or non-verbally.

*GEM: and once in the room &=ges:pointpic we can see how they # they er: ###

*GEM: 0 [=! looks at Miriam] .
*MIR: xx xx sorry!
*GEM: they unpack &=ges:pointpic their...

Direct appeal for help
Turning to the interlocutor for assistance by asking explicitly a question concerning a gap in the speaker's L2 knowledge.

*FER: and that's all well there are like &=ges:fingerpoint two er how do you say it two &=ges:fingerwave ?
*TOM: I don't know.

28. I didn't finish my sentence.

COMPENSATION: message abandonment
Leaving a message unfinished because of some language difficulty.

*JIT: yes but they decided to: take it er easy and he: jumped over some: fence and he was making silly things and they were er: er: # .
*MAR: they wanted to celebrate it there.
*JIT: they wanted to celebrate it.

*LAU: it was supposed to be a paradisiac beach it was a normal beach with: beach with: with: a lot of # .
*LAU: no@c se@c com@c es.@c diu@c.

29. I spoke in Catalan / Spanish (words, sentences or whole turns).

COMPENSATION: code switching
Including L1/L3 words with L1/L3 pronunciation in L2 speech; may involve stretches of discourse ranging from single words, to whole chunks and even complete turns.

NaAl0103: I was trying to think of 'travel brochure' and I said *catàleg*. I spoke under my breath in Spanish.
*NAT: is look the: catàleg@c of the: the travel for er: ## their their honey er honeymoon.

*EMM: perquè@c son@c tots@c the same!

*NAT: er and use of the: for &=ges:handsplay building the: house.
*SAB: 0 [=! ges:confused].
*NAT: yes .
*NAT: xx ?
*SAB: es@c utiliza@c para@e casas@e.

30. I invented a word using a structure from English.

COMPENSATION: word coinage
Creating a non-existing L2 word by applying a supposed L2 rule to an existing L2 word.

*GEM: and picture three &=ges:pointpic we can see how Tom and Judy leaves to the airport going to: the: hotel Paradise with a lots of ***globes*** &=ges:handcups in the car and flowers.

Catalan: globus English: balloons

*GIS: er what you put to ***limitate*** a garden &=ges:handturns.
*MAR: a fence.
*GIS: yes this

Catalan: limitar English: limit

31. I used a Catalan / Spanish word but with English pronunciation.

COMPENSATION: foreignising
Using an L1/L3 word by adjusting it to L2 phonology ie with L2 pronunciation and or morphology.

*LLO: well then back in their room they write er ***postals*** to their friends saying that they have a wonderful time.

Catalan: postals English: postcards

131 *ANN: and: in eight I have a: ***familiar*** house.

Catalan: familiar English: family

32. I used an example or a description to express a word.

INTERACTIONAL: circumlocution
Exemplifying illustrating or describing the properties of the target object or action.

This resourse deficit strategy was distinguished from Item 16 which was an interactional strategy in response to an expression of non-understanding.

SERU0303: I couldn't think of handle
*SER: and the teaboat is dark # and have a # something er for for for catch the teapot .

MiGu0301: We don't know how to say that it's moving, that it's got those bumps. (referring to the slithering snake).
*GEM: yes I think and it seems to be walking &=ges:handwaves well.

33. I used gesture to get my meaning across. *(As for Item 11*)

34. I paused for a particulary long time to think about what I wanted to say.

COMPENSATION: long pause

Identified as AS-units per long pause

35. I started saying something and then I restructured the sentence.

COMPENSATION: restructuring
Abandoning the execution of a verbal plan because of language difficulties, leaving the utterance unfinished, and communicating the intended message according to an alternative plan

Message replacement
Substituting the original message with a new one because of not feeling capable of executing it.

*CLA: er ok so # in the ninth picture he: [///] I don't know where they're going.
*CLA: maybe they're drunk.

*GEM: are very luxury hotels and wonderful nightlife and ### and an special atmosphere and they &=ges:pointpic are very ## [///] they are looking forward to go to this paradise...

Message reduction
Reducing the message by avoiding certain language structures or topics considered problematic because a lack of linguistic resources

*SAN: it was a bit difficult it's difficult to explain because it it [///] it's difficult to explain &=laughs.
*JUD: ok then: er: they: they think that they can go to the beach and they: [///] they go &=laughs.

36. I translated literally from Catalan/Spanish. (As for Items 30 and 31 above).

COMPENSATION: literal translation

37. I mumbled something because I wasn't sure about what I was saying.

COMPENSATION: mumbling
Swallowing or muttering inaudibly a word whose correct form the speaker is unsure of.

See the recall comment for Item 29 above.

38. I left out a word and continued as if I had said it.

COMPENSATION: omission
Leaving a gap when not knowing a word and carrying on as if it had been said.

*NAT: most singer that the other people er of er of [= item38:go] out the: the room.

*EST: and her mouth to throw the: [= item38:tea] and nothing else.

39. I tried various incorrect forms before I got to what I wanted to say.

COMPENSATION: retrieval (tip-of-tongue phenomenon)
In an attempt to retrieve a lexical item saying a series of incomplete or wrong forms or structures before reaching the optimal form.

*JAU: what part the part are painted are the hi [/] the hi [/] &=ges:handup the high part.
*MAR: how many twists do does it have?

40. I used a more general or simple word when I didn't know the specific one.

COMPENSATION: approximation
Using a single alternative lexical item such as a superordinate or a related term which shares semantic features with the target word or structure.

SeRu0303: I didn't know how to say eyelashes.
*SER: a eye with bueno@e a open eye er: with with hair in in in the skin of of top of the eye.

*EST: in picture ten we can see an elephant with her nose # up # and +...
*GEM: a water.

41. I asked someone to tell me how I had done.

Researcher: Did you ask someone to tell you how you had done (Art Description)?
SePi0202: how we had done? Less. We talked about it but not as much this time.

Researcher: Did you ask someone to tell you how you had done (Art Description)?
BeGaH0201: Yes, we (with partner) talked about it together.

42. I thought about how I'd done in general.

EVALUATING

BeGaH0302: I thought it was difficult (Information Gap) because I didn't have the vocabulary or maybe you do have it but at the moment I couldn't find it.

Researcher: Did you think about how you did in general (Art Description)?
SePiL0202: Worse, as I didn't have any idea about painters and that.

43. I remembered specific problems I'd had.

EVALUATING

Researcher: What did you think in the beginning (Information Gap)?
BeGa0302: That I didn't have the vocabulary of the prepositions. I saw the pictures and I thought how will I describe it without any prepositions! The only thing that I could say was *top*, *bottom*, *left* and *right* and more things came up so it's difficult when you don't have any prepositions.

Researcher: What about specific problems?
SePi0202: yes the Catalan words I used like *simbolise* (invented) and *destacar*.

44. I thought about which aspects I had to improve for the next time.

EVALUATING

Researcher: Did you think about how you could improve for the next time?
SePiL0202: improve, yes I think we should have more practice improvising in English as we usually explain things we've prepared.

Appendix O. Descriptive satistics of PSU for high proficiency group

Strategy	*Picture Story*		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
1. (task familiarity)	3.42	1.72	1.63	1.86	2.33	2.08
2. P (advance organisation)	2.42	1.18	2.50	1.44	1.71	1.37
3. P (organisational planning)	2.00	1.44	2.13	1.03	1.29	1.20
4. (note taking)	.39	1.12	.08	.28	.50	1.29
5. CFM (using expressions)	1.71	1.33	1.83	1.52	1.54	1.53
6. CFM (avoiding error)	2.92	1.02	2.71	.91	2.92	1.41
7. CFM (use of fillers)	2.33	1.61	3.00	1.62	2.38	1.50
8. C (risk taking)	3.08	1.10	2.88	1.26	3.46	1.02
9. P (directed attention)	4.25	.68	3.79	1.14	4.08	.83
10. P (not taking risks)	3.50	1.32	3.29	1.12	3.13	1.03
11. CFM (gesture)	2.38	1.53	2.88	1.15	3.63	1.53
12. CFM (maintaining conversation)	3.00	1.29	3.17	1.24	3.17	1.09
13. P (planning sentence structure)	1.96	1.46	2.33	1.31	1.83	1.24
14. I (clarification by speaking slower)	1.42	1.41	2.04	1.49	2.04	1.20
15. I (comprehension check)	1.13	1.45	1.54	1.41	2.00	1.59
16. I (clarification by circumlocution)	1.58	1.64	1.79	1.35	3.13	1.23
17. C (clarification by code switch)	.75	1.39	.92	1.25	1.54	1.77
18. I (clarificaiton by repetition)	1.58	1.69	1.92	1.61	2.88	1.26
19. I (asking to speak slower)	.63	1.13	.79	.93	.96	1.16
20. I (clarification request)	1.29	1.55	1.50	1.44	2.79	1.74
21. I (asking for repetition)	1.29	1.52	1.58	1.50	2.43	1.65
22. I (feigning understanding)	1.21	1.44	1.42	1.44	.88	1.08
23. I (guessing)	1.57	1.70	1.92	1.61	3.04	1.40
24. I (expressing non-understanding)	1.00	1.41	1.17	1.24	2.13	1.70
25. I (interpretive summary)	1.50	1.47	1.38	1.41	2.67	1.58
26. CFM (self-repair)	3.25	1.39	3.13	1.26	3.00	1.35
27. C (appeal for help)	1.75	1.67	1.50	1.59	2.38	1.74
28. C (message abandonment)	2.54	1.53	2.58	1.38	3.00	1.47
29. C (code switching)	.88	1.42	.75	1.15	1.67	1.71
30. C (word coinage)	.75	.94	1.13	1.19	1.79	1.47
31. C (foreignising)	.46	.78	.79	.93	1.08	1.53
32. I (circumlocution)	2.08	1.32	2.75	1.26	3.42	1.21
33. CFM (as for Item 11)	2.25	1.45	2.67	1.31	3.52	1.12
34. C (long pause).	2.75	1.51	3.08	1.47	2.79	1.38
35. C (restructuring)	2.75	1.26	2.92	1.32	2.58	1.38
36. C (literal translation)	1.63	1.44	1.42	1.25	1.71	1.65
37. C (mumbling)	1.29	1.37	1.46	1.32	1.25	1.19
38. C (omission)	1.29	1.46	1.25	1.15	1.21	1.02
39. C (retrieval)	2.13	1.70	2.04	1.33	1.88	1.30
40. C (approximation)	2.96	1.46	3.04	1.57	3.08	1.25
41. E (other evaluation)	.83	1.31	1.29	1.49	1.21	1.44
42. E (self evaluation)	3.04	1.46	3.17	1.43	2.88	1.45
43. E (identifying specific problems)	3.00	1.38	2.92	1.47	2.83	1.55
44. E (aspects to improve)	2.88	1.70	3.21	1.59	2.88	1.45

Note. Significant differences across tasks (Friedman, p< .05) are shaded in grey

Appendix P. Descriptive satistics of PSU for low proficiency group

Strategy	*Picture Story*		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
1. (task familiarity)	3.08	1.64	2.42	1.77	2.71	1.85
2. P (advance organisation)	2.04	1.55	2.29	1.43	1.88	1.45
3. P (organisational planning)	1.96	1.46	2.25	1.26	1.92	1.44
4. (note taking)	0.54	1.02	0.46	1.14	0.38	0.92
5. CFM (using expressions)	2.17	1.34	1.83	1.52	2.29	1.52
6. CFM (avoiding error)	2.96	0.98	2.75	1.19	3.04	1.20
7. CFM (use of fillers)	1.88	1.48	2.42	1.47	1.88	1.42
8. C (risk taking)	2.92	1.06	3.21	1.22	3.13	1.19
9. P (directed attention)	3.67	1.24	3.58	0.88	3.83	0.96
10. P (not taking risks)	3.00	0.98	3.00	1.06	3.13	0.95
11. CFM (gesture)	2.71	1.30	2.83	1.40	2.79	1.47
12. CFM (maintaining conversation)	3.21	0.72	3.29	0.91	3.17	0.76
13. P (planning sentence structure)	2.42	1.06	2.54	1.02	2.67	1.09
14. I (clarification by speaking slower)	2.38	1.13	2.29	1.20	2.25	0.99
15. I (comprehension check)	1.88	1.51	2.00	1.53	2.33	1.43
16. I (clarification by circumlocution)	2.33	1.27	2.22	1.28	2.13	1.19
17. C (clarification by code switch)	1.50	1.35	2.21	1.74	2.29	1.88
18. I (clarificaiton by repetition)	2.21	1.44	2.42	1.28	2.92	1.25
19. I (asking to speak slower)	1.42	1.59	1.08	1.44	1.04	0.91
20. I (clarification request)	1.42	1.35	2.33	1.63	1.96	1.46
21. I (asking for repetition)	1.63	1.53	1.83	1.47	2.25	1.51
22. I (feigning understanding)	1.25	1.39	1.21	1.61	1.00	1.18
23. I (guessing)	1.58	1.38	1.88	1.36	1.79	1.41
24. I (expressing non-understanding)	1.25	1.57	1.67	1.74	1.50	1.29
25. I (interpretive summary)	1.42	1.32	1.67	1.17	2.29	1.49
26. CFM (self-repair)	3.00	1.29	2.88	1.12	3.04	0.91
27. C (appeal for help)	2.71	1.37	2.92	1.64	3.00	1.77
28. C (message abandonment)	3.33	1.40	3.38	1.06	3.58	1.18
29. C (code switching)	2.04	1.65	2.67	1.58	2.83	1.63
30. C (word coinage)	2.17	1.55	2.08	1.67	2.08	1.74
31. C (foreignising)	1.88	1.51	1.38	1.53	2.04	1.63
32. I (circumlocution)	2.08	1.47	2.29	1.57	3.29	1.23
33. CFM (as for Item 11)	2.21	1.47	2.58	1.56	2.50	1.47
34. C (long pause).	2.46	1.44	3.08	1.02	3.00	1.06
35. C (restructuring)	2.83	1.13	3.04	0.86	2.96	1.20
36. C (literal translation)	2.46	1.44	2.38	1.38	2.58	1.32
37. C (mumbling)	1.92	1.56	2.08	1.64	1.71	1.57
38. C (omission)	1.83	1.55	1.83	1.34	2.00	1.53
39. C (retrieval)	2.33	1.24	2.13	1.08	2.17	1.37
40. C (approximation)	2.75	1.36	2.75	1.39	3.25	0.85
41. E (other evaluation)	1.67	1.63	0.96	1.16	1.50	1.32
42. E (self evaluation)	3.63	0.92	3.17	1.27	3.54	0.93
43. E (identifying specific problems)	3.42	1.02	3.17	1.37	3.33	1.20
44. E (aspects to improve)	3.46	1.10	3.08	1.35	3.38	1.21

Note. Significant differences across tasks (Friedman, p< .05) are shaded in grey

Appendix Q. Descriptive statistics of ASU for high proficiency group

Strategy	*Picture Story*		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
1. CFM (task familiarity)	HIGH		LOW		MED	
2. P (advance organisation)	LOW		LOW		LOW	
3. P (organisational planning)	MED		MED		LOW	
4. (note taking)	LOW		LOW		LOW	
5. CFM (using expressions)	-		-		-	
6. CFM (avoiding error)	LOW		MED		HIGH	
7. CFM (use of fillers)	.96	1.43	.79	.93	.46	.88
8. C (risk taking)	-		-		-	
9. P (directed attention)	HIGH		HIGH		HIGH	
10. P (not taking risks)	-		-		-	
11. CFM (gesture)	3.54	4.11	11.71	13.25	32.29	19.91
12. CFM (maintaining conversation)	-		-		-	
13. P (planning sentence structure)	-		-		-	
14. I (clarification by speaking slower)	.00	.00	.00	.00	.04	.20
15. I (comprehension check)	.00	.00	.54	1.32	.46	1.06
16. I (clarification by circumlocution)	.04	.20	.25	.53	2.50	2.28
17. C (clarification by code switch)	.00	.00	.08	.28	.17	.48
18. I (clarificaiton by repetition)	.08	.28	.08	.28	.88	1.68
19. I (asking to speak slower)	.00	.00	.00	.00	.00	.00
20. I (clarification request)	.09	.42	.04	.20	.96	1.20
21. I (asking for repetition)	.00	.00	.00	.00	.38	.65
22. I (feigning understanding)	.00	.00	.21	.66	.00	.00
23. I (guessing)	.04	.20	.04	.20	.42	.72
24. I (expressing non-understanding)	.04	.20	1.08	1.47	2.88	3.15
25. I (interpretive summary)	.13	.34	.29	.75	.21	.41
26. CFM (self-repair)	MED		MED		MED	
27. C (appeal for help)	.54	.83	.25	.74	1.54	1.67
28. C (message abandonment)	2.08	1.84	1.50	1.89	5.38	4.55
29. C (code switching)	.54	.98	.29	.75	2.25	3.78
30. C (word coinage)	.17	.38	.88	2.40	.38	.65
31. C (foreignising)	.25	.44	.21	.51	1.33	1.69
32. I (circumlocution)	.25	.74	.25	.53	4.58	2.06
33. CFM (as for Item 11)						
34. C (long pause)	HIGH		MED		LOW	
35. C (restructuring)	2.17	1.71	3.25	2.40	6.38	4.64
36. C (literal translation)	.54	.72	1.63	2.36	.79	1.35
37. C (mumbling)	.08	.28	.00	.00	.00	.00
38. C (omission)	.04	.20	.00	.00	.08	.28
39. C (retrieval)	2.21	2.43	3.00	3.27	.88	1.12
40. C (approximation)	.38	.88	.67	1.01	1.21	1.41
41. E (other evaluation)	LOW		LOW		LOW	
42. E (self evaluation)	HIGH		HIGH		HIGH	
43. E (identifying specific problems)	HIGH		HIGH		HIGH	
44. E (aspects to improve)	HIGH		HIGH		HIGH	

Significant differences across tasks (Friedman, p< .05) shaded in grey
Note: for the following strategies spoken production measures were compared across tasks
Item 6. (avoiding error) = % error-free clauses
Item 26. (self-repair) = % of self-repairs divided by total number of errors
Item 34. (long pause) = AS units divided by number of long pauses

Appendix R. Descriptive statistics of ASU for low proficiency group

Strategy	*Picture Story*		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
1. (task familiarity)	HIGH		LOW		MED	
2. P (advance organisation)	MED		HIGH		MED	
3. P (organisational planning)	LOW		LOW		LOW	
4. (note taking)	LOW		LOW		LOW	
5. CFM (using expressions)	-		-		-	
6. CFM (avoiding error)	LOW		MED		HIGH	
7. CFM (use of fillers)	.04	.20	.83	1.52	.21	.51
8. C (risk taking)	LOW		HIGH		MED	
9. P (directed attention)	HIGH		HIGH		HIGH	
10. P (not taking risks)	-		-		-	
11. CFM (gesture)	3.13	3.57	13.21	11.95	17.33	1.12
12. CFM (maintaining conversation)	-		-		-	
13. P (planning sentence structure)	-		-		-	
14. I (clarification by speaking slower)	.00	.00	.08	.28	.04	.20
15. I (comprehension check)	.13	.61	.58	1.14	.21	.66
16. I (clarification by circumlocution)	.04	.20	.58	.72	1.08	1.56
17. I (clarification by code switch)	.04	.20	.38	.77	.63	1.01
18. I (clarificaiton by repetition)	.04	.20	.42	.88	1.08	1.28
19. I (asking to speak slower)	.00	.00	.00	.00	.00	.00
20. I (clarification request)	.13	.45	.42	.65	.63	1.13
21. I (asking for repetition)	.00	.00	.00	.00	.17	.48
22. I (feigning understanding)	.00	.00	.00	.00	.04	.20
23. I (guessing)	.08	.28	.29	.46	.42	.78
24. I (expressing non-understanding)	.42	1.18	2.29	3.11	2.33	2.93
25. I (interpretive summary)	.00	.00	.00	.00	.04	.20
26. CFM (self-repair)	HIGH		HIGH		LOW	
27. C (appeal for help)	1.42	1.82	2.58	2.78	1.91	2.00
28. C (message abandonment)	2.83	2.44	1.92	1.44	3.00	2.40
29. C (code switching)	3.00	3.45	3.50	3.60	5.04	5.53
30. C (word coinage)	.42	.83	1.21	2.21	.21	.41
31. C (foreignising)	.29	.46	.33	.64	1.38	1.79
32. I (circumlocution)	.29	1.04	.38	.88	2.71	3.26
33. CFM (as for Item 11)						
34. C (long pause)	HIGH				LOW	
35. C (restructuring)	1.21	1.35	2.38	2.24	3.58	2.67
36. C (literal translation)	.83	1.01	2.29	3.06	.58	1.25
37. C (mumbling)	.04	.20	.00	.00	.00	.00
38. C (omission)	.00	.00	.04	.20	.04	.20
39. C (retrieval)	2.71	1.97	3.67	2.60	.79	1.14
40. C (approximation)	.17	.56	1.46	1.59	1.08	1.18
41. E (other evaluation)	LOW		LOW		LOW	
42. E (self evaluation)	HIGH		HIGH		HIGH	
43. E (identifying specific problems)	HIGH		HIGH		HIGH	
44. E (aspects to improve)	HIGH		HIGH		HIGH	

Significant differences across tasks (Friedman, p< .05) shaded in grey
Note: for the following strategies spoken production measures were compared across tasks:
Item 6. (avoiding error) = % error-free clauses
Item 26. (self-repair) = % of self-repairs divided by total number of errors
Item 34. (long pause) = AS units divided by number of long pauses

Appendix S. Descriptive statistics of spoken production measures for whole sample

	Picture Story		*Art Description*		*Information Gap*	
	M	*SD*	*M*	*SD*	*M*	*SD*
Accuracy						
error free clauses	56,43	20,31	60,75	17,67	67,83	17,22
Complexity						
lexical complexity	39,56	13,75	45,57	15,20	34,88	9,91
structural complexity	2,15	0,79	1,63	0,61	1,23	0,14
Fluency						
long pauses	5,83	10,48	16,00	23,55	22,69	30,16
repetition	3,75	4,06	3,71	3,80	8,30	9,37
reformulation	7,35	6,25	7,68	6,00	14,70	11,66
Self-repair						
error repair	11,76	12,00	7,95	7,27	7,58	10,61

Appendix T. Mann-Whitney tests for ASU differences between high and low proficiency groups

Strategy Item	*Picture Story*		*Art Description*		*Information Gap*	
	z	*Asymp sig. (2-tailed)*	*z*	*Asymp sig. (2-tailed)*	*z*	*Asymp sig. (2-tailed)*
7 CFM (using fillers)	-3.78	.00*				
11 CFM (gesture)					-3.04	.00*
16 I (clarification by paraphrase)					-2.54	.01*
17 C (clarification by code switch)					-2.01	.04*
20 I (clarification request)			-2.58	.01*		
23 I (guessing)			-2.30	.02*		
25 I (interpretive summary)			-2.06	.04*		
26 CFM (self-repair)					-3.42	.00*
27 C (asking for help)	-1.95	.05*	-4.70	.00*		
29 C (code switching)	-3.19	.00*	-5.29	.00*	-2.64	.01*
32 I (circumlocution)					-2.79	.01*
35 C (restructuring)					-2.06	.04*

Key: I – Interactional, C- Compensation, CFM – Conversation-Flow Management, P- Planning and E-Evaluating.