

**UNIVERSITY OF NEWCASTLE
SCHOOL OF EDUCATION, COMMUNICATION
AND LANGUAGE SCIENCES**

PhD (by research)

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Analysis of Pupil-Pupil Talk During Game Playing:
A Tool in the Formative Assessment of Bilingual Pupils

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16/12/2003

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ABSTRACT

There is currently much debate amongst EAL specialist teachers in the U.K. regarding the assessment of bilingual pupils. Several studies, including inspection evidence, highlight the consistent failure of some groups of minority ethnic and bilingual pupils within the current summative assessment arrangements. This study is an attempt to refocus concern back to the processes of teaching and learning and hence the formative assessment of bilingual pupils.

More specifically, this study investigates whether analysis of pupil-pupil talk during game playing can reveal information about *how* bilingual pupils are learning English as an additional language in the context of U.K. classrooms, and whether this information can be used by teachers to promote such learning (i.e. as a formative assessment). The fieldwork was undertaken in four schools across Newcastle Upon Tyne, three of which have large and diverse bilingual and minority ethnic pupil populations.

The investigation was achieved by video recording small groups of bilingual pupils working and talking together whilst playing specially designed board games which focus on aspects of English language learning in accord with the National Literacy Strategy. Each group interaction was then transcribed and analysed using a discourse analysis system designed to reflect the behaviour of pupils playing the games. This initial analysis was then used to facilitate a deeper, more qualitative and interpretive analysis informed by sociocultural theory where learning is viewed as a socially situated activity mediated by language. This theoretical structure provided both a conceptual framework in which to understand the role of language and collaborative interaction in learning, and an analytic framework through which to observe and interpret such learning. As such, an holistic and essentially qualitative approach was adopted. The resulting information about pupils' learning was then fed back to the class and EAL specialist teachers.

The results clearly demonstrate that specially designed board games are an accessible and empowering context for bilingual pupils' learning of English in U.K. classrooms. Moreover, the analysis of pupils' interactive behaviour whilst playing such games reveals constructive information about *how* bilingual pupils are learning English, their motivation and confidence in approaching this learning, as well as *what* they have already learnt or are in the process of learning. This thesis exposes the exact nature of such learning. The results also reveal that, although time consuming, the information resulting from such analyses can help guide teaching and learning needs, and is especially useful for those bilingual pupils most reticent to talk in front of adults in the classroom.

The results of this study broaden our understanding of the nature of L2 language learning as a socially situated interactive activity from both a theoretical and pedagogical perspective. In particular, by hybridising the process of sociocultural analysis with the pedagogic process of formative assessment, this research has profitably extended the scope of application of sociocultural theory. Furthermore, it raises some interesting policy implications in regard to the purpose and form of the assessment of bilingual pupils in the U.K.

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Chapter 1

Introduction – From ‘Learning to Assess’ to ‘Assessing for Learning’

“By learning you will teach; by teaching you will learn” (Latin Proverb)

1.1 BACKGROUND TO THE STUDY

The story of this thesis begins in 1972 when my family and I returned from Canada to live in the North-East of England. I was six years old and the whole of my life and learning experiences had, up till that point, taken place in Canada. As Canadian pedagogy at the time promoted Kindergarten play before literacy, I was ill equipped to face school in England. I was the only pupil in school not to have a Geordie accent and this, combined with my lack of ability to read and write English, afforded me chastisement from pupils and teachers alike. I shall never forget one particular occasion when a teacher stood up in front of the whole school assembly and subjected my accent to public ridicule. These early educational experiences have remained vivid in my memory, and have been influential in shaping my belief in the need to adopt a welcoming intercultural and multilingual ethos at all times, in all contexts and for all pupils.

The story rolls forward to 1989, and my employment as a maths teacher in a rural district council school in Zimbabwe. I spent just over two years teaching in Zimbabwe and quickly came to appreciate that our understanding is rooted in the social and cultural contexts of our experience. I found it very difficult to teach the GCE Cambridge version of probability to pupils who had never before experienced dice or playing cards. Similarly, some pupils

found it very difficult to grasp seconds, minutes and hours as units of time given their lack of experience with clocks or watches. I also began to understand the role of language in learning. It was very difficult to explain complicated maths concepts in English to pupils for whom English was a second language, often not spoken at home, and not introduced into the school curriculum until their first year of secondary school.

This was also my first experience of learning another language in the country in which that language is spoken. Even though English is the 'official' language of Zimbabwe, and is therefore widely spoken, there were times when I found not being able to access the Shona words and sounds around me a rather unsettling and somewhat isolating experience.

Naturally, therefore, I am empathic towards the feelings of those children who come to live in England speaking a language other than English.

My second experience of learning and living in another language and culture occurred in New Zealand. After having trained and worked as a primary school teacher in the U.K., I travelled to New Zealand to work in a bilingual (Te Reo Maori/English) primary class. Once in New Zealand, I began to appreciate how great a role is played by one's contextual situation and one's motivation to learn another language within that context. Unlike Zimbabwe, I was not surrounded by Maori, and there was no great urgency for me to learn it as most New Zealanders themselves do not speak the language. Consequently, even though I attended Maori classes, I found my motivation to learn this new language sadly lacking.

It was at this stage in my teaching and learning history that I made another discovery. I had already used games extensively as a mainstream teacher, but came to realise their potential in facilitating L2 (second or additional language) learning when I experienced their impact first-hand in my own language development as a learner of Maori. The Maori class would come alive when games were introduced as our inhibitions and anxieties seemed to fade away. I began to use them in my own Maori teaching and here too, I noticed their empowering influence.

As a teacher in New Zealand, I was also introduced to the procedure known as miscue analysis. For the first time I came to truly appreciate the difference between assessing the product of learning (i.e. evaluating how much of something is somehow 'owned' by an individual) and assessing learning as a process (i.e. discerning how an individual is learning or performing a particular skill). Miscue analysis is an enlightening procedure which can reveal the strategies pupils employ in order to read and understand a particular text; invaluable information in facilitating their advancement as readers. I had always felt a degree of dissatisfaction with reading assessments which resulted solely in a score or reading age as such information failed to disclose anything useful in determining how best to support a pupil's reading development.

The miscue analysis assessments were carried out in class as part of the normal daily routine using books which the children were already reading. This stood in some contrast to my experience of reading assessment practices in the U.K. where pupils were withdrawn from class by the Head teacher, taken to an unfamiliar room, and given a card of random sentences to read aloud. I can recall a particularly poignant occasion when one pupil, who

had been assessed by the Head teacher as a 'non-reader', picked up a recipe card in the small group in which she was working and read it aloud fluently. When I later discussed this with her, she responded, "oh I can read recipe books. I do it all the time at home with my mam." Context and purpose, it would seem, play a crucial role in a learner's perception of and therefore participation in assessments.

On my return to the U.K., I took up employment as an EAL (English as an additional language) specialist teacher in Gateshead where my primary role was to create resources to facilitate bilingual pupils' learning of English and access to the curriculum. The term bilingual is used in practice in the U.K. to describe:

"pupils who live in two languages, who have access to, or need to use, two or more languages at home and at school. It does not mean that they have fluency in both languages or that they are competent and literate in both languages" (Hall, 1996: 10).

I would add, however, that many of these 'bilingual' pupils have daily experience of more than two languages. For example, as well as their home language, many Punjabi or Bengali pupils also experience Hindi (in family films) and Arabic (in their Mosque). Bilingual pupils in U.K. classrooms have either been born here as second or third generation immigrants, or have arrived with their families to stay on a long term or permanent basis when, for example, a family member is offered employment. Some bilingual pupils' families have arrived in the U.K. to claim asylum, and are temporarily 'dispersed' to various towns and cities. Other families come on a more short-term basis when, for example, one parent is studying.

My training whilst in this post was based on the maxims of ‘good practice’ developed over several years by professionals in the field of bilingual education in the U.K. (e.g. Levine, 1990; Edwards, 1995; Gravelle, 2000; Gibbons, 1995, 2002). These maxims are predicated on a view that the process of L2 (second or additional) language learning is more effective, “in conjunction with meaningful content and purposive communication” (Genesee, 1994: 9). Such an interactional approach to language learning promotes the use of tasks that “embed the knowledge or skill to be acquired as comprehensively as possible within a context which is meaningful to the child” (Cline and Frederickson, 1996: 8). Board games are often promoted as L2 learning tasks which facilitate a meaningful context for purposive communication between peers (Gibbons, 1996; Mills and Mills, 1993). As a teacher who regularly employed all types of games, I found that board games in particular are an especially facilitative context for *second language learning* (SLL), whether their focus is specifically language oriented, or if they explore other subject knowledge such as science or history. I found that peers seem motivated to participate and communicate their intent to one another during game playing.

During my time as an EAL teacher, I was able to assimilate my previous experiences as a learner and teacher and begin to experiment both with the design and function of board games and with different contexts and forms of assessment. During this period I was also introduced to the process of discourse analysis (defined in section 3.33) as a means of accessing pupils’ thinking during the social act of learning. I began to suspect that board games could be a particularly useful tool not only in facilitating language learning, but also as a context for assessing that learning: a practice which could be achieved by applying a discourse analysis to pupils’ interaction within that context.

1.2 RATIONALE

My motivation for investigating such a proposition was founded not only on personal and professional curiosity, however, as there were also wider professional and political considerations. The introduction of a largely monocultural and monolingual National Curriculum (Levine, 1990) alongside the Standard Assessment Tests (SATs) (originally designed as multi-componential tasks), has seen a continued rise in 'achievement' on those tests for pupils across the U.K., except pupils from some minority ethnic groups including bilingual pupils with a Pakistani or Bangladeshi heritage (Gillborn and Gipps, 1996; Gillborn and Mirza, 2000). The most recent OFSTED report into the achievement of minority ethnic pupils which followed the Stephen Lawrence Inquiry (1999), provides some devastating and revelatory statistics. The difference between the achievement (as measured by the current assessment practices) of sixteen-year-old white monolingual pupils and their Pakistani and African-Caribbean peers has doubled in a decade. In one large urban local education authority baseline assessments revealed that African-Caribbean pupils start compulsory schooling 20 percentage points above the average attainment for the authority. By the end of Key Stage two they achieve below the average scores on their SATs and leave school with GCSE examination results 21 percentage points below the average for the authority (Gillborn and Mirza, 2000).

The report also stressed, however, that there is not anything inherently *wrong* with pupils from those lower achieving minority groups as pupils from all linguistic and cultural backgrounds are represented in the highest achieving cohort. This begs the serious question, therefore, of why some minority ethnic and bilingual groups are failing within the current educational system. I strongly believe, and will henceforth argue, that one of

the most pressing obstacles currently facing bilingual pupils is the form and function of the existing 'high stakes' summative assessment arrangements, and the political ideology underpinning such arrangements.

Summative assessments are used to judge overall achievement, usually for reporting or certification purposes. They are often, as is the case with National Curriculum assessments in the U.K., devised and set by outside agencies and are standardised according to norm-referenced criteria. In searching the QCA website detailing their procedures for the trial and development of key stage one and two SATs, I found that concern for the relevance and accessibility of questions to the U.K.'s diverse and heterogeneous bilingual and minority ethnic population was afforded scant consideration. As Valdes and Figueroa (1995: 109) argue:

“In their normative framework (and by selection of subjects that make up the norms), tests continue to assume a relative sameness of culture, language and opportunity among those constituting the norms, and more crucially, a sameness between those in the normative sample and those who take the tests.”

In contrast, formative assessment, such as miscue analysis, is usually carried out in class by the class teacher and is assessment 'for learning' in that “the first priority in its design and practice is to serve the purpose of promoting pupils' learning” (Black *et al*, 2002: foreword). Teacher assessment is classified as 'formative' if information about what pupils can do or know, or are experiencing difficulties with, directly influences future teaching and learning (i.e. “when the evidence is actually used to adapt the teaching and learning needs” (Ibid)).

So why, I asked myself, should a government persist with an assessment policy that was noticeably failing groups of pupils, especially given the unequivocal evidence that formative assessment is more successful in raising standards (Black and Wiliam, 1998). The answer, I would suggest, lies in political ideology concerning the purposes of assessment, perfectly articulated by the Conservative politician John Patten (cited in Daugherty, 1995: 142) in advocating their 'back to basics' campaign when he wrote that regular assessment:

“will enable teachers to pick out schools ... whose results suggest their methods are worth following. It will allow parents to exert influence through their choice of school. And it will give governors the evidence on which to compare performance within their school and from one year to the next.”

As the testing arrangements have altered little since this article was published, I would argue that the primary political motivation underlying assessment remains the competitive comparison between schools so that gains in achievement can be monitored and subsequent glory can be bestowed upon schools, governors, councils and ultimately the government itself. But where do our pupils fit into this model? What about “assessment to serve the purpose of promoting pupils’ learning” (Black *et al*, 2002: foreword)?

I believe that in order to affect a more fair and equitable assessment system and to address current inequities in outcome, it is essential that we begin to devise formative assessment techniques which are fair and accessible to our bilingual and minority ethnic pupils. As Sturman and Francis (1994: 72) argue:

" If we don't provide activities with rich potential assessment opportunities we won't be able to make full and fair assessments of the children. We should be devising activities that show us *how* the children learn, as well as *what* they have learnt.... We must also find ways of making the content accessible"

In effect, therefore, my primary motivation for carrying out this study was an attempt to refocus concern in favour of the formative and, I would argue, fairer assessment of our bilingual pupils. It represents all of my experiences, beliefs and biases as presented in this chapter.

1.3 RESEARCH QUESTIONS

Returning to the story of this thesis, therefore, it ends with my resolve to investigate the following research questions:

- Do specially designed board games focussing on aspects of English language learning promote an interactive context in which L2 language learning is facilitated?
- Are the processes of L2 language learning (i.e. *how* and *what* pupils are learning) manifest in pupils' interactive behaviour whilst playing such board games?
- If so, can such information be used constructively by teachers to 'directly influence' future teaching so that bilingual pupils' learning is 'promoted' (i.e. act as material for a formative assessment)?

Although my previous experience and training led me to investigate these questions, I realised that pedagogical claims of good practice, irrespective of the number of years of professional experience upon which they have been founded, were an insufficient basis for research at this level. I needed to explore and reframe the pedagogic assumptions inherent within these questions in light of theoretical perspectives on second language learning.

1.4 JOURNEY TOWARDS THEORY

I was initially led towards a body of research encapsulated by the term SLA (Second Language Acquisition) including research by Long (1985), Varonis and Gass (1985), and Pica (1992). Briefly, SLA proposes that the interactional modifications made during the process of meaning negotiation, such as clarification requests, confirmation and comprehension checks, play an important role in making ‘input’ comprehensible whilst also acting as indirect error markers, thereby facilitating language acquisition.

The more SLA research I read, however, the more uncertainties were raised in my mind. For example, I could not align my experience as a teacher of bilingual pupils, in which I found pupils’ use of comprehension checks and overt requests for clarification in authentic interaction rare, with their ascribed value as conversational adjustments in SLA research. For pupils working together on tasks which encourage purposive and meaningful interaction, the use of a comprehension check by the speaker such as, “do you understand?” could appear rather autocratic, implicating a subordinate role for the listener.

Furthermore, I recognised that learning does not just occur or always most profitably occur in situations where there is a breakdown in communication or a need to negotiate meaning. We can learn by co-operatively building on each other’s knowledge, thereby extending our own. We don’t just learn from relative experts, such as teachers, parents or ‘native speakers’; we can learn together in interaction with our peers.

In trying to rationalise the growing disharmony between my personal pedagogic experience and the SLA literature, which has been criticised for its experimental stance (Firth and Wagner, 1997; Pavlenko and Lantolf, 2000; Hall 1997), I began to realise that my research questions demanded:

“a more holistic approach to discourse involving learners and their settings, and which, therefore, employs qualitative methods that are more sensitive to the ways in which interactions are constructed by participants as they dynamically negotiate not just meaning but also their role relationships and their cultural and social identities” (Ellis, 1999: 17).

Upon discovering sociocultural theory, I found that a sociocultural conception of learning seemed to more adequately describe my previous experience as both a second language learner and teacher. Moreover, I found it a particularly useful paradigm in which to situate this research because, as will shortly be demonstrated, the reasoning involved in arguing the role of talk and social interaction within learning provides an explanation as to *how* and *why* such learning is manifest in learners’ interactive behaviour. This was essential if I was to maintain that interactive contexts such as game playing promote L2 language learning, and that the processes involved in such learning were manifest in pupils’ interactive behaviour. Finally, sociocultural theory also provided an analytic framework through which to interpret pupils’ interactive behaviour during the process of thinking and learning, thereby facilitating the extraction of information relevant as formative assessment material. In short, I found that a sociocultural theory of mind was the most appropriate paradigm in which to situate this research.

1.5 FORMAT OF THE STUDY

The next chapter will describe this theoretical perspective and its application to SLL. The chapter will also develop an argument in favour of games as a pedagogic tool for SLL in light of this theoretical stance. Finally, the chapter will review the relevant literature on collaborative group work as it pertains to this study.

The third chapter explores the methods adopted in this research in order to answer the research questions. An argument is presented for an interpretive case study approach, employing non-participant observation, video-recorded evidence and subsequent analysis of pupil-pupil interaction; the procedures for which are described in detail.

The fourth chapter, the heart of the study, presents the recorded group interactions, revealing the voices of those bilingual pupils engaged in L2 language learning. Numerous extracts of language learning ‘in action’ are presented from each game, in conjunction with detailed qualitative analyses, each of which explore issues from a theoretical and pedagogical (i.e. formative assessment) perspective. The results of all of the analyses are then summarised, reviewed and evaluated in the fifth and sixth chapters in light of the original research questions.

Chapter 2

Reviewing the Literature – Engaging with Theory

“He kai a te rangatira he korero” – “The food of the chief is talking” (A Maori proverb)

INTRODUCTION

As previously explained, I found a sociocultural theory of mind the most appropriate paradigm in which to situate this research as not only did it more accurately represent my own experiences as both a teacher and learner, it also provided a conceptual and analytic framework in which to answer the research questions. In other words, by providing a conceptual framework in which to understand the role of language and social interaction in learning, a sociocultural perspective supported my investigation of the use of board games as an interactive context in which to facilitate L2 language learning. Furthermore, as it was able to provide an explanation of how and why learning is represented within the interactive behaviour of learners engaged in a learning task, sociocultural theory also supported (theoretically and analytically) the research hypothesis that analysis of bilingual pupils' interactive behaviour reveals the products and processes of their learning.

This chapter presents an account of my understanding of sociocultural theory and its relevance to second language learning. It begins by exploring the contention that learning is a socially situated activity mediated by language. A neurological perspective (argued as complementary to sociocultural theory) is then discussed in order to more closely examine this description of mediated learning. The chapter continues by describing a sociocultural perspective on how we learn language(s) and learn to use language(s) as a cognitive tool

intramentally as inner and private speech, and intermentally during contexts of social interaction. Analysis of learning as a social act is facilitated within sociocultural theory by the process of microgenetic analysis which is discussed as a key analytical tool for this study.

The chapter then turns towards addressing which contexts of social interaction particularly facilitate L2 language learning and consequently are the most fitting for this research. As the core purpose of this study is to uncover the potential of using an analysis of bilingual pupils' interactive behaviour in contexts of social interaction as a formative assessment, the final part of this chapter considers the implications of a sociocultural theory of mind upon the creation and implementation of pedagogic assessments.

2.1 INTRODUCING SOCIOCULTURAL THEORY

Sociocultural theory, founded on the writings of the Russian psychologist Lev Vygotsky, considers learning as a socially situated and mediated activity. Hence one of the most important concepts within sociocultural theory, which will influence all aspects of this study, is that of *activity*.

One's activity is dependent upon a mosaic of interrelating and interacting contextual factors, such as the relationship between participants (as developing in the present and as previously developed), and the relationship of participants to, and their knowledge and understanding of, the task and setting. In other words, a participant's behaviour is determined not only by their knowledge and understanding of a task, but also by their

feelings and attitudes towards that particular task, towards the other participants, and towards the possibility of performing that particular task with those particular participants on that particular occasion. To put it another way, participation in any activity is subject to an interrelationship between the actions of participants driven by their immediate goals and their underlying motives for participation in an activity, defined as “socially and institutionally defined beliefs about a particular activity setting” (Donato, 1994: 36). Consequently, as Roebuck (2000: 83) argues “the properties of any given activity are determined by the sociohistorical setting and by the goals and sociocultural history of the participants.”

One can conceptualise an activity as being constructed moment-by-moment as participants interact with each other and with the task at hand. Activity construction remains, therefore, beyond the direct control and manipulation of outsiders and non-participants. Equally, however, all participants have a direct impact on the shaping of an activity. Consequently, participation in an activity is not stable over time and setting (Roebuck, 2000). Indeed, research into second language learning by Coughlan and Duff (1994) found differences in the performance of one pupil who participated in the same task (picture description) on two different occasions. Moreover, they also found the same task was performed very differently by different groups of pupils depending on their educational settings.

Crucially in terms of this study, therefore, there exists a fundamental difference between a learning (or assessment) task and a learning (or assessment) activity. Coughlan and Duff (1994: 175) describe a task as a ‘behaviour blueprint’, whereas an activity:

“comprises the behaviour that is actually produced when an individual (or group) performs a task. It is the process, as well as the outcome, of a task,

examined in its sociocultural context. Unlike a task, an activity has no set of objectives in and of itself – rather, participants have their own objectives, and act according to these ..., all of which are negotiated (either implicitly or explicitly) over the course of the interaction.”

This definition plays a central role in understanding the actions of pupils engaged in interactive activity in this study.

Alongside activity, one of the most fundamental assertions within sociocultural theory is that culturally determined symbolic tools and signs *mediate* the human mind. Just as we use culturally determined physical tools and artefacts, such as calculators, pen and paper, computers, dictionaries and so forth to mediate our learning and thinking, we also use culturally determined symbolic tools such as numerical systems, music and, most significantly, language.

The precise role that language plays in mediating our thinking is largely dependent upon whether we view it as a tool enhancing cognition (the ‘communicative conception’), or as a requisite for thinking, constitutively involved as the medium of our thoughts (the ‘cognitive conception’) (Carruthers and Boucher, 1998). There appears to be some evidence, however, indicating that we *can* think in something other than language; for example babies who exhibit thinking processes prior to acquisition of their first language, and aphasics who are said to have lost the capacity to use language but are perfectly able to perform some thinking tasks (Varley, R., 1998). Consequently, if we veer towards the communicative conception, the questions remain of what exactly our thoughts are made and how they are represented, organised and manipulated by language.

These questions are central to appreciating the sociocultural conception of language mediation, and therefore to understanding the representation of thoughts (including thoughts about language) in learners' interactive behaviour. Hence they are also crucial to the research questions as they relate to the possibility of directly observing the products and processes of language learning and thinking as representations manifest in the interactive behaviour of learners engaged in social interaction.

In order to answer these questions, I shall turn initially to neurology, and in particular, the writings of Antonio Damasio (1994, 1999) and Earl Stevick (1996), before returning to the central exposition of sociocultural theory. I shall present a conceptualisation of the nature of our thoughts as they exist within our brain, and how this relates to 'knowledge' and 'learning' in terms of their existence as both product and process. This, in turn, will support an understanding of the role of language in thinking and learning and in particular L2 language learning. Indeed, I shall comment throughout this section on the relevance of such a neurological perspective to the processes of L2 language learning.

It is important to note, however, that advances in neurology are not antithetical to sociocultural theory as Vygotsky's original theorising determined the human mind "as a functional system in which the properties of the natural, or biologically specified, brain are organised into higher... mind" (Lantolf, 2000(a): 2). As Daniels (2001: 47), who likewise includes reference to Damasio, puts it, "new conceptions of the place of biology in the development of thinking ... suggests a high degree of compatibility with a sociogenetic account of development." It is also important to stress that the neurological perspective presented herein directly impacts on the later analysis of game playing interactions within

this study, and particularly the construction of images representing linguistic knowledge. A neurological perspective is therefore an integral part of this study's analytical framework as well as the theoretical principles underpinning it.

2.2 A NEUROLOGICAL PERSPECTIVE

Damasio (1994) believes that the process of thinking concerns the production and manipulation of images, both perceptual and recalled. Imagine stepping outside on a winter's day. Your body uses all five senses to experience this environment. Looking at the scene stimulates neural activity in the eye. Signals from the retina are then carried by neurons down their axons and across several electrochemical synapses, into the brain. Visual signals are delivered into the early sensory cortices of vision. Likewise, other sense signals are delivered to areas of the brain which form the early sensory cortices corresponding to auditory, gustatory, olfaction, and somatic sensations (encompassing touch, muscular, temperature and pain) (Damasio, 1999). Damasio (1994) describes each of these early sensory cortices as a collection of areas in the brain which act as a 'safe harbour' where sense signals can arrive.

Topographically organized or mapped representations (i.e. mental images) arise from the concerted interaction between areas which constitute each of the early sensory cortices once a signal arrives. In this sense, your brain constructs internal mental images which you then perceive as reality. The process of how such mental "multidimensional, space-and-time integrated" images are constructed from neural patterns, remains as yet, a mystery (Damasio, 1999: 322).

Damasio (1994) strongly contends, however, that images once formed are not then carefully and neatly stored in your brain as some sort of photocopy or microfiche. Images are not, in this sense, directly ‘recallable’ from some huge internal filing system. Rather, he proposes that images can be ‘reconstructed’ in much the same way as the original experience was initially constructed. The formation of such reconstructions is controlled by patterns of neural activity occurring in high level association cortices within the brain, which Damasio names ‘dispositional representations’; the term ‘representation’ meaning a “pattern that is consistently related to something” (Damasio, 1999: 320). These representations, or “potential patterns of neuron activity in small ensembles of neurons” (convergence zones), once activated are then able to order the “synchronous activation of neural firing patterns largely in the same early sensory cortices where the firing patterns corresponding to perceptual representations once occurred” (Damasio, 1994: 101/102).

Returning to our earlier scenario, therefore, stepping outside on a winter’s day may remind us of other occasions when we experienced a similar vista in the cold winter’s air. These earlier ‘memories’ are in fact the result of particular patterns of neural activity in the association cortices, or dispositional representations, which, within about one hundred milliseconds, fire back to the early sensory cortices, in this case of vision and somatic sensations, and trigger the momentary reconstruction of an approximate representation of such a scenario as previously constructed.

Of course, such processes are far from simple or linear. Transfer of information is not unidirectional. There exists a sort of ‘two-way traffic’ (Stevick, 1996) as any firing of dispositional representations results in firing patterns in the early sensory cortices, which

likewise results in yet further activation of other dispositional representations. Moreover, within each of the early sensory cortices there will be varied and patterned activations. Furthermore, there will be activation of more than one of the early sensory cortices occurring simultaneously. As Damasio (1994: 102) explains, an image of your 'Aunt Maggie' does not exist in one single site of your brain, she is in fact "distributed all over it, in the form of many dispositional representations" for her face, her voice and so on.

To complicate matters yet further, once a dispositional representation is activated this almost always results in the activation of other dispositional representations to which they are most closely related and which form part of the same strengthened system. Each new experience strengthens or weakens current patterned links or relations between dispositional representations (i.e. those synapse links made most frequently in the past are stronger, and are more likely to be activated in the future). In this sense, dispositional representations are continually being biologically modified as the fibre branches of neurons and synapses throughout the varied convergence zones are reconfigured.

Damasio conceptualises knowledge, both innate (relating to biological regulation for survival) and acquired, as those very dispositional representations occurring throughout the association cortices of the brain. Factual knowledge is acquired (learnt) both through direct experience with the environment and the resulting internal construction of images "of specific objects, actions, ... of words which help translate the latter into language form", as well as through internal reconstruction and manipulation of such images via the activation of dispositional representations (Damasio, 1994: 84).

Learning a language as factual knowledge, the concern of this study, is a multisensory and multidimensional experience. Stevick (1996: 6) writes of the memory trace of a word as consisting of “idiosyncratic details associated with its meaning”. In other words, we learn the ‘sense’ of a word as the “personal and contextualised meaning that emerges from particular ways people deploy words” (Lantolf, 2000(a): 7).

Stevick (1996) also discusses Ahnson’s ISM model, which proposes that language consists of a combination of three types of information: a multisensory *image* (defined in much the same way as Damasio), a *somatic* response (the body’s response to an image construction, be that skeletally, muscularly or viscerally), and a *meaning*. Language, then, would exist in our ‘memory’ as a multisensory image, largely dependent on our experiences (real and mental), incorporating verbal and non-verbal elements, together with some meaning construction. This information would be beyond a conventional lexical meaning to include all of our “expectations of, and involvement with, and purposes related to the image” (Stevick, 1996: 51). Alongside imagery and meaning, language would also include somatic information likely to relate to our emotions at the time of the original linguistic experience.

For pupils who learn a second language after having already acquired knowledge of a first language, it is open to debate as to how this new information is ‘stored’. Hamers and Blanc (2000: 189) propose a model wherein “the two verbal channels join in a common semantic store and that there is a referential link between imagery and the totality of the verbal representation structure.” They stress their understanding that imagery is an important aspect of verbal memory in bilinguals.

This conceptualisation of the multidimensional nature of language as it exists in our memory is vital in appreciating the form and substance of linguistic items recalled from memory. It is therefore of fundamental importance in analysing the interactive behaviour of learners engaged in L2 language learning tasks and hence plays a significant role in the analysis of learners' interactions in this research.

Returning to Damasio's work, he believes that alongside factual knowledge we also acquire the processes and strategies involved in recalling and manipulating internal images, and that this knowledge too constitutes dispositional representations. In other words, learning not only involves the construction, reconstruction and manipulation of images and development of the corresponding dispositional representations, but also the means by which the processing and manipulation of such a flow of images (i.e. thinking) is made possible.

This, I believe, is significant, as it suggests that when a child learns a 'piece of knowledge', or more precisely when they are able to construct that knowledge for themselves, they do more than just acquire a product. They also acquire the means of processing such knowledge, and hence the ability to construct further knowledge. Whenever image recollection and manipulation involves language, as I will shortly argue it most often does, children not only learn words, but also 'ways with those words' for thinking. Similarly, when they learn diagrammatic representations, they also learn 'ways with those representations'. So, for example, a teacher may model the various verb tense forms of a particular verb in English in order to guide a bilingual learner's choice of the most appropriate form. She may do so by reciting, for example, "speak, speaking, spoke", as a

sort of verbal representation of a written visual image. Thus, not only are the various verb forms available to the learner in the future, but also a mnemonic device, “stored as part of the memory trace of the stimulus event”, and which can hitherto be applied to other contexts (Stevick, 1996: 12).

I recognise the dual role of knowledge in my own learning history. My earliest experiences with ‘flow charts’, perhaps first introduced in the context of a science lesson on the life cycle of a frog, have led to their consistent use as a diagrammatic mechanism for representing information in my own thinking and knowledge construction, irrespective of context. I find them a particularly useful tool in puzzling over academic texts, and hence they proliferate throughout my thesis notes. In terms of this study, one may be able to observe appropriation of linguistic items (i.e. factual knowledge) as well as the processes and strategies employed by other interactants in ‘working with’ or thinking about those items, over the course of the interaction.

Finally, but significantly, Damasio argues that there is no one single site in the brain to which all images amalgamate or terminate, a theoretical stance known as the Cartesian theatre paradigm. He contends that, “our strong sense of mind integration is created from the concerted action of large scale systems by synchronising sets of neural activity in separate brain regions, in effect a trick of timing” (Damasio, 1994: 95). We are able to construct an understanding by the simultaneous construction of images in the various early cortices (vision, hearing, etc.) during one particular instance of time, a slice of life as it were. Consequently, in order to process and manipulate images in our mind, the human brain needs to be able to maintain focussed activity in different sites “in a broad parallel

display” for as long as necessary for organization, categorization and meaningful combinations to be made (Damasio, 1994: 84). In other words, the act of thinking necessitates global attention to keep certain images more clearly ‘in focus’, and a working memory to keep the images “held active in the mind”, whilst links between dispositional representations are made (Damasio, 1994: 84). This implies that “the brain reiterates over time the topographically organised representations supporting those separate images” (Damasio, 1994: 197). Stevick (1996: 28) uses the term worktable as a metaphoric ‘apparatus’ on which our working memory is processed, although he acknowledges that, “it almost certainly does not refer to an individual entity.” Interestingly, Stevick (1996) reports that whatever information is on the worktable will be lost within about 20 seconds if it is not in some way deliberately repeated or reintroduced, implying that repetition may be a particularly useful intramental tool for thinking.

It would appear that due to its inherent features, language is a key tool in maintaining attention and a working memory. Clark (1998: 175) argues that learning a set of labels or tags, as one does when learning a language, “renders certain features of our world concrete and salient” as it “compresses what were previously complex and unruly sensory patterns into simple objects.” In other words, language allows us to condense our complex environment as experienced through our senses, into an object, which “fixes the ideas at a fairly high level of abstraction” (Ibid: 178). Furthermore it enables us to “express imaginary constructions or distant abstractions with an efficient simple word” (Damasio, 1999: 111).

The special properties of language as a coding mechanism experienced in words, phrases, sentences and utterances, therefore provides an internal ‘object’, or in Damasio’s terms,

image, which facilitates organisation, memorisation, manipulation, and the fixing of our attention. Furthermore, it renders the formation of links and associations with other internal images in our 'long-term memory' (or dispositional representations) more efficient and accessible. I am reminded of O.E. Mandelstam's poem 'The swallow', quoted by Vygotsky (cited in Daniels, 2001: 50) in his exploration of the relationship between speaking and thinking:

I forgot the word I wanted to say,
And thought unembodied,
Returns to the hall of shadows.

The embodiment of thoughts in language, it would appear, helps one to maintain focus, thereby preventing the loss of one's train of thought. This would suggest that repeating words aloud in order to process images in our working memory (i.e. to (re)activate patterns of neural firing thereby keeping our thoughts alive) is an especially useful mediational tool during language learning tasks as in this study.

2.21 Summary

I shall now summarise and crystallize the neurological perspective taken in this study, as it relates to the sociocultural conception of language mediation and the representation of thoughts (including thoughts about language) in learners' interactive behaviour. This is central to understanding and undertaking an analysis of language learning in contexts of social interaction and, therefore, to addressing the research questions in this study. As such, it will inform all subsequent arguments within this chapter relating to a sociocultural theory of mind.

The contents of our thoughts are considered to be images, or topographically organised representations, which arise in the early sensory cortices of our brains and which are due to direct sensory experience, or particular patterns of neural firing (dispositional representations) occurring in the association cortices. These images may be linguistic or non-linguistic. Thinking involves the activation, control and manipulation of these images, which may be metaphorically conceptualised as occurring on a worktable. Knowledge exists as dispositional representations and constitutes both product (a piece of imageable knowledge) and process (the means with which to recall, process and manipulate images).

Due to the parcellated nature of imageable knowledge, however, thinking requires focussed attention and a working memory. Language, both L1 and L2 and, as will shortly be argued, spoken language in particular, acts as a key unlocking our potential to maintain focus and hold images in our working memory. Furthermore, it facilitates the organisation and purposeful manipulation of these images so that we may plan, solve problems, recall from 'memory' or 'store' information in 'memory' and therefore learn.

Learning a language not only affords us linguistic items to manipulate, but also the means with which to carry out such manipulations. 'Thinking about language' (metalinguistic knowledge), when learning a second language, for example, is a process which necessitates the use of language (be that L1 or L2, inner or exterior) as a mediating tool, and is constitutive of both verbal and non-verbal multisensory images associated to which are meanings of an idiosyncratic nature. The strategies language learners use in order to learn a second (or additional) language will henceforth be defined as:

“those processes which are consciously selected by learners and which may result in actions taken to enhance the learning or use of a foreign language,

through the storage, retention, recall, and application of information about the target language. Strategies include those thoughts and actions that are clearly intended for language learning, as well as those that may well lead to learning but which do not ostensibly include learning as the primary goal. They are at least partially conscious, can be transferred to new language tasks, and can be utilized by learners in unique and creative ways to personalise the language learning process” (Cohen, 1998: 68).

Throughout the following sections, references to the terms ‘memory’ and ‘storing memory’ will refer to the patterns of activation of dispositional representations throughout the association cortices and the corresponding firing patterns in the early sensory cortices relating to the (re)construction of images.

Having discussed the nature and substance of learning and the role of language from a neurological perspective, I shall now return to sociocultural theory in an effort to explore the process of learning language(s) and learning to use language(s) as a mediational tool. By exploring the ontogenesis of language learning and the experience faced by L2 language learners, this section will begin to uncover the reasons why social interaction is central to learning and in particular, L2 language learning. In so doing, it will extend the neurological perspective in presenting a case for the representation of learning as manifest within the interactive behaviour of learners engaged in a learning activity. As argued, this is fundamental in determining that interactive contexts (such as game playing) promote L2 language learning, and that analysis of such interactions can reveal the products and processes of this learning. Consequently, the following sections will complement and augment the neurological arguments constructed thus far, in an effort to address the questions posed in this research.

2.3 LEARNING LANGUAGE(S) AND LEARNING TO USE LANGUAGE(S) AS A COGNITIVE TOOL

In order to understand the role of social interaction in language learning, one must begin at the beginning with a child's first experience of language (the language of the home), and their gradual appropriation of this language as a tool in their own thinking; a process known as ontogenetic development (Lantolf, 2000(a)).

2.31 Ontogenetic L1 development

Children first encounter their home language in a social context during encounters with parents and siblings. Together, babies and their families co-construct meaningful signs and the gradual metamorphosis of language learning begins. According to Wells (1999(a)), both Halliday and Vygotsky use the example of a baby's attempts to reach and grab an object within their field of vision to explain this process of co-construction. Although a baby's grabbing action is not initially intended as an 'indicatory gesture', adults and older siblings perceive it as such (i.e. that the baby would like to reach and hold an object). Once a baby is given an object following such 'reaching and grasping' movements they gradually become aware of and begin to develop the use of this particular action as a sign carrying intended meaning or a "a symbolic action with communicative value" (Wells, 1999(a): 12).

In much the same way, vocal acts, often accompanied by gestural actions, are also interpreted by adults and siblings as communicative events. A child learns to control their tongue and jaw in a specific manner to produce a range of sounds. They learn to associate

the production of particular sounds, through words, phrases and utterances with the construal of meaning and intent. In effect:

“whatever the child means, the message that gets across is one which makes sense and is translatable into the terms of the adult language. It is in this interpretation that the child’s linguistic efforts are reinforced, and in this way the meanings that the child starts out with gradually come to be adapted to the meanings of the adult language” (Halliday, 1975, quoted in Wells, 1999(a): 17).

Gradually, a child begins to notice that words and patterns of words occur in “kinds of sequences with elements such as forms that mark tense or other grammatical categories” (Stevick, 1996: 11). Thus, over time, a child learns the phonetic, syntactic and semantic features of their first language as elements of L1 linguistic knowledge. As noted, such knowledge is not acquired in a social vacuum and hence children begin to notice “which of those semantic-distributional patterns frequently co-occur” in particular contexts (Ibid: 11). Consequently, a child simultaneously also acquires the sociolinguistic knowledge of “what to say, how, where, to whom and under what circumstances” within the shared L1 interactive practices of his/her daily life (Hamers and Blanc, 2000: 83). As part of such knowledge, a child learns the rhetorical scripts, or the “sequences of speech acts that help define a particular interactive practice” (Young and He, 1998: 6). Furthermore, a child also learns that different interactive practices entail different rules of turn taking and turn management. As learning progresses, a child gradually becomes aware that a single utterance can have many different meanings dependent on the communicative goals of the speaker, and likewise many alternative interpretations. All children must learn to understand, acknowledge and participate in the cultural pragmatics of their first language.

Gradually, therefore, by talking with others and experimenting with their talk, a child learns the language of the adults around them and learns the cultural, social and pragmatic ways of using that language. As Wells (1997: 5) put it:

“in learning to talk through talking with others, the child takes over the culture’s historically developed theory of experience, as this is encoded in and through the language in which they construe their shared activity.”

Such an account of the early ontogenesis of first language, is, I would argue, completely compatible with the neurological stance taken in this thesis. The brain has some natural functions with which we are endowed from birth, as well as some areas of greater plasticity which can be formed and reformed throughout our learning. As Damasio (1994: 111) explains:

“As we develop from infancy to adulthood, the design of brain circuitries that represent our evolving body and its interaction with the world seems to depend on the activities in which the organism engages, and on the action of innate bioregulatory circuitries, *as the latter react to such activities.*”

In other words, the environment in which we live and its social, cultural and linguistic norms and expectations, has a direct impact on the shaping of our brains.

It would appear, therefore, that social interaction is crucial in learning one’s first language. We learn language as a linguistic product with meanings associated to social and cultural contexts of use, through the reciprocal processes of talking and being listened to, and of listening and interpreting the talk of others. The next section will address the products and processes involved in learning a second or additional language; a task faced by the bilingual pupils in this research.

2.32 Learning a second language

Pupils entering schools in the U.K. who have already acquired linguistic, sociolinguistic, pragmatic and discourse knowledge of their first language must begin to learn all such aspects of English as a new language. By addressing this process, this section will highlight the difficulties that bilingual pupils may face in learning English in classrooms in the U.K., thereby informing the analyses of the learners in this study.

Learning a new language may require learning new physical acts in speaking in order to articulate the sounds of English. This was the situation I faced when learning the ‘whistling fricatives’ of Shona. These were unfamiliar sounds for a combination of consonants not used in English; ‘zv’, for example, and for which I had no previous aural/oral knowledge.

Learning a new language may also involve learning to ‘attune’ to the new sounds in gradually distinguishing phrases within utterances, words within phrases, words within words, and phonemes within words. I found this process very difficult upon first encountering Te Reo Maori. Every word in Maori ends in a vowel and, as most of my initial experiences were in singing Maori songs, I found the words just seemed to blend into each other. It was not until I saw the words in written form that I was able to begin to identify individual words within an utterance.

Some L2 learners must also learn a new alphabetic and phonetic writing system. Moreover, all learners have to identify the semantic-distributional patterns of the new language, noticing perhaps how tenses are marked, or the relative positioning of subject, object and verb within utterances.

As well as, and at the same time as learning all of this linguistic knowledge, L2 learners must also learn new sociolinguistic, pragmatic and discourse rules associated with the interactive practices of the dominant culture. As one of many examples highlighting the differences between cultures and language norms, Goddard and Wierzbicka (1992) cite the case of Japanese. Japanese cultural norms dictate that overt expression of one's desires, opinions, and emotions is perceived as impolite. This sense of personal restraint and mutual sensitivity impacts on the Japanese discourse style with regard to turn taking. Japanese conversation is expected to be collaborative and hence, "a Japanese speaker will often leave sentences unfinished so that the listener can complete them" (Goddard and Wierzbicka, 1997: 240). One can imagine the confusion and misinterpretation this could cause in classrooms in the U.K. Consequently, knowledge of rhetorical scripts within the interactive practices of the new language involves learning not only the words, but also, "the cultural assumptions at work in daily interaction" (Ibid: 251). This could be particularly important in interpreting the meaning of pupils' utterances involved in an intercultural interaction: a consideration for this study.

Returning to sociocultural theory, the following section will continue to explore the ontogenesis of first language development by describing the gradual appropriation of language as a cognitive tool. This is important in appreciating the processes involved and the form such thinking may take in the interactive behaviour of learners talking and thinking together.

2.33 Appropriation of L1 as a cognitive tool

“Toku reo toku ohooho” – “My language, my awakening” (A Maori proverb)

Sociocultural theory contends that over time a child’s developing knowledge of their first language, and the ways in which it is used, is appropriated as a means of thinking. This process was described by Vygotsky (1981, in Wells 1999(a)) as the ‘internalisation’ of social speech to inner speech.

Vygotsky determined that a child’s speech is initially entirely social in function and is mostly object and other-oriented (though it is now recognised that this is culture dependent, and not all cultures afford such high status to verbalisation in object manipulation (Hamers and Blanc, 2000)). Over time, however, the child learns to direct this appropriated speech towards him/herself, initially appearing in the form of egocentric speech. This speech usually takes the form of directions to oneself to control and organise one’s behaviour and actions, the asking and answering of questions, the telling oneself that one is right or wrong or have completed a task. As a child develops, egocentric speech begins to take on a more elliptical quality described by Lantolf (2000(a): 15) as looking like, “one half of a dialogue between individuals with a close personal relationship.”

Over time, egocentric speech becomes more covert, and is transmuted into inner speech; “the silent speech we hear in our heads” (Varley, 1998: 130). Inner speech too, is elliptic and “semantically dense” (Ellis, 1999: 20). As with egocentric speech, Vygotsky saw a major function of inner speech to be that of mediating one’s own behaviour and actions. However, he also proposed inner speech as a mediator of thinking in, ‘higher mental

functions' (or intramental activity) such as voluntary attention, planning, intentional memory, logical thought, problem solving, evaluation and learning (Lantolf, 2000(a)). These are the very mental functions argued from a neurological perspective as being facilitated by language (see 2.21).

As argued by Wells (1999(a)), however, it is important that Vygotsky's conceptualisation of the internalisation of social speech to inner speech should not be viewed as a linear, non-transformative process. Rather, Wells (1999(a): 117) suggests that we should view appropriation "of making practices and ideas our own" more as, "the gradual construction on the part of the learner of actions equivalent to those manifested in the verbal and the other behaviour of others and an increasing ability to carry them out independently." In other words, and in line with a neurological perspective, appropriation is not a passive activity. Individuals must be involved in the construction and reconstruction of knowledge, and this includes knowledge about the processes involved in thinking and, therefore, the use of inner speech as a cognitive tool.

It would appear, therefore, that social interaction is also crucial in appropriating language as a mediational tool in thinking and learning, and that this takes the condensed form of inner speech. This correlates well with the neurological perspective of the appropriation of knowledge as both a product and a process (i.e. the appropriation of words and 'ways with those words' for thinking). An interesting question remains, however, as to the form of inner speech for pupils who speak two or more languages, as in this study.

2.34 Inner speech and L2

With respect to those learners learning a second or additional language, one must question the extent to which each language is used in their inner speech, and the extent to which they are consciously aware of which language they are using. This dilemma was perfectly articulated by the Head teacher of one of the research schools, who is herself fluently trilingual, when she commented one day in the staff room, “sometimes I don’t know which language I’m thinking in”. This section will address these questions, and propose a means by which bilingual pupils in U.K. classrooms may appropriate the use of English as a thinking tool. This is useful in developing a picture of the contexts which facilitate such appropriation, and of how bilingual pupils use language(s) to learn and think about language(s).

Hamers and Blanc (2000) suggest that in contextual situations wherein a learner’s L1 is developed and valued in all its functions (i.e. for communicating and as inner speech for thinking), he/she may be able to map all of this L1 knowledge onto their developing L2. In other words, under certain circumstances it may be possible for a bilingual child to use L1 and L2 (or a combination of both) as inner speech to mediate their thinking. The extent to which such transfer of knowledge is possible, they suggest, relates to the status and valorisation afforded to the use of each language within the child’s language networks (Hamers and Blanc, 2000).

Cohen (1998) discusses a study in which he questioned seventeen bilingual and multilingual speakers about their use of languages in their thinking. He found that respondents often used different languages in an automatic or unplanned way, even

switching between languages within the same thought. In describing his own situation, he writes of his family's life in Brazil, where:

“English was the language of the family at home, Hebrew the family language on the streets..., and Portuguese the language that I used at work in the University. ... Given this multilingual environment, I noticed that I would inadvertently have trilingual thoughts – beginning them, say, in Portuguese, continuing them in Hebrew, and ending them in English.”
(Cohen, 1998: 166)

He attributed such trilingual thinking to the fact that he was using all three languages, “frequently and in highly contiguous situations” (Ibid: 166).

His study also revealed, however, that in certain situations, respondents purposely chose to think in a particular language (other than their first) or did so when the instructional method encouraged or required it. This would probably describe the situation in which most bilingual pupils in U.K. classrooms find themselves, as almost all teaching and class-work occurs in English. Interestingly, however, the study also revealed that thinking exclusively in one's second (or other) language may not always be the most beneficial as, for example, “mental translation into the L1 may support reading in a target language” (Cohen, 1998: 210).

It seems fair to presume, therefore, that bilingual pupils in U.K. classrooms will appropriate the use of English as a thinking tool by participating in interactions with teachers and peers in English when involved, for example, in problem solving activities. They may also be able to ‘map’ their existing knowledge of L1 as a thinking tool onto their developing ability to think in English. In contrast, however, it is not fair to presume that thinking exclusively in English is beneficial in all learning situations, as even when learning and therefore thinking about English, learners may wish to contrast and compare

linguistic items across their languages. Indeed, Cohen (1998) found that learners sometimes choose to think in a language which is closest to their target language (in this case English) in terms of its grammatical structure and vocabulary. Hence, for pupils from some West African countries who speak their native African language as well as French, thinking about English may best be achieved in French, or in a combination of French and English.

The decisions pupils take concerning their use of language(s) as a tool in thinking during the process of thinking and learning about English are the particular concern of this study. So far, however, language as a tool in thinking has been discussed only in terms of inner speech and, as such, is unavailable to direct observation. Fortunately, inner speech does not appear to remain forever internalised as, when faced with cognitively demanding tasks, learners tend to externalise their inner speech as speech spoken aloud addressed to themselves. This is known as private speech.

2.35 Private speech

Private speech, as with inner speech, is addressed to oneself and serves a self-regulatory and psychological (i.e. intramental) function (Frawley and Lantolf, 1985; Lantolf, 2000(a); Roebuck, 2000; McCafferty and Ahmed, 2000). For bilingual pupils it may take the form of L1 or L2 or a combination of both, as in bilingual inner speech. As with the function of inner speech, private speech also acts “to gain control over our ability to remember, think, attend, plan, evaluate, inhibit and learn” (Lantolf, 2000(b): 88). Anton and DiCamilla (1999) suggest that because private speech is social in genesis, it often appears social in nature. Wells (1999(b): 251), however, takes the view that all action,

including dialogic action, is simultaneously individual and social and that rather than dichotomising social and private speech:

“it may be more appropriate to treat all utterances spoken aloud as having both an inner and an outer orientation, one or the other of which has greater salience on any particular occasion.”

In fact, the social nature of private speech can often lead to difficulties in analysing speech as having a predominantly inner or outer orientation; a dilemma I am able to explore in some detail in Chapter 4 (see, e.g. 4.47).

There exists the possibility, therefore, of directly observing and analysing how a pupil uses speech, be that L1 or L2, externalised as an intramental tool in thinking (i.e. as private speech). The next section will explore the use of externalised speech as a tool in intermental thinking when pupils are involved in learning together in social interactive contexts, as in this study. In so doing, it will continue to highlight the role of social interaction in learning and L2 language learning, whilst further extending our understanding of how such learning is manifest in the interactive behaviour of pupils engaged in L2 language learning tasks, assumptions critical to this study.

2.4 THE CONTINUED ROLE OF SOCIAL SPEECH (L1 AND L2) IN THINKING AND LEARNING

Once a child begins to differentiate between speech for others as a functional tool in communicating, and speech for him/herself as a psychological tool, talking with others in collaborative meaning making becomes fundamental to learning. This section will argue that learners engaged in collaborative interaction are advancing their own understanding whilst simultaneously also adding to joint knowledge. In other words, the assumption is that collective thinking in the co-construction of knowledge (or intermental activity) is an enhancement of that which pupils may be able to do independently. As Mercer (2000: 3) argues, “almost always, significant achievement depends on communication *between* creative people.”

One of the principal reasons why social interaction is so beneficial in knowledge building and meaning making is due to the principle of ‘responsivity’, which Bakhtin (1986, quoted in Wells, 1999(a)) used to describe the situated nature of all utterances. That is, speech is always uttered in response to a preceding utterance, “expressing the speaker’s attitude to them as well as to the topic that the current utterance addresses” whilst also being made in anticipation of a further response (Wells, 1999(a): 104). Likewise, listening also involves active participation and response as the listener tries to make sense of what has been said and the stance taken by the speaker in speaking whilst cohering it with preceding utterances.

For L2 learners this whole process may be further complicated whenever their linguistic, sociolinguistic, pragmatic and discourse experience and knowledge is different to the other

interactants. An example of such difficulties is given in a study cited by Hamers and Blanc (2000) carried out by Bates and McWhinney (1987), which showed that speakers of different languages process sentences differently. For example, Italian speakers tend to use animacy of expression as a cue to the meaning of a sentence, whereas English speakers afford greater saliency towards word order. Analysis of interactions between bilingual learners, such as those in this study, may reveal such linguistic and cultural misinterpretations: important factors to consider when interpreting the meaning of pupils' utterances.

Returning to Bakhtin's arguments, we can say that the principle of 'responsivity' ensures that during interaction between people successive contributions are responsive to the contributions of others, whilst also being framed as objects towards which further responses and feedback can be aimed. I shall now unpack this proposition in more detail, and discuss its implications for the form and process of L2 language learning in interactive contexts such as in this study.

Wells (1999(a)) revealingly writes that speech is simultaneously a product (i.e. 'that which has been said') and a process (i.e. 'the act of saying'). Once spoken aloud, an utterance stands as an ideational and material object with which others, and indeed the speaker him/herself, can interact and to which they can then respond. From a neurological perspective, we can say that utterances as 'products' are experienced as oral (and visual) input in the corresponding early cortices of the brain. In this sense, an utterance is internally constructed by the listener as a topographical image (i.e. it is a "re-saying" of what was said by its producer Wells, 1999(a): 108)). This then sets in place activation of

the neurons and synapses existing in the association cortices, as the brain tries to associate the new sensory input with previous experience and knowledge. This may result in the presentation of new knowledge and new ways of constructing knowledge through extension and enhancement of existing constructions as represented by the corresponding firing patterns in the association and early sensory cortices.

The type of talk that such a neurological scenario is likely to engender is described by Mercer (2000: 97) as cumulative talk wherein:

“speakers build on each other’s contributions, add information of their own and in a mutually supportive, uncritical way construct together a body of shared knowledge and understanding.”

Cumulative talk is an important interactive mechanism in L2 language learning as learners are given the opportunity to hear and incorporate others’ models of L2 language forms within their own meaningful and responsive utterances (see 3.52).

Alternatively, an L2 learner may notice something new in another’s utterance, perhaps a word or expression which is unfamiliar to them. They may choose to repeat this new information in order to facilitate activation of the association cortices in search for some link or association to previous knowledge and experience. The results of which, together with other contextual evidence (verbal and non-verbal) may then be used to predict the most likely meaning of this new information. At this stage too, the learner may wish to repeat the new information, not only to practise saying it aloud, but also to confirm (or reject) its new meaning construction. Wells (1999(a): 107) suggests that it is during the act of speaking that speakers come to experience a sense of understanding for themselves, or

“the sense of coherence achieved in the act of saying – the impression one has of the elements of the problem or puzzle fitting together in a meaningful pattern.” Careful analysis of the repetitions made in order to achieve such coherence and understanding is another important element in bilingual pupils’ language learning behaviour, and hence informs the analyses in this study (see 5.41).

Equally, however, another interlocutor may notice something in a learner’s utterance which they struggle to understand, or which they recognise as an inaccurate linguistic form. They may choose to highlight their non-comprehension or the linguistic inaccuracy by providing feedback, which may or may not be explicitly corrective (Chaudron, 1993).

Research indicates that all learning, and particularly L2 language learning, involves experimentation and the formation of hypotheses which must be tested and proved accurate or reformulated (Nicholas *et al*, 2001: 748). As Chaudron (1993: 134) writes, “the information available in feedback allows learners to confirm, disconfirm, and possibly modify the hypothetical, “transitional” rules of their developing grammars”. In other words, corrective feedback may act to highlight information which conflicts with a learner’s current knowledge construction. Cheyne and Tarulli, 1999 (cited in Daniels, 2001: 66) write:

“a dialogic mind does not itself constitute an apperceptive mass, but rather a community of different and often conflicting voices ... it is in the struggle with difference and misunderstanding that dialogue and thought are productive and that productivity is not necessarily measured in consensus.”

Such a challenge to existing knowledge may therefore help shape development. For L2 learners, new information (which they themselves have noticed, or which has been highlighted in feedback) for which they find no meaningful associations or which

challenges their current experience of L2, may encourage, for example, a reformulation of L2 rules, and/or a further exploration with other interlocutors. An example would be the first time an L2 learner notices or is made aware that some nouns (e.g. sheep) are not pluralized by the addition of an 's', challenging their current understanding that this rule applies to all nouns in English. This may pave the way to understanding the difference between countable and uncountable nouns in English.

In circumstances where a shared cognitive understanding breaks down between participants whilst goals and intentions remain collective, 'exploratory talk' may emerge as a feature of the interaction. Mercer (2000: 98) describes exploratory talk as:

“that in which partners engage critically but constructively with each other's ideas. Relevant information is offered for joint consideration. Proposals may be challenged and counter-challenged, but if so reasons are given and alternatives are offered. Agreement is sought as a basis for joint progress. Knowledge is made publicly accountable and reasoning is visible in the talk.”

Analysis of interactions may therefore reveal a learner's ability to notice cognitive discrepancies thereby also highlighting their existing knowledge. It may also reveal their means of further exploration or challenge following feedback during such exploratory talk; again important behavioural patterns indicative of the products and processes of language learning, and hence integral to the analyses within this study.

As suggested, however, learners do not just respond to others' utterances, they can also respond to their own utterances as 'products' voiced aloud. For the L2 learner this is particularly significant. Treating an utterance as an ideational or material object affords the

L2 learner the opportunity to ask and attempt to answer a series of self-evaluative questions:

- “*who do I sound like?*” The L2 learner must decide if their utterance has been enunciated in a manner similar to that which they have heard others and particularly L1 native speakers use;
- “*did I say what I meant to say?*” The learner must align what he/she has heard him/herself say with what they had intended to say. For example, it is possible for a learner to omit an important word, use an inappropriate word, blend two or more words together (from within a language or across languages), or perhaps apply stress to a word or phrase inappropriately;
- “*am I making myself clear?/ did I get my intended meaning across?*” As the learner shares the listening experience with the other interlocutors, they must compare the reaction they receive to that which they would expect, given their intended meaning;
- “*am I saying it correctly?*” This question usually only arises in contexts where language form is perceived as important, as in language learning tasks, or as a result of a problem identified in the previous two questions.

(Adapted from Stevick, 1996: 91-94)

There are a variety of solutions a learner may generate in response to such self-evaluation, providing, of course, they recognise that some error or communication difficulty has arisen. Solutions may take the form of: direct repetition with some change in intonation, stress, or pronunciation; repetition with some change of form, but retaining one’s essential meaning (recasting); a partial, major or complete rephrasing (repairing); a direct call for

support (confirmation and validation checks); or choosing to ignore the problem entirely. Analysis of such self-reflective utterances (or a lack of such reflection) is an important element in understanding bilingual pupils' language learning behaviour, and hence also forms a valuable and integral part of the analyses in this study.

In terms of speaking as a process, the 'act of speaking', which is guided by the interaction of dispositional representations with the early sensory cortices, may trigger other patterns of activation and perhaps also other manipulations of images as you 'think as you speak'. Speaking aloud, therefore, may highlight 'gaps' or a lack of coherence in one's thinking, as the strength of various synapse connections is tested, something that may not have been as noticeable prior to external verbalisation. It is often heard said, particularly in teaching circles, that 'until you try to explain something, you don't realise the extent or depth of your understanding'. For L2 learners the act of speaking may result in a communication difficulty arising part way through an utterance, should they struggle to find the appropriate L2 vocabulary, for example. Any hesitation and resulting change would be indicative of the use of communication strategies (Yoshida-Morise, 1998); again valuable information relating to L2 learners' behaviour.

In summary, as Wells (1999(a): 108) writes:

"by contributing to the joint meaning making with and for others, one also makes meaning for oneself and, in the process, extends one's own understanding. At the same time, the "utterance," viewed from the perspective of what is said, is a knowledge artefact that potentially contributes to the collaborative knowledge building of all those who are co-participants in the activity."

Consequently, without another speaker's perspective as presented in their utterances, and without a learner's attempt to respond, producing utterances to represent their own perspectives, opportunities for knowledge extension, enhancement and cognitive restructuring would be limited. One could reiterate the old adage: two heads really are better than one.

Thus far in this chapter I have argued a sociocultural perspective on why talk and social interaction is so important to learning, and L2 language learning in particular. In so doing, I have presented a case which argues that “ ‘inside the head’ is not the only site where cognitive processes unfold” (Lantolf, 2000(b): 85) waiting to be inferentially analysed or assessed. Learning is manifest in the responsive utterances and interactive behaviour of learners engaged in interactive learning activity, or, as Van Lier (2000: 246) puts it:

“the verbal and non-verbal interaction in which the learner engages, are central to an understanding of learning. In other words, they do not just facilitate learning, they *are* learning in a fundamental way.”

This is a central argument in relation to the research questions as it directly addresses the reasons why, and indeed how, the process of L2 language learning is manifest in the interactive behaviour of bilingual pupils participating in interactive learning tasks such as game playing. In short, it provides a conceptual framework to underpin this research.

Sociocultural theory also provides an analytical framework through which to view and interpret learning in interactive contexts: a practice referred to as microgenetic analysis.

Microgenetic analysis is a key analytical tool in this research as it facilitates the extraction

of information relevant as formative assessment material in a manner that is coherent with the theoretical assumptions of learning upon which this study is founded.

2.5 MICROGENETIC ANALYSIS

Thus far in this chapter I have argued that when pupils participate in interactive learning tasks the special role that language plays in mediating human thinking and learning ensures that their knowledge and thinking is manifest in their interactive behaviour as they use language(s), both private and social, to make sense for, and respond to, each other. As Anton and DiCamilla (1999: 234) put it, “the objective of studying learners’ interaction is to uncover how learners use speaking as a cognitive tool.”

An example of the use of speech as a cognitive tool would occur in episodes of exploratory talk during problem solving activity. In order to challenge another’s point of view, an interlocutor would need to present some information or knowledge recalled from ‘memory’. The linguistic (and non-linguistic) means they employ to do so would highlight not only their strategies in recalling or reconstructing that knowledge from memory, but also the form and substance of that knowledge as previously constructed. As Wells (1999(a): 55) contends, the resources brought to bear during problem solving activity is dependent upon:

“the manner and extent to which participants have *ontogenetically*, i.e. in their own life trajectories, appropriated the resources available in the culture of which they are members, that is to say, the practices, tools, motives, and values in terms of which cultural activities are organised.”

The type of sociocultural study concerned with this type of moment-by-moment unravelling of an interactive activity is known as microgenesis. It is founded upon ‘genetic explanation’, which maintains that “psychological phenomena .. can be understood only by examining their genesis in a culturally-specific situated activity” and “in the process of change” (Donato and McCormick, 1994: 454). Consequently, “communicative moments are taken as the fundamental unit of analysis, as they provide the context where both individual behaviour and the sociocultural processes by which it is shaped can be studied” (Hall, 1997: 304).

Implicit within such genetic explanation is the assumption that because every event is a unique instantiation of activity, “all events can be seen to involve change, as the participants creatively exploit the total resources of the particular situation to construe and solve the problems that emerge in and through their activity” (Wells, 1999(a): 56). In other words, by employing certain strategies and presenting certain knowledge in order to respond to the unique interactive situation at hand, as in the example of exploratory talk, that knowledge is forevermore changed or, from a neurological perspective, reconstructed. As Vygotsky (1978 quoted in De Guerrero and Villamil, 2000: 54) wrote:

“any psychological process, whether the development of thought or voluntary behaviour, is a process undergoing change right before one’s eyes. limited to a few seconds, or even fractions of seconds”.

Returning to our example of problem solving through exploratory talk, therefore, not only are we privy to a pupils’ knowledge as previously constructed and as externalised in order to argue a particular case, but we are also privy to the historical and contextualised reconstruction of that knowledge as it occurs within the communicative moments of the interaction. Of course, one may also observe a gradual change in a learner’s behaviour over

the course of an interactive activity as they appropriate the knowledge and regulatory means manifest within that interaction.

As Wells (1999(a): 55) also argued, however, pupils' participation within such problem solving and joint meaning making activities is not solely dependent upon the resources employed, but also upon, "the affordances of the situation, and on the way in which participants construe it". In other words, observation and analysis of joint problem solving activity may also reveal the provision of mutual support in order to promote such 'affordances' (defined in section 2.63) and players' construal of the task as an activity in which to exploit those affordances.

Close microgenetic analysis of interactive behaviour is therefore a means through which to study the process of learning 'in flight', as Vygotsky (in Wertsch, 1997) so figuratively put it. It is concerned with the social and historical process of the (re)construction of knowledge (as manifest in learners' interactive behaviour) and the use of language (both social and private) as a tool mediating the appropriation of knowledge. It is also concerned with the mechanisms by which such learning is facilitated and negotiated within interactive contexts (e.g. scaffolding, see section 2.61), and pupils' exploitation of such learning opportunities.

Information resulting from such analysis must surely be of the greatest interest to teachers who are concerned to know the form and substance of pupils' knowledge as previously existing and as changing, as well as the mediational means by which such changes occur. In other words, and of particular concern to this study, a microgenetic analysis of bilingual

pupils engaged in the act of L2 language learning is an ideal framework in which to extract information relevant to a formative assessment of that learning.

The principle of responsivity on which the arguments in this chapter rest, presupposes a certain level of co-operation along the lines of Gricean principles (Blum-Kulka, 1997). In many contexts, however, including educational settings, such principles of co-operation are not always firmly established, nor indeed sought. Consequently, having established that social interaction facilitates learning, and especially L2 language learning, the question remains as to whether *all* interactive contexts necessarily *always* facilitate such learning. If this is not the case, as experience would suggest, then one must ask which interactive contexts are the most facilitative of L2 language learning, and which contexts promote which type of learning. This will inform the choice and design of board games as an interactive context as well as the situational context employed in this study.

2.6 CONTEXTS OF TALK FOR LEARNING

Thus far in this chapter, I have explored how and why social interaction promotes learning and how this learning is represented and can be analysed within learners' interactive behaviour. This section will explore the mechanisms by which such learning takes place within different interactional contexts, thereby justifying the decision to record and analyse teacher-less group talk in this study. I shall begin by arguing that symmetric interaction is the most appropriate context for this study as the learning it reveals is the most pertinent for formative assessment. I shall further argue that symmetric interaction is difficult to achieve for bilingual pupils in the presence of a teacher, guiding my decision to record and analyse small group peer interactions for the purposes of this study. I shall also present the

case that certain preconditions are necessary for successful peer group learning. These conditions inform not only the research procedures (see e.g. 3.45), but also the design of the board games as communicative tasks (see 3.51).

2.61 Symmetric Interaction

Vygotsky promoted social interaction between an expert and a novice such as a teacher and a pupil or an adult and a child. The process of learning during such interactions is akin to an apprenticeship in which the novice gradually appropriates knowledge and skills and is:

“thereby able to participate in skills beyond those that he or she is independently capable of handling. Development builds on the internalisation by the novice of the shared cognitive processes, appropriating what was carried out in collaboration to extend existing knowledge and skills.” (Rogoff, 1999: 73)

Guidance may take the form of modelling through demonstration and explanation, or may require ‘fine-tuning of communication’ such as the technique known as scaffolding (Rogoff, 1999).

The term scaffolding was originally used by Vygotsky and Luria in describing the process whereby adults introduce cultural means to their children (De Guerrero and Villamil, 2000). Later, Wood, Bruner and Ross (1976) used the term as an instructional metaphor to describe the support given by adults and tutors to children in completing a task. They identified six features of tutoring talk, or ‘scaffolding functions’: recruiting interest in the task; simplifying the task; maintaining pursuit of a particular objective; marking critical features and discrepancies between what has been produced and the ideal solution;

controlling frustration during problem solving; and demonstrating an 'idealized' version of the act to be performed (Wood *et al*, 1976).

Since then, the term has been applied to specific discursive mechanisms of support identified in interactions between experts and novices which provide "supportive conditions in which the novice can participate in, and extend, current skills and knowledge to higher levels of competence" (Donato, 1994: 40). Two critical features of scaffolding have been identified: firstly support should be *graduated* from an implicit approach, gradually becoming more explicit until the minimum level of support required is found; and secondly support should be *contingent*, so that it is gradually withdrawn and responsibility handed over to the learner (Aljaafreh and Lantolf, 1994).

The process of scaffolding is said to occur within the zone of proximal development (ZPD), originally defined by Vygotsky (1978: 86) as, "the difference between the child's developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance". Prior to commencing an activity, however, it is impossible for the more capable interlocutor to know exactly the minimum level of support required given a particular task in a particular setting on a particular occasion. Consequently, in order to ensure support is both graduated and contingent, "continuous assessment of the novice's needs and abilities and the tailoring of help to those conditions" is necessary (Aljaafreh and Lantolf, 1994: 468). In other words, uncovering the potential development within a ZPD, is essentially "a dialogic activity that unfolds between more capable and less capable individuals" (Ibid: 468).

One must question, however, whether learning only ever results from dialogic activity between experts and novices. It is arguable that in some contexts, particularly within an educational setting such as a school, such activity may actually limit or inhibit the development of learning and thinking. Suppose, for example, that during an interaction with a perceived expert, such as a teacher, a learner is presented with new information that sits in some discomfort with his or her existing understanding. The likelihood of the learner then turning to the expert and discussing such cognitive conflict, arguing for their current perceptions in contradiction to the expert's presentation, particularly when in front of the whole class, is, I would argue, small. This is because the notion of power in which the notion of expertise is often wrapped, particularly in an educational setting, is highly influential in determining shared active participation and true 'responsivity' in interactions (i.e. symmetric interaction). In other words, whenever the perception of power is absorbed within the perception of expertise, the resulting dialogic activity is unlikely to result in the type of learning evinced by exploratory talk.

This was the view taken by Piaget, who argued that co-operation between peers of equal status and power was a necessity for qualitative shifts in understanding and cognitive restructuring. That is not to say that Vygotsky argued against symmetric interactions for cognitive growth; rather, as Rogoff (1999: 79) argues, he believed that: "ideal partners are not equal, but the inequity is in skills and understanding rather than in power."

It would appear, therefore, that different interactive contexts may be necessary to enhance all forms of knowledge construction, thinking and understanding. As Mercer (2000: 14) writes, children learn how to use language as a tool in much the same way they learn to use

other tools, “by a combination of observing experts at work, receiving some guidance from them and trying out the tools for themselves.” Hence, I would concur with Rogoff (1999) in assuming that both symmetric and more didactic style interactions are necessary for balanced learning. Interactions with acknowledged experts allow novices to appropriate and construct knowledge, both product and process, which they are then able to ‘try out’ and ‘make their own’, in reaching a fuller understanding during symmetric interactions.

However, the behaviour associated with ‘trying knowledge out’ and ‘making it one’s own’ is, I would argue, exactly the sort of behaviour which teachers would find the most enlightening in terms of appreciating learners’ needs and hence is the behaviour which this study should encourage. Consequently, in order to promote the type of interactive behaviour most appropriate as information for a formative assessment, this study should encourage symmetric interactions within small groups. Of course it is possible that teachers as more knowledgeable interlocutors could forgo their powerful status and didactic tendencies to participate as *perceived* equals during small group interactions. However, I shall now argue that due to various cultural and sociohistorical factors the presence of a teacher within a group interaction of L2 language learners (as in this study) often results in less symmetric participation. As such it is a scenario not suitable for this study.

2.62 Teacher-pupil Interaction

Evidence from L1 research suggests that the overwhelming majority of talk in class is controlled and produced by teachers, and that this talk is dominated by questions. Research has shown an almost formulaic pattern of discourse exists in teacher pupil interaction, a so-

called 'recitation script' (I-R-E) in which teachers initiate or elicit a response from pupils, usually in the form of a closed 'factual' question, and follow this with an evaluation of any such response (Sinclair and Coulthard, 1975; Edwards and Westgate, 1994). Pupils realise that teachers are asking a question to which they already know the answer, and therefore must, "respond by attempting to get as close as possible to what they believe is the correct, or acceptable, answer (to enter into the teacher's frame of reference)" (Corden, R., 1992: 173).

Research has also shown that teachers wait approximately one second for pupils to respond to their questions in the I-R-E sequence (Swift and Gooding, 1983 cited in Wood, 1992). As Wood (1992: 206) writes of monolingual pupils, "the time needed to think, to formulate a response and to put that response into words demands considerably more than a second's 'wait time'". One can imagine the needs of bilingual pupils who may have to also incorporate translation time.

The predominance of such a pacy recitation script in mainstream schools inevitably leads to the establishment of an underlying 'didactical contract' (Brousseau, 1984 cited in Black, 1999) between teachers and pupils, in which both parties expect and agree to fulfil respective interactive roles in each other's presence. For bilingual pupils in the U.K., particularly those who have received some schooling overseas in countries where peer group interaction is not mainstreamed, this didactical contract is likely to frame the role of the teacher in group interactions with pupils as that of an *evaluative audience*. In other words, bilingual pupils may deem it more important, in the presence of a teacher, to be seen to be 'speaking correctly', making fewer linguistic errors and less willing, therefore,

to take risks and make mistakes. This can result in a reduced amount and level of participation by bilingual pupils.

A longitudinal case study of a six year old Chinese boy learning English as a second language, exemplifies this phenomena (Tarone and Liu, 1995 cited in Bachman and Cohen, 1998). They found that the boy's formation of questions in English depended upon with whom he was interacting and his role relationship with that person. The evidence showed that:

“each new stage of question formation generally appeared first in interaction with a friendly and interested adult friend during “play sessions” in the boy's home, later in interactions in the classroom with the boy's peers in desk work, and last (often weeks later) in interactions with the boy's teacher in class.” (Bachman and Cohen, 1998: 19)

This would suggest that the boy was less willing to practise or to demonstrate his new found skills in forming questions in English in front of his teacher, until perhaps, he was 'sure' of being accurate. Interestingly, it also suggests that 'play sessions' are an ideal context in which to experiment and practise forming new structures in a second language.

Another problematic aspect of the didactical contract relates to problem solving. Should a problem arise during a group interaction, pupils (and particularly those bilingual pupils who have received some education overseas) may consider it more appropriate to defer to the teacher's expertise rather than be involved in collaborative problem solving. In other words, a teacher's presence within a group interaction may substantially reduce the expectancy of exploratory talk. Why bother trying to work out a solution to a problem, if

you know that one member of your group, namely the teacher, already ‘knows’ all of the answers? After all, they probably designed the task.

Finally, but particularly pertinent to this study, is the argument that monolingual teachers may not always share a linguistic and cultural ‘frame of reference’ with the bilingual pupils in their class (Mercer, 2000). As previously argued (2.32), intercultural interactions can often result in confusion or misinterpretation which bilingual pupils may be less likely to challenge or amend in interaction with a monolingual adult expert such as a teacher.

Critics of peer group work for L2 language learning may counter that a teacher’s presence is necessary in order to provide corrective feedback and to ensure that the production of a linguistic solution is, if not entirely ‘correct’, at least heading in the right direction. For an L2 learning task, therefore, a teacher could guide the production of the correct grammatical form practised by the task. Whereas in the absence of a teacher, “exposure to incorrect peer input may lead to fossilization” (Ellis, 1995: 599).

Even though studies exist which counter the validity of this claim (Ellis, 1995), I would argue that because the objective for this study was to collect evidence relating to the processes pupils undertake in learning a second language rather than the stage they have already reached in their ‘acquisition’, it was more important that the analyses revealed which mistakes were noticed and how pupils reacted to them, rather than whether an ideal grammatical form was eventually reached. In short, the purpose of the analysis was assessment of learning, and not the teaching of grammar.

To summarise, I am in effect arguing that if one's objective as a researcher is to record and analyse bilingual pupils' talk in interaction with others in order to investigate language learning 'in flight', as in this study, then one must orchestrate contexts for talk in which such learning is optimised. In doing so, one must have regard for the consequential effect of a teacher's presence upon the interactive behaviour of group members, and in particular those bilingual pupils who are reticent to talk in front of adult L1 language speakers, particularly those adults in the powerful position of class 'teacher'. Writing about a seven year old pupil whose first language was Bengali, Mills (1993: 62) notes, "Nazma, who was always mute in the presence of a teacher in school, and who would read her book in English in a whisper to a friend, was observed chatting and playing happily at break time". In short, one must address the fundamental issue of Labov's 'observer's paradox' (Ellis, 1995), even when the teacher is acting in the role of participant as opposed to observer or evaluator.

This section has thus far argued that in order to promote symmetric interactions in which L2 language learning is facilitated, bilingual pupils should work together with their peers in teacher-less groups. The question remains, however, as to how L2 language learners support each other during group work and how effective this is in promoting L2 language learning. In answering these questions, this section will highlight some preconditions for successful group work which are used to inform the methods employed in this study.

2.63 Collective Scaffolding and Collaborative Group Work

In an extensive review of the research literature on second language learning as a mediated process, Lantolf (2000(b): 84) provides evidence that learners are, "often able to exploit

the affordances ... made available by their colleagues in ways they cannot in expert/novice interaction.” The term ‘affordance’ is described in relation to second language learning by van Lier (2000: 253) as an environment which is, “full of language that provides opportunities for learning to the active, participating learner”.

Recent sociocultural research has also demonstrated how the notion of ‘expertise’ can be fluid or emerge as a feature of a group rather than residing wholly in only one individual. (Donato, 1994; Ohta, 2000; Lantolf, 2000(b)). In line with this new sense, therefore, and in contrast to the earlier conceptualisation, a ZPD is more symbolic of a mutually constructed and negotiated emergent ‘activity frame’ (Aljaafreh and Lantolf, 1994). In effect, research has shown that within such activity frames, “learning can emerge in the absence of a *recognised expert*” (Lantolf, 2000(b): 84, my own italics).

Having established that studies exist which suggest that learners can work together to learn a second language, this section will now review the relevant literature in order to ascertain the interactional mechanisms by which learners support each other in collaborative L2 language learning. This process is known as collective scaffolding and will form a major element of the analyses in this study.

Collective scaffolding

Recent sociocultural research has been critical of the unidirectional didactic model inherent within earlier definitions of scaffolding wherein “the learner is brought into the ‘knowing’ of the other” more expert partner (Daniels, 2001: 67). Research by Donato (1994) showed how three novice students of French worked together collaboratively to solve language

based problems in the completion of a task. He found that the learners were able to offer each other appropriate and contingent support through a variety of discursive mechanisms, thereby enabling each other to outperform that which they would have been capable of independently. He labelled these discursive mechanisms, 'collective scaffolding'. In scaffolding collective support, he found that students were "at the same time individually novices and collectively experts, sources of new orientations for each other, and guides through this complex linguistic problem solving" (Donato, 1994: 46).

Similarly, a study by Anton and DiCamilla (1999) found that English speaking adult learners of Spanish involved in a collaborative writing task were able to construct a collective scaffold, using English (their L1) as a particularly useful scaffolding tool. They describe, "a complex interaction in which no individual member was able to produce the vocabulary item but each contributed the right amount of help to the other in the collective production of the appropriate linguistic form" (Anton and DiCamilla, 1999: 238).

In response to Anton and DiCamilla's findings, Wells (1999(b)) suggested the term 'collaborative problem solving' as more suitable for describing the help provided by peers learning an L2 during collaborative interaction. He argued that the scaffolding metaphor was originally meant to convey instructional intent which is contingent and, therefore, gradually removed when no longer necessary. As there was no recognised expert and no clear intention for 'teaching' amongst the peers in Anton and DiCamilla's study, Wells (1999(b)) argued application of the term scaffold, inappropriate.

I agree with DeGuerrero and Villamil's (2000: 66) reasoning, however, that the metaphor 'scaffold' is too powerful not to be included in analysis of this type for, as they argue, it "has the power of agglutinating a host of notions and senses that the more literal term 'collaborative problem-solving' does not seem to capture." Moreover, during the construction of a collaborative activity amongst peers there may be several instances of purposeful and intended 'teaching' acts when one interlocutor finds him or herself to be momentarily in a position of expertise, even though their overall objective may be that of participating in and completing the task. Of course, such momentary cognitive roles are negotiable, and are equally dependent upon affective variables such as power and influence.

Following an analysis of paired work with English speaking University level learners of Japanese, Ohta (1995: 109) found that, "any peer with mature skills to contribute becomes an expert when his or her strengths are contributed to help another learner." She also found that close analysis of the discourse revealed that mutual sensitivity to subtly articulated cues, such as vowel elongation, intonation contours and filled pauses, resulted in the provision of appropriate support, which was gradually withdrawn as interlocutors gained in confidence. Moreover, there was evidence of peers 'waiting' for each other during linguistic problem solving and not jumping straight in and providing overt assistance, a strategy all too often missing in discourse between teachers and pupils (Ohta, 2000). Consequently, Ohta found exactly those features of support which Wells (1999(b)) argued as essential components of scaffolding. These scaffolds, however, were primarily founded upon errors or gaps in knowledge which one interlocutor had identified within her own performance.

De Guerrero and Villamil (2000) report on research into a pair of college level Spanish speaking learners of English working together on revising a draft of one of their pieces of writing. One of the pair was the writer, whilst the other was assigned the role of ‘reader’, although neither was explicitly informed of these roles. Analysis of the interaction between the reader and the writer revealed frequent examples of scaffolding, the features of which were defined using a synthesised version of the schemata by Lidz (1991), and included: *intentionality* (consciously attempting to influence another’s actions); *meaning* (promoting meaning); *task regulation* (manipulating the task to facilitate problem solving); *contingent responsivity* (read the child’s behaviour and respond appropriately). They believe that Lidz’s scale for identifying adult mediating behaviour has the potential to be adapted to describe learner-learner interactive behaviour (see Appendix 1 for a more detailed exposition of Lidz’s schemata).

De Guerrero and Villamil’s (2000) research provides evidence of peers’ intention to ‘teach’ and not only in response to signals for help, as in Ohta’s case study. Moreover, the researchers found this support was contingent as readers did not always provide assistance, nor did they assume complete control. De Guerrero and Villamil (2000) suggest the term ‘mutual scaffolding’. However, for the purpose of this thesis the term ‘collective scaffolding’ will be retained to describe “those supportive behaviours by which one partner in a semiotically mediated interactive situation can help another achieve higher levels of competence and regulation” (De Guerrero and Villamil, 2000: 56).

Hence, evidence from sociocultural research would suggest that learners *can* work together collaboratively through a process of collective scaffolding to support and extend each

other's L2 language learning. In other words, peers can create an activity full of learning opportunities (i.e. affordances (van Lier (2000: 253)). Whether learners' 'exploit those affordances' (Lantolf (2000(b)) is likely to depend on their motivation for participating in the activity. The question still remains, however, as to whether peers *always* support one another effectively in the creation of learning affordances. The following section will examine evidence as to the effectiveness of group work for learning, thereby guiding the situational and procedural methods employed in this study.

Collaborative Group Work

There is a substantial body of L1 research into the effectiveness of collaborative group work springing from the surprising results of a large-scale research project called ORACLE (Galton *et al*, 1980). ORACLE found that whilst many primary school pupils were sitting together and talking in groups, they were not actually working together collaboratively on the same task, nor talking to each other whilst engaged in joint activity. In other words, the ORACLE study found that seating arrangements are not a precursor to collaborative communication.

Subsequent L1 research has determined that in order for group work to encourage the sort of talk described in the previous section as exploratory talk, certain preconditions are necessary. In their review of group work in primary schools, Galton and Williamson (1992) found that pupils should be working towards a common objective and be clear about the purpose of a task. They strongly suggest that pupils ought be taught how to collaborate and hence have a clear idea of what is expected of them during collaborative tasks. Similarly, Bennett and Dunne (1992) argue that successful group work requires

pupils to be made aware of the skills and behaviours that are essential for effective collaboration. They also emphasise the need for teachers to make their expectations explicit through clear ‘ground rules’. Mercer (1995) suggests that these rules should encourage a free exchange of ideas and the active participation of all involved.

Galton and Williamson (1992) also suggested that groups should be of mixed ability and representative of the racial and social mix of the class. However, in terms of promoting L2 language learning, I would argue that at least one group member should have more experience in learning English so that they could provide corrective feedback (previously argued as important in L2 language learning: see section 2.4). I would also argue that a group should contain, whenever possible, another group member with the same first language. This would afford less experienced pupils an opportunity to mediate their learning of English through use of their first language. Several sociocultural SLL studies have attested to the supportive use of L1 during tasks which promote the learning of an L2 (Anton and DiCamilla, 1999; De Guerrero and Villamil, 2000; Ohta, 2000; Swain, 2001). These studies have shown the use of L1 as ‘metatalk’ as pupils guide themselves and each other through a task (Lantolf, 2000b). Anton and DiCamilla (1999: 245) also found L1 played a key role in mediating L2 language learning through, “construction of scaffolded help, establishment of intersubjectivity, and use of private speech.” This was important information to consider when grouping pupils for this study (see 3.44).

In terms of the learning task as a context for collaboration, Mercer (1995) reports on research which shows that rather than including interaction as a feature of a task, group work tasks must *require* communication and collaboration in order that the task is

completed. Similarly, SLA studies have found that two-way information tasks (in which information is passed between two participants) in which information exchange is *required* are beneficial to the process of second language acquisition (Doughty and Pica, 1986; Pica *et al*, 1993). In planning group work tasks for the inclusive participation of bilingual pupils, Cooke and Pike (2000: 85) suggest that tasks should be designed so that discussion is a means of achieving the objectives and be structured so that “if necessary students can be provided with procedural protocols (turn taking etc.) or linguistic protocols (This card says ... and I think What do you think, Rina?)”. In other words, tasks should allow for the repetition of collaborative talk, and hence the means and time for bilingual learners to plan their participation (referred to as ‘planned tasks’ (Ellis, 1999)). Cooke and Pike (2000) also recommend tasks which have a shared set of objects such as cards for the group to physically manipulate; a feature common to most board games.

It would appear, therefore, that that certain task features promote collaborative interaction and that certain situational factors, such as a clear explication of expected behaviour, should be encouraged by teachers prior to group work to ensure successful collaboration. It has also been argued that in order to encourage L2 language learning, groups should contain one member more experienced in learning English and at least two group members who share the same first language. Consequently, all of these factors were important considerations in undertaking the procedural aspects of this study (see e.g. 3.44) as well as in designing the board games as collaborative tasks (see 3.51).

I shall now focus on the use of board games as a particular type of collaborative task employed in this study to promote L2 language learning. The arguments in favour of board

games as a collaborative group task rest on the integration of theoretical perspectives described thus far in this chapter, and pedagogic concerns such as those expressed by Cooke and Pike (2000) relevant to the education of bilingual pupils in the U.K.

2.64 Board Games as L2 Learning Tasks

This section will argue that because of sociohistorical mores and the particular structural and functional features associated with board games, game playing motivates an ‘affectively charged’ symmetric activity in which L2 language learning is optimised. As such, this section is crucial to addressing the research question of whether board games as interactive tasks facilitate L2 language learning.

By the age of seven, all pupils, certainly in mainstream schools, will have played games of some sort at home, in the local community, in the playground, or in school. As a teacher and researcher, I have yet to encounter a pupil with no prior experience of game playing. Even if a pupil is newly arrived in the U.K. and completely new to English, one look at a board game and its artefacts and their faces light up in instantaneous recognition and readiness to play. Moreover, because of this previous experience, unlike most learning in school, will have been carried out in their home language or a combination of languages depending on with whom they have played and in which context, learners may feel more at ease to use their home language in the school context. As argued, there is much evidence from sociocultural research which suggests the supportive use of L1 during tasks which promote the learning of an L2 (e.g. Anton and DiCamilla, 1999; Ohta, 2000; Swain, 2001), and hence games may be an ideal context in which this occurs. Indeed Mills and Mills (1993: 64) view learning contexts such as game playing as ‘fair’ because:

“the use of mother tongue .. was appropriate, relaxed and natural: the children were not under pressure. ...the children were using language in situations where they were entirely competent and at ease. They could appear at their best.”

It has long been recognised that learning a second language also necessitates experimentation and risk taking, “such as guessing word meanings based on background knowledge and speaking up despite the possibility of making occasional mistakes” (Oxford, 1997: 450). If a pupil feels overly vulnerable or anxious within an environment, they can be deterred from taking risks or experimenting in the production of L2. Language anxiety “makes us nervous and afraid and thus contributes to poor performance; this in turn creates more anxiety and even worse performance” (Arnold and Brown, 1999: 9).

Game playing as a sociocultural activity experienced across contexts, cultures and languages can reduce such anxieties. The world of game playing is wrapped in notions of pleasure and fun and is perceived as a non-threatening and low risk activity wherein errors and creative experiments with language incur no serious consequences (Oxford, 1997). Indeed the fun element of playing may actually encourage ‘play with language’, motivated entirely by the desire to amuse oneself and to have fun. This type of play has been labelled by Cook (1997, 2000) as ‘ludic’ language play, and is argued as distinguishable from language play as rehearsal in private speech (Broner and Tarone, 2001). Ludic language play can operate as play of language form in “play with sounds ... to create patterns” or “play with grammatical structures to create parallelisms and patterns”, or it can be semantic play in “play with units of meaning” (Cook, 1997: 228). It is proposed that ludic language play contributes to language learning as, by definition it is fun and therefore ‘affectively charged’ (Broner and Tarone, 2001), but also because the creativity and search

for forms beyond the norm involved destabilises a learner's existing L2 knowledge, thereby stretching understanding and opening possibilities for change (Cook, 2000).

Game playing as an 'affectively charged' but competitive activity also promotes responsive feedback; an important element of L2 language learning (see 2.4). This is because the competitive element of games (as players make sure the rules are adhered to) motivates a keen awareness of one and other's play so that players respond to each other attentively in the enthusiastic pursuit of both fun and fairness. Games which also incorporate an element of chance, as in the research games, wherein a player "relies on everything but himself and surrenders to forces that elude him", motivates the emergence of a more collaborative spirit in tandem with such competitive urges (Cook, 2000: 126). Players are aware that they too may face difficulties, and hence feel the not entirely altruistic need to support each other against this element of chance. Consequently, should games focus on an aspect of language learning, as they do in this study, learners can take risks and experiment in their production of L2 in a playful environment with the expectation of receiving attentive and yet supportive feedback.

In synthesising evidence from research, Chaudron (1993: 177) found that "learners will most readily incorporate corrective feedback in meaningful collaborative tasks, where appropriate use of the target language will mean success rather than failure to meet the goals of the activity." As the goal of participating in the research games is to practice an aspect of English, this would suggest that playing games of chance would be an ideal context for learners to experience and incorporate corrective feedback.

Board games are also highly structured tasks involving the use of many pieces (or artefacts) to ‘physically manipulate’ (Cooke and Pike, 2000) which appear in some form or other across all cultures. The world created by a game, and particularly board games, is therefore highly ‘context-embedded’ (Cummins, 2001). Consequently, feedback within a game is more comprehensible and meanings easier to predict (for both players and subsequent observers), thereby reducing ambiguity and participant anxiety and facilitating active participation irrespective of L2 language knowledge. Hence, one could also argue that the context-embedded nature of board games, especially those with an element of chance, facilitates a fairer distribution of power between players, increasing the likelihood of symmetric interaction. As I have argued for a more symmetric interactive learning context for the purposes of this study, the need for a context-embedded presentation and a balance between competition and collaboration are factors which have influenced the design of board games in this research.

Another feature of games which supports symmetric participation relates to the rules, which unlike natural conversation, ensure that all participants take turns. If the rules of the game necessitate talk as a requirement of play then taking one’s turn, means taking one’s turn to talk. Players are motivated to actively participate in the on-going interaction during game playing by a sense of competition, and are supported in doing so not only because of a game’s context-embedded quality, but also because the very nature of turn taking generates repetition, which, as argued (see 2.4 and 2.63), is an important feature of L2 language learning.

During the act of playing, there are repeated examples of discourse relating to both general play and the specific tasks (or forfeits) in a board game. Hence, if a game practiced the formation of L2 sentences, for example, repeated models of similar L2 forms are likely to ensue. The repetitive nature of such discourse allows L2 language learners to hear language forms several times and use these as models for their own discourse turn. Writing of repetition, Cook (2000: 30) states it “allows greater time for processing, and creates a generally more secure and relaxed (because it is more predictable) atmosphere which may aid receptivity.”

In other words, the repetitive nature of games facilitates the ‘planning’ aspect of games as ‘planned’ tasks (as in 2.63). Learners may choose to echo useful formulaic expressions or experiment by applying some form of modification to a modelled form. Imitation as “not mere copying, but ... a creative act in which individuals appropriate what is available to them in their interactions with other individuals” is argued by Vygotsky to be “the primary way that humans learn” (Lantolf, 2000b: 83).

Another aspect of repetition which is argued to be useful for L2 learning is ‘shadowing’. Shadowing is the repetition of another’s discourse move immediately after it is produced. Whilst this obviously gives the learner an opportunity to practise and make immediate comparisons, for example, for pronunciation (as argued in 2.4), significantly, it is also said that during shadowing, “one is seizing the language from another mind and trying to make sense out of it” (Lantolf, 2000b: 83).

Hence, the ability to hear repeated models of language together with the opportunity to use repetition oneself are important linguistic means via which L2 learners mediate their learning of a second language. I believe that repetition is perceived as a natural facet of play and therefore acts such as shadowing are not viewed as strange or uncomfortable within a game playing scenario. Consequently, game playing as an activity which promotes repetition, is a context which facilitates L2 language learning.

To summarise and conclude this section, therefore, I have argued that the fun, competitive and collaborative spirit imbued in game playing and particularly games of chance, as in this research, encourages players to feel less anxious, thereby empowering all players to participate. This in turn facilitates L1 use, risk taking, experimentation and the giving and receiving of attentive and supportive feedback: all elements essential to L2 language learning. The structure and rules of board games are such that players are likely to hear and use repetition during game playing, and this too facilitates L2 language learning. In short, game playing motivates the construction of an affectively charged symmetric activity in which L2 language learning is optimised.

The board games specially made as interactive tasks for this study are designed according to the arguments presented in this section. Hence, they are designed to be both competitive and collaborative, highly context-embedded, include an element of chance, and encourage repetition. The research games are also designed according to the theoretical principles outlined in this chapter (and as such are unique to this study). Given the argument that L2 language learning is promoted in situations of joint meaning making (see 2.4), and that collaborative efforts to solve problems result in the type of talk known as ‘exploratory talk’ (Mercer, 2000) (argued as useful formative information), the research games are designed

to require meaningful and collaborative solutions to L2 language problems. The problems presented by the games are the problems faced by bilingual pupils learning English as an additional language. They include facing unfamiliar or conflicting information; experimenting with and hypothesising about the form and meaning of English; and recalling L2 knowledge (form and meaning) from, and intentionally adding it to, memory. The problems promote both joint knowledge building (and hence the production of, for example, cumulative talk), as well as reasoned debate in thinking about English (and hence the production of exploratory talk). They elucidate spoken language, both L1 and L2, for both social and private purposes.

Consequently, the playing of these games acts as a window through which to view pupils' knowledge of language(s), their use of language(s) as a tool in solving the language-based problems, as well as their appropriation of such knowledge over the course of the activity. In effect, the games act as a window into the behaviour and strategies employed by bilingual pupils in learning English. It is important to note, however, that the interactive mechanisms by which bilingual pupils participate in this learning may not always resemble the linguistic articulation of L1 speakers. Hence bilingual pupils relatively new to English may reason the validity of an English phrase or word by using repetition voiced with particular intonation together with physical acts such as miming or gesturing. For the purposes of this study, it is more important to consider whether and *how* a pupil attempts such reasoning, and what L2 knowledge and/or affective state this reveals, rather than their linguistic accuracy in doing so.

In short, the board games designed as interactive tasks in this study (as described in section 3.51 and Appendix 7) are an ideal context in which to observe and analyse L2 language learning in action: behaviour which is pertinent to teachers in a formative sense. In other words, the research games satisfy the research objectives and, as such, are a valid tool for this research.

Before presenting this research, however, I feel it important to reflect on the implications of a sociocultural theory of mind for the creation and employment of pedagogic assessments. Such reflection is valuable when considering the research hypothesis that information resulting from analysis of talk during game playing can gainfully be used as formative assessment material.

2.7 SOCIOCULTURAL PERSPECTIVES ON ASSESSMENT

Gipps (2002: 73) writes in a chapter of the same title that one's position regarding, "how we see learning taking place is crucial to how we construe teaching as an activity, but it is also crucial to how we construe assessment." The following section will explore a construal of assessment based on a sociocultural theory of mind, central to which are the notions of mediation and activity. These are important features to consider when constructing and implementing pedagogic assessments, and hence are of particular relevance to this study.

2.71 Assessment and Mediated Learning

This chapter has argued that the appropriation and construction of knowledge is a socially situated and mediated activity in which language and social interaction play a fundamental role. Interaction both “shapes and constructs learning”, and therefore is not merely some post-hoc evidence of learning, but is, “the actual site of learning” (Ellis, 1999: 21).

Crucially, therefore, in terms of its relation to assessment, sociocultural theory is predicated on the principle that learning does not take place solely ‘inside the head’. In short, as Thorne (2000: 225) neatly summarises:

“the entailments of a sociocultural theory approach foreground sociality to individuality, language as socially constructed rather than internally intrinsic, language as both referential and constructive of social reality, and notions of distributed activity in contrast to individual achievement.”

Such a view of learning has far-reaching implications for assessment in general and for the assessment of L2 language learning in particular. Assessment can no longer be associated with the rather simplistic process of checking the amount and quality of knowledge which has been ‘transmitted’ to a learner through some form of a test or task administered to individuals after the event of learning, the outcome of which is then compared to some standardised norm.

If interaction is the site of learning, then it must also be the site of assessment. As Gipps (1994: 14) argues, this throws into question the rather spurious assumption that “individual performances, rather than collaborative forms of cognition, are the most powerful indicators of educational progress”. Support and collaboration, be it from an expert or from

fellow peers, as in this study, is not inimical to assessment from within a sociocultural perspective. Rather, as argued, it allows one to observe previously appropriated knowledge (including knowledge about language) and the choices a learner makes regarding the use of their language(s) as a cognitive tool in, for example, overcoming problems, self and other evaluation, demonstrating understanding, or exploring new territories (see 2.5). As Lantolf (2000(b): 85) writes of the process of L2 learning during interactive activities such as game playing, “attending to the talk generated by learners during peer mediation allows us access to some of the specific cognitive processes learners deploy to learn a language.”

Consequently, one could argue that assessment framed within such a sociocultural perspective is concerned with a pupil’s ‘best’ rather than ‘typical’ performance, as commonly transpires in assessments wherein mediated support is withheld and pupils are no longer able to work within their ZPDs (Gipps, 2002). It is worth noting that in the early stages of designing and piloting SATs (Standard Assessment *Tasks*) it was found that minority ethnic and bilingual pupils performed better overall on the interactive classroom based assessment tasks (i.e. those which promoted their ‘best’ performance) (CATS Evaluation Report, 1991). These tasks were subsequently scrapped in favour of the less expensive and time-consuming pencil and paper tests capable only of eliciting ‘typical’ performance. The assessment resulting from analysis of pupils’ talk in this study could therefore be described as eliciting pupils’ ‘best’ performance.

Furthermore, if, as argued, learning (and speech) exists as both a product and a process, then assessment must concern itself with both. If we are to help bilingual pupils’ learning of English as an additional language, we must develop assessments such as those based on

a microgenetic analysis of their participation in collaborative learning activities, which give us the tools to appreciate where to go to next in our teaching, and how to get there. In other words, assessments should act ‘prospectively’ as opposed to ‘retrospectively’ in helping to determine potential development (Aljaafreh and Lantolf, 1994). The assessments in this study could also be described, therefore, as acting prospectively.

2.72 Assessment and the construct of ‘activity’

The construct of activity as conceptualised within a sociocultural perspective lies in some discomfort with many of the implicit assumptions commonly underlying assessment theory. Assessment from within a transmission model of learning usually measures the actualisation of actions within an activity without considering the goals and motives underlying such behaviour. In contrast, sociocultural theory argues that the construction of an activity is directly dependent upon learners’ underlying motivation for participation. Consequently, should the purpose of a task be perceived by participants as assessment, this will directly influence their motives and also, therefore, their participatory behaviour. In a study about the assessment of University level Australian ESL students, Spence-Brown (2001: 479) confirmed that the fact that:

“a task is used for assessment makes it unlikely that participants will engage with it in the same way that they would if they were not being assessed, no matter how much the assessment task resembles a real-world task in other respects.”

Of particular concern to this study, therefore, is the use of interactive tasks as language assessments. Once pupils become aware that the object of a task and hence their objectives for participating in the task, is *not* to engage in meaningful and purposeful interaction where language is a means, but to produce samples of assessable language, the nature of

their interactive activity is altered. I would argue that for L2 learners in particular, perception of a task as involving evaluation or assessment of their spoken language might result in a substantive alteration of both the quantity and quality of their verbal (and non-verbal) participation.

This contention appears to have been confirmed by a study into the use of the ‘oral proficiency interview’ (OPI) approach to assessing the speaking ability of L2 learners in America. The OPI purports to be a valid measure of natural conversation; however, the study found that: “salient features of natural conversation involved in turn-taking and negotiation of topic are not present” in the OPI (Johnson and Tyler, 1998: 47). They realised that the construct being assessed, ‘speaking ability’, was skewed during the assessment interaction due to an imbalance of power, as perceived and articulated, between the assessor and the assessed. This is an important factor to consider in this study when introducing the board games and explaining the reasons for playing them, as there must be no suggestion that pupils are being assessed by other pupils, or indeed by myself as researcher (see 3.45).

Finally, sociocultural theory determines that activity construction is unstable over time and context. This is completely inconsistent with the construct of ‘reliability’, a psychometric characteristic particularly associated with standardised norm-referenced assessments. It is said that in order to prove the reliability of an assessment or test:

“if the same test were to be administered to the same group of individuals on two different occasions, in two different settings, it should not make any difference to a particular test taker whether she takes the test on one occasion and setting or the other.” (Bachman and Palmer, 2000: 20)

Such a definition removes the agency of participants, and their motivation to participate in any assessment or test, on any given occasion within any given context. It further assumes participant homogeneity within and across supposedly standardised language proficiencies, should the assessment be given in a language other than a pupil's first language.

Sociocultural theory, on the other hand, celebrates heterogeneity, and reliability, therefore, is neither an expected nor desired characteristic of an assessment activity framed within this theoretical paradigm. In fact, it is the very culturally and socially situated nature of learning and the subsequent variability which ensues that particularly interests sociocultural researchers, and hence this study.

2.8 SUMMARY

This chapter has situated the research questions within a theoretical and analytical framework. In order to justify the use of board games as interactive learning tasks which facilitate L2 language learning, I have argued for the central role which social interaction plays in learning. In doing so, I have argued from both a sociocultural and neurological perspective that the products and processes of learning exist as manifest in the responsive utterances of learners engaged in an interactive learning activity. These utterances may be oriented intramentally as private speech, or intermentally as social speech for cognitive purposes. This is a crucial assumption, as it supports the research hypothesis that the processes of L2 language learning are open to observation in the interactive behaviour of bilingual pupils talking and learning together whilst playing specially designed board games. The act of analysing such behaviour is argued as further enhanced by the sociocultural process of microgenetic analysis, which posits a genetic explanation for the manifestation of knowledge and learning in the minute-by-minute interactive behaviour of

learners. In other words, what pupils say during the act of learning is evidence of knowledge as previously constructed and as being reconstructed in the immediate turns of an interaction. It was argued that this is particularly pertinent information for teachers and hence microgenetic analysis could be a useful tool for formative assessment.

This chapter has also argued that in order to optimise L2 language learning, and hence the observation and analysis of such learning, pupils should participate in symmetric interaction. It was argued that teacher-less peer group interaction would promote symmetric interactive activity for bilingual pupils. It was also argued that specially designed board games, which require collaborative solutions to L2 language problems, likewise facilitate symmetric interaction and the process of L2 language learning. Hence, this chapter concluded that, given certain preconditions, small groups of peers working and talking together to solve the linguistic problems prompted by specially designed board games, facilitates L2 language learning in action, revealing information pertinent to a formative assessment of their learning. Assessment, it is argued, should be concerned with the process of learning as it occurs in social interactive contexts. In short, therefore, analysis of pupil-pupil interaction during game playing is an appropriate situational context for this study.

Chapter 3

Methodology – Piecing it Together

INTRODUCTION

The preceding chapter provided a theoretical framework in which to situate and investigate the following research questions:

- Do specially designed board games which focus on aspects of English language learning promote an interactive context in which L2 language learning is facilitated?
- Are the processes of L2 language learning (i.e. *how* and *what* pupils are learning) manifest in pupils' interactive behaviour whilst playing such board games?
- If so, can such information be used constructively by teachers to 'directly influence' future teaching so that bilingual pupils' learning is 'promoted' (i.e. act as material for a formative assessment)?

This chapter will describe the design of this study in light of those questions and the theoretical framework provided by sociocultural theory. Figuratively speaking, sociocultural theory is the thread which weaves together the fabric of this thesis and this chapter reflects its influence in shaping the research methodology. After introducing the study, I shall continue by describing the situated nature of the research and the consequential methodological implications. The main body of this chapter describes in detail the design and actualisation of the research methods, procedures, setting and tools

used in this study. The final section will consider the validity and reliability of the research described in this thesis.

3.1 INTRODUCING THE RESEARCH

In order to investigate the research questions posed above, and given the arguments presented in the previous chapter, a case study method was adopted in which small groups of pupils were video recorded while playing specially designed board games. The pupils played the games without a teacher (or myself as researcher) present in the room. The recordings were then transcribed and analysed. The analysis was a two-part process involving the initial application of a specially designed discourse analysis system, followed by a close microgenetic analysis of pupils' game playing interactive behaviour (i.e. framed within a sociocultural perspective).

The Sample

Following an initial trial in a Gateshead school, the research proper was carried out in four schools across Newcastle upon Tyne (a relatively large urban Borough), which will remain anonymous at the behest of the Head teachers (BAAL, 2000; SCRE, 1995). A recent DfEE report revealed that the pupil population in state schools in the North East of England consists of only 2.6% of pupils belonging to ethnic minorities, as opposed to 56.5% in inner London (Rampton *et al*, 2001). The Newcastle schools selected for the fieldwork in this study, however, were chosen for their particular demographics, as each had far higher and more diverse populations of bilingual pupils than typically found in the North East (see section 3.6) and were therefore more representative of the culturally and linguistically

diverse nature of schools across the U.K. This ‘purposive sampling’ ensured that the fieldwork was undertaken in more typically diverse contexts, whilst also satisfying the interests of this study (i.e. to study bilingual pupils’ learning) (Robson, 2000). Three out of the four schools are situated in the West end of Newcastle, which has relatively large Pakistani and Bangladeshi communities, but is also the area where families claiming asylum are most likely to be housed. Given my experience of teaching in the North East, I was able to make contact with EAL specialist teachers in each of the schools. This acted as a bridge between myself and the Head teachers, thereby facilitating access to the schools.

Because my research is ‘situated’ within sociocultural theory there are implications for both pedagogy (as described in 2.7) and research methodology. Consequently, prior to describing the methods, procedures and tools adopted in this study, which have themselves been informed by a sociocultural perspective on learning, I feel it expedient to first explore such methodological implications.

3.2 SITUATING THE RESEARCH

There is a growing body of research about second language learning (SLL) situated within a sociocultural perspective which Lantolf (2000(a)) refers to as sociocultural SLL. I have used this research to inform my thinking so far, and will continue to refer to it throughout this thesis. Most of this sociocultural research has focussed on adult learners of a second or foreign language, working in dyads with a peer or a tutor (Aljaafreh and Lantolf, 1994; Anton and DiCamilla, 1999; DiCamilla and Anton, 1997; De Guerrero and Villamil, 1994, 2000; Donato, 1994; Donato and McCormick, 1994; Ohta, 1995; Platt and Brooks, 2002).

There have been some sociocultural studies, however, based on second language learning of school-aged pupils in the USA (Broner and Tarone, 2001; Platt and Brooks, 2002) and in Canada (Swain, 2001).

I would argue, therefore, that this study contributes “to the continuing development of the theory” by contextualising its application to primary aged bilingual pupils learning English in the context of U.K. classrooms, and in small groups as opposed to dyads (Wells, 1999(b): 249). The principal way this study extends the scope of sociocultural theory in terms of its pedagogic application, however, is by investigating the use of a microgenetic analysis of bilingual pupils’ talk as a formative assessment of their learning.

The body of sociocultural research referenced above is described by Lantolf (2000(a): 18) as typically holistic rather than phenomenological as it seeks to maintain “the richness and complexity of ‘living reality’” and avoid a distillation into “elementary components”.

Writing about task engagement from a sociocultural perspective, Platt and Brooks (2002: 394) acknowledge “not being bound to search only for certain phenomena, the researcher may view learners as developing, cognising humans being transformed through their discursive activity.”

The stance adopted in this study can likewise be described as holistic. For example, utterances are not distilled into functioning solely as e.g. ‘initiations’ and ‘responses’, but are conceived as operating simultaneously across social, cognitive, linguistic, affective and pragmatic domains (see 3.48 and 3.52). Furthermore, interactions are transcribed and

analysed in full, thereby facilitating an historical (developmental) perspective (see section 3.48).

Research within this tradition is further described by Lantolf (2000(a): 19) as involving “theory-guided observation and interpretation of people engaged in the activity of teaching, learning, ...and using second ... languages”. Analysis of second language learning from within a sociocultural theory of mind is therefore predominantly hermeneutic.

Consequently, most sociocultural research (including this study) is not motivated by the desire to prove or test hypotheses, or to arrive at general laws of behaviour. Rather, its function is to describe the behaviour of individuals and individuals working together through a ‘theory-guided’ interpretation of their observed linguistic and non-linguistic behaviour. In this sense, the methodological approach adopted in this study could also be described as idiographic in nature, with an “emphasis on the particular and individual” (Cohen and Manion, 1998: 8).

Interestingly, I argued the hermeneutic nature of this research in response to a constructive criticism that assessment based on microgenetic analysis is too subjective and that assessment must surely be more objective (see 3.71 and Appendix 9). I pointed out that all assessments are interpretations of the truth, as one can never assert with absolute certainty, or solipsistic fervour, that any assessment has determined the whole ‘truth’ about a pupil’s learning or knowledge of a language. As Bakhtin (cited in Platt and Brooks, 2002: 370) argued “truth is not born nor is it to be found inside the head of an individual person, it is born between people collectively searching for truth, in the process of their dialogic interaction.” Hence I argued that when research is ‘guided by theory’, as I believe this

study to be, one can make interpretations about a pupil's learning in observing and analysing their talk with others during the act of learning. It is the "cogency of the theoretical reasoning" within this paradigm which, it is argued, determines the power of any such interpretations (Bryman, 2001: 283) (see 3.72).

Most sociocultural SLL research adopts a case study perspective in order to study L2 language learning through a microgenetic analysis of collaborative interaction. A case study has been defined as research in which the researcher:

"typically observes the characteristics of an individual unit" the purpose of which, "is to probe deeply and to analyse intensively the multifarious phenomena that constitute the life cycle of the unit" (Cohen and Manion, 1998: 106).

As discussed, this research is founded upon the observation of bilingual pupils engaged in collaborative interaction, the results of which are then analysed in detail in an holistic manner, thereby maintaining the 'richness and complexity' of the multifarious and mutually interacting phenomena therein. The 'case' studied in this research, small groups of bilingual pupils, may be described, however, as subordinate to the main research objective: investigating the use of a microgenetic analysis of learner-learner interaction as a formative assessment tool. In this sense, the research may best be described as an 'instrumental' case study, wherein "the choice of case is made because it is expected to advance our understanding of that other interest" (Stake, 1994, quoted in Wellington, 1996: 42).

In effect, therefore, situating this study within sociocultural theory incurs several methodological implications. The rest of this chapter will describe the methods of

collecting, observing and analysing data employed in this study to compliment the qualitative, holistic, and ideographic nature of research situated within the interpretive paradigm of sociocultural theory.

3.3 METHODS OF OBSERVATION AND ANALYSIS

Before detailing the design of the procedure and research tools, I shall focus on the methods of observation and analysis chosen for this study, and in so doing arrive at a clearer conceptualisation of the term ‘discourse’. I shall argue the validity of these methods in light not only of the fundamental questions posed by this research (as in the introduction above), but also of its theoretically situated nature as discussed above.

3.31 Arriving at a Method of Classroom Observation

Classroom observation is described by Allwright (1988: xvi) as, “a procedure for keeping a record of classroom events in such a way that it can later be studied, typically ... for research”. There is, however, a plethora of classroom observation methods, the choice of which is largely guided by the purpose of the research and the subsequent approach to data collection, be that quantitative or qualitative (Allwright and Bailey, 1991). In order to decide upon the most suitable approach to data collection, and therefore the most appropriate method of observation, the researcher must steer his/her way through a stream of decisions. The following section describes the decisions I reached in searching for the most appropriate method of observation in order to answer my research questions.

The first decision I needed to make concerned my role in the research and whether or not to directly participate in the research activity with the pupils. This study involved an investigation into ‘how’ pupils learn English as an additional language in collaborative activity with peers in order to evaluate its function as a formative assessment of those pupils. The underlying premise in observing such collaborative activity is to capture naturalistic pupil talk in order to determine the processes involved in L2 language learning. Unfortunately, as Bachman and Cohen (1998: 22) write of Labov’s ‘observer’s paradox’, “the very act of observation may change, in fundamental ways, the nature of the language use that is being observed”. Consequently, if pupils are aware that one participant, namely the researcher, is concerned with observing behaviour rather than participating, they become more aware of their own behaviour, particularly their speech, which they may subsequently adjust, often in a more formal direction (Allwright and Bailey, 1991). As Bachman and Cohen (1998: 22) suggest, “this implies that it is virtually impossible to observe authentic language use naturalistically”. This, together with the fact that the bilingual pupils targeted for this research were the pupils most reticent to talk in front of adults, particularly native speaking adults (see section 3.43), clearly signalled that participant observation would not be an appropriate method for this study.

Furthermore, for reasons fully discussed in 2.62, I believed that even if I were to act as participant rather than observer, my presence would substantially impact on the construction of that activity and consequently the nature of the language and learning developed within that activity. Added to which is the fact that primary aged pupils are well aware of the ‘gulf’ which exists between themselves and adults in terms of, for example, age, height, role and participatory function. They know you’re not ‘one of them’, even if you act like it. Indeed, any adult behaving like a pupil within the context of a classroom,

and particularly during game playing activity, would be very confusing and likely to arouse suspicion of intent. I concluded that for the purposes of this study I, as a native speaking adult, must carry out non-participant classroom observation.

Having decided upon a non-participant approach to data collection, I was then faced with the decision of whether to observe language learning as the result of a formal experiment, or as part of pupils' natural everyday learning. As argued above, the aim of this research is not to 'prove' causal links or to generalise behaviour. Consequently, the control of variables in an experimental sense was not a desired feature of this research; nor is it particularly easy to achieve in everyday regular classrooms (Nunan, 1998). Thus, given that this study set out to capture naturalistic discourse, I opted for 'naturalistic observation'. In other words, I was concerned with "the understanding of natural settings and the representation of the meanings of the actors within that setting" (McDonough and McDonough, 1997: 114). Although I manipulated the environment to some extent (i.e. the learning task and the group make-up, which in themselves were designed to reflect normal teaching practices), I had no direct and immediate control of pupils' actual interaction, the substance of the investigation. Hence, I would suggest that this research is best described as non-participant, naturalistic observation.

The next decision I was required to make concerned the actual practice of observing. Non-participant observation in a naturalistic environment can take the form of structured or systematic observation, as in the use of observation schemes, or more qualitative approaches such as unstructured or ethnographic field-notes, interviews, or audio and video recording and transcripts (Allwright and Bailey, 1991). The use of an observation

schedule, of which there are many specially designed for second language classrooms (Chaudron, 1993, lists twenty three such instruments), is said to “provide useful evidence about the quality of an interaction and about broad patterns in the distribution of talk between participants” (Maybin and Stierer, 1994: 35). In other words, observation schedules are useful for quantifying those features of an interaction which are the most easily observable, and which the researcher has predetermined most salient for their research needs, such as the ‘use of the target language’ and ‘sustained speech’, functional categories in the COLT observation scheme (Nunan, 1998).

The use of such schemes has been criticised, however, on the grounds that researchers need “a concern for the social context, or the whole picture, and ... to take the participants’ perspectives as the basis for description” (van Lier, 1988: 41). In other words, an imposition of predetermined categories and codes formulated outside the activity obviates the opportunity for analysis to spring from the data itself (i.e. the talk actually produced by interlocutors). As will be discussed, the coding system used in this research evolved from previous recordings and was therefore empirically grounded (see 3.52).

Furthermore, the coding of behaviour according to its function or purpose as immediately observable, as is the case with observation schedules, hinders the opportunity to explore meaning as:

“constructed both through the participants’ interpretation of many factors not easily accessible to an outsider, and in ways which are influenced by the structure of the discourse itself.” (Edwards and Westgate, 1994: 61)

In other words, if such coding is completed in real-time, this limits the opportunity for an outsider to, “regularly reinterpret the meaning of what was said in the light of what was then said after it, or make provisional interpretations while waiting for further ‘evidence’” (Ibid: 61). As this research is fundamentally concerned with an holistic interpretation of the meanings of utterances within a situated interaction, the use of a systematic observation, especially one carried out in real-time, was deemed inappropriate for this study.

On a more practical level, given my concerns over the reaction of pupils to my presence in general, the notion of me sitting in class with a pen and paper, or electronic recording device whilst surreptitiously listening to a group’s interaction, was inconceivable. A much more appropriate approach was the recording and subsequent transcription of group interactions. Recordings, as opposed to interviews or field-notes, are argued to be “the most neutral techniques for observation” (Day, 1990: 46). This is because “the classroom is not an exotic setting for us but rather a very familiar one, laden with personal meaning” (van Lier, 1988: 37). Consequently, our observation of classroom behaviour is likely to be influenced by our cultural experiences, biases and beliefs; in short, by our construction of what classroom behaviour is and should be. Of course, looking at or listening to a recording is never a truly objective experience, as one brings to this activity one’s own subjective experiences and biases as researcher. I would argue, however, that the opportunity to revisit an interaction several times and to share the recording with other professionals facilitates a multi-perspective interpretation (see 3.71).

My decision to use a video camera as opposed to audio recording relates mostly to practical considerations and the desire to capture non-linguistic as well as linguistic

interactive behaviour (see 3.46). The final decision I needed to make, therefore, concerned pupils' awareness of the presence of the video camera at the time of recording.

Unobtrusive or non-reactive measures are described by Gall *et al* (1996: 353) as being, "characterised by the fact that the data are collected in a natural setting, and the individuals are unaware that they are being observed." I decided to make unobtrusive recordings in the first instance, ensuring that all adult parties concerned gave their consent prior to each recording and that all pupils were informed after the event thereby giving them the opportunity to withdraw consent (in terms of their recording being used as part of the study: see 3.46).

In summary, I chose to carry out non-participant, unobtrusive, naturalistic classroom observations, using a video camera to record pupil-pupil talk in group interactions. I believe that such an approach compliments the qualitative, ideographic and holistic nature of this interpretive research, whilst addressing the questions posed in this study.

Before describing the methods used to analyse the recorded and transcribed interactions, it is first important to conceptualise the meaning of the term 'discourse' as used throughout this thesis and as it pertains to the method of 'discourse analysis'.

3.32 Conceptualising 'Discourse'

Over the past three years as a student learning the profession of educational research, during which time I wrote several papers, I was often pressed by lecturers to define what exactly I meant by the term 'discourse'. Although I believed myself to have a clear

understanding of this construct, I seemed to fall short of adequately articulating this to others. On reflection, this is probably because, although seemingly ubiquitous, the term is incredibly complex and means different things to different people in different research contexts. It is, if you like, a situated construct, dependent upon the socio-historical and sociocultural norms of particular research traditions. For example, as Carter (1995: 39) suggests, discourse is often used in a broad sense “to refer to the topics and types of language used in specific contexts (‘the discourse of Thatcherism’, ‘the discourse of high finance’)” by researchers in a sociological tradition. This macro, or abstract perspective contrasts with the micro or more concrete perspective often utilised by linguists, where discourse is taken to mean, “any naturally occurring stretch of language, spoken or written” (Carter, 1995: 39). Indeed, van Dijk (1997: 4) stresses the importance of acknowledging the theoretical difference between, “the abstract use of ‘discourse’ when referring to a *type* of social phenomenon in general, and the specific use when we are dealing with a concrete example or *token* of text or talk.” It is this second, concrete, definition of discourse as a stretch of spoken language actually produced by interlocutors involved in interaction which will be adhered to in this thesis.

Stretches of spoken language, however, as discussed earlier in relation to the ontogenesis of language learning (see section 2.31), consist of, and can therefore be analysed in terms of, more than just “(structures of) sound or graphics, and of abstract sentence forms (syntax) ... They may also be described in terms of the social actions accomplished by *language users* when they communicate with each other in *social situations*” (van Dijk, 1997: 14). Thus discourse can also be described in terms of interactive features, such as:

“taking turns in conversation, attacking others and defending themselves, opening and closing dialogues, negotiation, agreeing and disagreeing with each other, responding to previous turns or preparing next turns, presenting

themselves in positive ways, face keeping, being polite, persuading each other, teaching and so on.” (van Dijk, 1997: 15)

Of course, a speaker’s intended meaning has to be interpreted by a listener, and as we all know, “words can mean more – or something other – than what they say” (Blum-Kulka, 1997: 38) Discourse, therefore, also concerns pragmatics (i.e. how interlocutors interpret each other’s meaning within an interaction) which “depends on a multiplicity of factors, including familiarity with the context, intonational cues and cultural assumptions” (Ibid: 38). Interpretation of meaning also involves knowledge of previous discourses between interlocutors in various contexts. This is because, “discourses are always connected to other discourses which were produced earlier, as well as those which are produced synchronically and subsequently” (Fairclough and Wodak, 1997: 276). In other words, discourse is also historical.

Socio-historical relations between interlocutors in various situational contexts also impact on the power exerted and accepted or rejected by individuals participating in an interaction. The negotiation of power in interactions is therefore another feature of discourse which, in education, may reflect dichotomies at a societal level such as novice/learner/non-native speaker versus expert/teacher/native speaker.

To conclude, the term discourse will refer to concrete examples of stretches of spoken language produced by interlocutors involved in an interaction. Within such stretches of spoken language, discourse is concerned with the production and interpretation of utterances of historical precedence, in order that an interlocutor may continue to: participate in an ongoing interaction, negotiate power and his/her own identity; and jointly

construct meaning. A discourse may reflect social constructions at a macro level (i.e. the power relations between teachers and pupils), or alternatively it may be constructed at a micro level, turn-by-turn in an evolving interaction. To put it another way:

“discourse is socially *constitutive* as well as socially shaped: it constitutes situations, objects of knowledge, and the social identities of and relationships between people and groups of people. It is constitutive both in the sense that it helps to sustain and reproduce the social status quo, and in the sense that it contributes to transforming it” (Fairclough and Wodak, 1997: 258)

3.33 Discourse Analysis

Discourse analysis is a term used to describe the descriptive, interpretive and even explanatory analysis of discourse in the multidimensional sense of the word described above (Fairclough and Wodak, 1997). In other words, it is an analysis of utterances as they occur in interactions between individuals, “which cannot be accounted for at a grammatical level (i.e. they operate above the sentence level)” (Carter, 1995: 39). Such analysis usually involves the creation of a descriptive framework, or more specifically a set of codes to apply to individual utterances which describe, interpret and explain those features of discourse described above. As such, discourse analysis is sometimes criticised, particularly by conversation analysts, as being so concerned with the application of ‘predetermined analytical categories’, that they “pay scant attention to the nature of the data” (Nunan, 1998: 161).

I believe, however, that discourse analysis, far from being ‘removed’ from the data, often, as in the case of this research, actually evolves from the data or discourse itself in an iterative and interpretive process. This was true of the descriptive system devised by

Barnes and Todd (1984/1995), which developed following extensive interpretive analysis of the data. The genesis of the discourse analysis system devised to analyse small groups of pupils playing board games in this research, as discussed in section 3.52, is derived directly from evidence of pupils interacting in such contexts (i.e. it is empirically grounded).

I do acknowledge, however, that the design of any system of descriptive codes reflects the cultural experiences of the researcher him/herself. This is true of all interpretive research. Consequently, it is true that descriptive categories are not “discrete boxes bounded by clear wooden sides”, rather, “the wooden walls are fictitious, set in place by the researcher in order to explain the conceptual system at work” (Hillocks, 1994: 194). Nevertheless, I believe that by sharing and debating one’s descriptive codes with others in social activity, a more multidimensional interpretation of ‘socially shaped’ discourse is likely to emerge (see 3.71). As discussed above, this process is strengthened when one is able to revisit an interaction several times, and when one views an interaction as an historical whole. Moreover, and as also previously argued, all interpretations are empowered when there is a ‘cogency of theoretical reasoning’.

In order to strengthen and deepen attention to the nature of the data, and maintain cogency of theoretical reasoning within this interpretive, theoretically situated research, the discourse analysis system is used as only one stage in an overall microgenetic analysis of pupils at play, a process which is described below.

3.34 Introducing the Method of Analysis

The method of analysis chosen for this study involves the incorporation of a specially designed discourse analysis system as part of an overall microgenetic analysis (see 3.48 for a more detailed exposition of this process).

Initial application of the discourse analysis system acts as a quantitative tool to identify patterns of interaction which are neither immediately apparent nor readily retrievable from a transcription alone. This can reveal enlightening information about, for example, an individual's pattern of participation in comparison to other players. Although the act of counting observables is sometimes frowned upon by sociocultural researchers (Frawley and Lantolf, 1985), I would argue that enumeration is an inevitable aspect of interpreting life, or, as Hillocks (1994: 190) puts it, "counting is hidden in every generalisation". Nevertheless, McCafferty (1994: 433), a sociocultural researcher who agrees that quantitative measures are a valuable and acceptable tool in sociocultural research (in the case of his article, in the production of private speech), also warns that:

"the evaluation of any particular instance of private speech must take into consideration how it is of strategic value to the individual in relation to the demands of the task ... a dimension for which quantitative measurements are obviously not well suited."

I share this view, and consequently those interactional patterns identified by quantification in this study are subsequently investigated qualitatively from within a sociocultural framework. Each learning episode is examined in close detail, adopting a microgenetic analytic approach (see Appendix 5 for an example). Microgenesis, as described in the previous chapter, concerns the close and qualitative analysis of the moment-by-moment unravelling of a communicative activity. It is used by sociocultural researchers to identify

the use of language as a tool mediating learning in collaborative interactions, and is concerned primarily with features of discourse such as collective scaffolding, private speech, and the negotiation of meaning, power, and identity.

In short, therefore, I would argue that the analytic approach taken in this research, which incorporates the use of a quantitative discourse analysis system within an overall qualitative, microgenetic analysis, facilitates an holistic and theoretically cogent interpretation of collaborative discourse.

I shall now detail the research design in terms of the procedures and tools used in order to carry out a microgenetic analysis of the non-participant, video-recorded naturalistic classroom observations.

3.4 THE RESEARCH PROCEDURE

This section will describe the procedures involved in this study, detailing decisions taken at each stage in the fieldwork, analysis and feedback to teachers in light of the research objectives and the arguments presented in the previous chapter. I will describe the process of choosing pupils and introducing the research games to those pupils. I shall then describe the practical difficulties encountered in recording group interactions as a non-participant observer, likewise argued as necessary to the research objectives. Following this, I discuss the process of transcribing, coding and analysing the group interactions so that pupils' learning may be revealed and used as information for a formative assessment. Finally, in light of the need to present this information to class teachers in order that they may use it to

guide their teaching, I shall describe the practical difficulties experienced in meeting teachers for such feedback.

Before beginning this section, however, it is important to acknowledge that the ethical guidelines issued by BAAL, BERA and SCRE were afforded prominent consideration in the planning and undertaking of this research.

3.41 Choosing the Classes

Having gained permission from a Head teacher to undertake fieldwork in their school, I arranged a first liaison meeting with the EAL specialist teacher. During this first meeting, I explained that I wanted to investigate and develop a formative assessment technique for bilingual pupils based on an analysis of their interactions during the act of learning English with their peers (see Appendix 2 for the handout to teachers). Furthermore I explained the basic procedures involved in the study, and the practical implications for teachers and pupils. The EAL specialist teachers could then guide my choice of, and facilitate access to, the most appropriate classes based on their knowledge of pupils (the number and range of L2 speakers in a class) and teachers (their enthusiasm and capacity for adult 'visitors').

The research was restricted to years three, four and five, so as to avoid burdening those in the SATs years.

The next few visits to the school involved meeting class teachers, proposing my involvement and making initial observations in the various classes. I was constantly cognisant of the impact of my presence on both teachers and pupils. Consequently,

decisions as to which classes would be the most appropriate for the research were based not only on the number and languages of bilingual pupils within a class, but also their, and their teachers' reactions to my presence.

3.42 Becoming a Member of the Class Community

Once my involvement had been agreed upon, I visited each class in a school regularly over the course of three to four weeks. Initial visits were a process of 'getting to know each other'. As well as observing classroom interaction and teaching strategies, I wanted to explore teachers' perceptions of the bilingual pupils in their class, and uncover which bilingual pupils were causing the most concern. As far as possible, however, it was my intention to cause minimal disruption to teachers and their planning, and as Broner and Tarone (2001: 368) write of their research, "to be viewed by everyone as an accepted member of the regular school community".

Classroom observations enabled me to discover which pupils worked best with each other, who behaved co-operatively with whom, and who was able to work in collaborative activity. I wanted to observe the level of confidence with which bilingual pupils interacted with the teacher, other adults and with their peers, both in and out of the classroom, and the languages in which they chose to do so. It was essential, however, that pupils did not perceive my role to be that of a teacher or instructor. My aim was to be regarded as a fun and friendly helper who would offer support whenever requested. To this end I invited all pupils to address me by my first name. Moreover, I made every effort not to interfere with behavioural issues, unless specifically requested by a teacher to do so. In other words, I tried as far as possible to remove myself from the role of instructor and evaluator, thereby

discouraging the perception of any tasks provided by myself as evaluative in function. This was important because, as argued, the perception of a task as evaluative alters the quality and quantity of participation (see 2.72).

Over time, as my presence became more commonplace and my role accepted as less threatening by pupils and teachers alike, I began, with the teachers' permission, to introduce games (though not the actual research games) into class work. This meant consulting teachers on their planning of the National Literacy Strategy (NLS). In this way, I was able to determine, and in some cases directly observe, their teaching of those areas of the NLS recently focussed upon within a class and year group, thereby facilitating my design of the board games.

The introduction of board games as a general pedagogic tool in the teaching of the 'Literacy Hour' was an important stage in the research procedure. It was imperative that pupils experienced game playing as a natural and productive part of their learning in school and not just as a bonus adjunct for finishing work early or for good behaviour. It seemed that even in those classes where board games could be found, the value ascribed to their pedagogic use, particularly in the teaching of literacy, was restricted. Teachers seemed to perceive games and the act of playing as something not worthy of real class time, as something frivolous and not like 'real work'. Writing about play, Clark (2000: 183) notes it is often "severely marginalized,... used for some ephemeral pedagogic purpose— such as 'getting the class in the right mood', 'filling a gap',...- but not as an end or a means of language learning." A positive change to the social construction of the role and value ascribed to game playing, was therefore open to appropriation by pupils and teachers alike.

Indeed, in three out of the four schools, teachers expressed a willingness and desire to incorporate games more often into their teaching.

The introduction of board games prior to the introduction of the research games not only impacted on the class' perception of their pedagogic value, but also afforded me the opportunity to observe pupils at play. This was one factor which influenced the complicated process of choosing groups of pupils for recording.

3.43 Choosing Pupils

My first objective was to determine which bilingual pupils would be the most appropriate to target for inclusion in this research. Particular interest was given to those bilingual pupils who were reticent to speak in front of the whole class, and who talked less frequently to and in front of the class teacher, and consequently about whose learning the teacher had less knowledge. Although most teachers' comments concurred with my observations, there were cases of marked difference, for example, the labelling of a bilingual pupil by one teacher, as 'lazy'. I felt inclusion of this pupil for analysis could be useful in assuaging the teacher of the common misperception, that a bilingual pupil is "trying to fool me into thinking he doesn't understand so that he can get out of work" (McKeon, 1994: 25).

At this stage a letter was sent to parents requesting permission for their child to be video recorded with a guarantee of pupil confidentiality and anonymity. The letter explained that I was a researcher interested in assessing children as they worked together in small groups,

thereby requiring the need to record some groups (see Appendix 3). This was important as some Muslim families may be opposed to such recording on religious grounds (BAAL, 2000). Moreover, given the current climate wherein some schools have banned any form of video recording for fear of misuse, the letter was imperative to satisfy any qualms regarding the later use of recordings. I discussed the possibility of translating the letter to ensure access for particular families, but each school preferred to talk about the letter in class, making sure all pupils were aware of its contents and the need to discuss it with their parents. The letter was sent to every pupil in a class in order to keep our options for participation open, but also so as not to appear to be targeting specific pupils.

The overall response to the letter was very positive. In total there were only three rejections, two from Muslim families on religious grounds and one from a native speaking family whose daughter was currently visiting a speech therapist. Although I understand and empathise with each school's decision not to translate the letter as a myriad of difficulties can arise in the translation process, I suspect that because the letter was written in English, some parents may not have fully understood the implications of such a request. As such, I remain somewhat dissatisfied with this aspect of the research.

Once the choice of targeted bilingual pupils was agreed upon, priority for accompanying group members was afforded to those pupils whom I had observed as able to work collaboratively, and who were generally regarded by their teachers and other pupils as 'helpful' and 'co-operative'. This would enhance the likelihood of the groups' awareness of effective collaborative behaviour; argued as a necessary precondition for effective group work (see 2.63). I also wanted pupils who did not appear overly dominant or subservient in

group activities, thereby increasing the likelihood of more symmetric interaction, and the active participation of all group members; argued as facilitative conditions for L2 language learning (see 2.61). In light of the proposed absence of an adult during group recordings, I took the class and EAL specialist teachers' recommendations regarding behavioural suitability.

I soon realised, however, that the primary focus of my classroom observations had been those bilingual pupils less experienced in English and, consequently, I had somewhat neglected to observe other pupils as closely. As a result, I relied heavily on class teachers' recommendations, which, I later discovered, seemed mostly influenced by their views of pupils' behaviour towards themselves as teachers and not necessarily of their behaviour when working in peer groups. On reflection, this is unsurprising given the difficulty teachers must have in observing pupil interpersonal behaviour as it exists without the impact of their presence. Due to the observer's paradox as discussed earlier (see 3.31), one can never, and particularly in the sociocultural context of a classroom, be a truly non-participant adult observer of pupils' behaviour.

Another problem which emerged as I began to record the group interactions, was the inclusion of some native speaking pupils in groups with two bilinguals. I found that the tendency, even if done so unconsciously, was for the native speaking pupil to perceive him/herself in the role not only of expert, but also of teacher and group controller. This led to unequal perceptions of power and patterns of participation. This was probably due to the nature of the task and its pedagogic function (i.e. to practice an aspect of English language learning). Native speaking pupils undoubtedly perceived themselves as expert or certainly

as more of an expert than the bilinguals in the group in relation to their knowledge of English and subsequently, therefore, in relation to the learning task presented by the games in this study.

Following an early analysis of two all boy groups, I also discovered that gender seemed to impact on group interaction in the research context. Both 'all boy' groups were unable to control their behaviour and, in effect, constructed an activity which overemphasised the value ascribed to competition, whilst undermining that of collaboration. In other words, they played the game to win and not as an opportunity to learn. This seems to concur with the findings by Murphy (1999: 274) whose study of teenagers working together showed that, "girls more than boys typically choose to work in ways that reflect some of the characteristics of successful collaboration." Clearly, it is not my intention to suggest that all boys, when working with other boys, or all native speakers, when working with bilinguals, would behave in the manner described, but that these are factors worthy of consideration when choosing pupils for collaborative activity. I shall now describe the decisions made in grouping those pupils selected for the study.

3.44 Grouping Pupils

As I found the inclusion of a native speaking pupil in some group interactions motivated a tendency towards didactic, asymmetric interactions, I decided to limit the participation of native speaking pupils whenever possible. However, I decided that each group should, whenever possible, contain a bilingual pupil more experienced in learning English in order that they could provide corrective feedback (see 2.63), argued as important to the process of L2 language learning in interactive contexts (see 2.4). As Chaudron (1993: 134) writes,

the effects of feedback from another interlocutor is dependent upon “the learner’s readiness for and attention to the information available in feedback.” Given the aims of this particular study, therefore, I felt it was important to observe what learners did when faced with contradictions, as in the case of a recast, or negations, as in the case of explicit corrective feedback. Whether a learner ‘attended to’ a corrected grammatical form in a recast, however that recast was shaped, and what they then chose to do with such evidence, reveals valuable information about that pupil’s learning and their construction of the task as an activity in which to ‘exploit the affordances’ of learning.

Consequently, in the absence of a teacher or clearly perceived expert in this study, the role of a more experienced learner was not only to act as a language model but also to encourage the use of corrective feedback in collaborative interaction. It is important to note, however, that the more experienced pupils were not introduced as experts whose role it was to correct or secure correct linguistic solutions as this would have encouraged perceptions of inequity in terms of both power and knowledge, leading to the type of didactic interaction argued as unsuitable for this study (see 2.61). Although Chapter 4 will document the exact role individual pupils played in offering corrective feedback, it is worth noting at this stage that the realization of mediational roles within peer collaborative interaction was in fact determined by pupil negotiation and not teacher predication.

I also decided that priority should be afforded to pupils who shared the same first language as the targeted bilingual pupil. This would afford the less experienced pupils an opportunity to mediate their learning of English and the particular aspect of English a game practised through use of their first language. As argued, this supports the process of L2

language learning (see 2.4). In short, Anton and DiCamilla (1999: 245) provide excellent support for my decision to group same language speakers together in their contention that “to prohibit the use of L1 in the classroom ... removes, in effect, ... students’ freedom to deploy this critical psychological tool to meet the demands of the task of learning a second language.”

Experience has taught me, however, that not all L2 learners want to acknowledge their first language in schools, particularly in mainly monolingual classrooms where their main aim is often to assimilate as quickly and as unobtrusively as possible. As Statham (1997: 19) notes, isolated bilingual learners often demonstrate, “embarrassment and reluctance to acknowledge cultural and linguistic aspects of identity, affecting pupils’ views of themselves as learners.”

Consequently, whenever it seemed inappropriate to place same language speakers within a group, or if this was impossible for logistical reasons, I decided to include bilingual pupils with different first languages. I felt that pupils who had themselves experienced the learning of English as an additional language in the context of U.K. classrooms were more likely to empathise with and understand the learning needs of other bilinguals.

Furthermore, a recent study by Oliver (2002) focussing on 8-13 year old pupils learning English as an additional language in Australia, found that NNS-NNS pairings (where the learners had different first languages) produced more meaning negotiation than NNS-NS pairings, during a barrier activity. She attributes this to the fact that:

“learners are less likely to feel embarrassed and threatened when they are conversing with each other than when they are conversing with a NS and, hence, are more likely to signal their own lack of understanding.” (Oliver, 2002: 106)

I agree that the affective climate and reduced levels of language anxiety engendered during interactions between bilingual peers, even when they do not share the same first language, facilitates experimentation, 'meaning negotiation', and the production of self and other corrective feedback. As these are the behaviours most revealing of pupils L2 learning, I decided to prioritise the inclusion of bilingual pupils with different first languages above the inclusion of pupils speaking English as a first language for the purposes of this study.

Of course, this scenario was not always appropriate as some bilingual pupils had formed very close friendships with native speaking pupils in their class. Indeed Lantolf and Pavlenko (2000) suggest that developing such friendships is an important aspect in the process of becoming a member of an L1 speaking community such as a classroom. I felt that the opportunity to work alongside friends in the absence of a teacher or other adult may encourage more active and equal participation by those bilingual pupils most reticent to speak English in the context of their classroom. As symmetric participation was a major concern, I recognised that friendship pairings between bilingual and native speaking pupils may, in some cases, be a more facilitative context for the purposes of this study.

It is important to note that the complex process of grouping pupils did not include tight control of pupil criteria such as 'language levels' in order that group 'outcomes' could be compared and standardised cross-references made. This was not the purpose of the study (see 3.7). In essence, the level of control in assembling groups could be described as loose, with decisions, as in most pedagogic decisions, made on the contextual basis of a perceived 'best' learning environment. In other words, although I utilised certain selective criteria, I believe that this criteria is typical of those applied by EAL specialist teachers in their

provision of favourable L2 learning contexts. For details of pupils chosen to work in groups in each of the research schools, refer to Appendix 4.

After reaching some decision as to which pupils should work together, the next stage in the research procedure was to introduce the research games. It is important to note, however, that all games were developed in tandem with the choices made regarding which pupils would play them. The choice of pupils directly impacted on the design of the game they would play, whilst the ideas for a game subtly influenced decisions as to which pupils would play it.

3.45 Introducing the Research Games

Once a research game had been designed, trialled and made (see 3.51 and Appendix 7 for details of the games), I introduced it to pupils in a class presenting its purpose as relating to the National Literacy Strategy objectives upon which it was based. So in introducing the ‘Adjective Game’, for example, I would say, “this is a game about adjectives. It will help us to practice using different adjectives and we may learn some new ones.” This does not suggest, however, that a group and every member in it would henceforth construct the playing of a game in exactly these terms, as their underlying motives for participation would often be quite different.

My primary objective in playing a game with a group for the first time was to model the rules of the game and expected interpersonal behaviour (i.e. the ‘ground rules’ previously argued as essential in facilitating effective collaboration (see 2.63)). This would deter

didactic tendencies and model appropriate collaborative behaviour and the ‘procedural protocols’ discussed by Cooke and Pike (2000) (see 2.63). In a further attempt to promote symmetric activity, every effort was made not to ascribe particular roles to particular players as I found that this too seemed to incur didactic tendencies (see 3.51).

Moreover, it was not my intention to provide specific language models or teaching/learning strategies when introducing the games. For example, I did not want pupils to assume that every time a player made a mistake it was another player’s role to correct them, nor did I wish them to assume that such errors should always be ignored. This was an important feature of the research procedure as I wanted players to support each other as language models and problem solvers and not to believe that such roles could only be fulfilled by an outside expert (or their replacement within a group). This is similar to the approach taken by Donato (1994: 39) in setting up collaborative interactions for groups of foreign language learners, wherein:

“No attempt was made to coerce the use of L2, to influence the process of task completion, or to structure the interaction in terms of ...focus of attention (that is, the focus on form or meaning). The decision for planning and structuring the activity was surrendered to the students.”

Final decisions as to which players would participate in the research depended upon a game’s trial in class and pupils’ reaction to it. Once these decisions were finalised, the date and time for recording was then organised. Recording would usually be scheduled for an afternoon, as requested by class teachers, so as not to interfere with the timetabled teaching of literacy and numeracy (SCRE, 1995).

3.46 Video Recording

During a previous study, I found that individual voices are difficult to discern in interactions involving more than three participants (Smith, 1999). Hence, for the purposes of this study, I decided to limit the group size to no more than three. The previous study had also shown that individual voices were difficult to discern in groups containing more than two participants using only audio recordings. As some of the recordings in the present study involved three players, this was a practical reason intimating the need to video record the group interactions.

Moreover, previous sociocultural SLL researchers have found video recordings of interactions an essential tool in microgenetic analysis (Ohta, 1995, 2000; Swain, 2001; Platt and Brooks, 2002). Using a video camera affords the researcher an opportunity to view paralinguistic and non-linguistic features of talk, such as facial expressions and gestures, so that as well hearing what was said, they may also observe how it was uttered, and to whom, if anyone, it was purposively directed. Gesturing, (as explained in 2.31), is seen by both Vygotsky and Halliday (in Wells 1999(a)) as an important aspect of the ontogenetic development of speech. Research by McCafferty and Ahmed (2000) suggests that gestures are an important paralinguistic mediational tool accompanying both inner (and also, therefore, private) speech, and collaborative speech (i.e. in both intermental and intramental domains).

As I wanted to ‘observe’ collaborative interaction, and the use of linguistic alongside non-linguistic mediational tools in the learning of English as an additional language, I

concluded that, as a non-participant, video recording group interactions was more than just a practical necessity for the purposes of this study.

Concealing the Camera

Previous recordings in my masters had indicated that when a video camera was made obvious to bilingual pupils who were unused to its presence, it impacted on the discourse almost as if it were an adult evaluator (Smith, 1999). Several researchers recommend leaving recording equipment, such as video cameras, in classrooms for a long enough period prior to actual recording for pupils to grow accustomed to them, thereby circumventing the problem of 'reactivity' (Allwright and Bailey, 1991; Swann, 1991). Given the length of time I planned to spend in each school in order to collect enough evidence to answer the research questions, I doubted whether this would be a feasible option for this study. Indeed, I suspected that any length of time would be insufficient for those bilingual pupils targeted for the research (i.e. those most hesitant to speak in front of others and particularly adults), as their awareness of and reaction to a camera may be heightened. As Tilstone (1998: 49) writes regarding recording equipment, "a frequently underestimated problem is the reaction of some children to the presence of the equipment, despite adequate familiarisation."

Such suspicions were reinforced during the research trial by the reaction of one particular bilingual pupil to the recording process. This pupil, **H**, had only very recently arrived in the U.K. from Hong Kong. The school were concerned about his reticence to talk in class, which seemed in stark contrast to his siblings in other classes. He seemed very anxious

when speaking English, even in the company of other pupils, although he relaxed a little when playing board games in small groups.

On the day of recording, he was very uncomfortable and refused to start playing until he fully understood the purpose of the small dictaphone placed in the centre of the table, and the video camera placed on a shelf nearby. H's distress not only revealed the level of anxiety he felt in talking aloud in English, as he was probably aware that his talk was about to be recorded, but it was also the first time his teacher and I had witnessed his attempt to talk for any sustained length of time in English. Paradoxically, therefore, in order to express his anxiety in speaking and being recorded speaking English aloud, he asked several quite complex questions in English relating to the purpose of the recording equipment, thereby revealing that he could, in fact, communicate quite effectively in English.

This rather unsettling experience, together with my previous MEd research, convinced me that in order to capture naturalistic discourse of those bilingual pupils most prone to reactivity and of pupils unused to the presence of a video camera in their classroom, any recording equipment would have to be concealed, at least in the first instance, during the actual recording.

The Recording Environment

Dissatisfaction with recording pupils outside of their regular classroom environment led me to trial in-class recording. During the research trial, however, I found that a camera was unable to discriminate individual voices when placed in the midst of a busy classroom.

Undeterred, I tried simultaneous audio recording by placing a small, seemingly less obtrusive, dictaphone in the centre of the table as described above. This was a disaster, not only for the reasons already articulated, but also because pupils were fascinated by the dictaphone, and were therefore constantly fiddling with it. In effect, it acted as obtrusively as a video camera in full view.

I came to the conclusion, albeit rather reluctantly, that it would be impossible to record a group discourse unobtrusively and yet accurately enough within a classroom without some rather expensive recording equipment to which most primary teachers would not have ready access. Consequently, in order to ensure the effectiveness and practicability of this research, recording took place in a room outside of pupils' regular classrooms. In an attempt to limit artificiality, and the impact of working in another room, I felt it important, whenever possible, to find a room not unfamiliar to the pupils, such as a library or computer room, and preferably one not too far from their regular classroom. Unfortunately, due to timetabling restrictions this was not always possible although I found pupils remarkably unfazed by the prospect of working in another room. It appears that leaving one's regular classroom is a familiar scenario to today's pupils, who are used to 'being taken out' for 'extra work'.

The need to record in a less familiar environment suggested the need for a more effective means of hiding the camera. In order to do so, I purchased a small toy box, similar to the types found in schools, into which the video camera was placed, and out of which holes were cut for the camera's lens and microphone. The guise of the toy box worked well, and although most groups eventually spotted the camera, its presence seemed to have a short-

lived and negligible impact on the discourse. This was probably because the camera was not in full view and, as it was not expected, was quickly forgotten. It seemed that the pull of the game and players' participation therein were the most influential contextual factors impacting on players' immediate attention.

Having detailed the choices made in selecting the recording equipment and recording setting, I shall now focus on the actual process involved in recording group interactions.

The Recording Procedure

The room chosen for recording was pre-prepared to ensure that the camera was appropriately placed and well hidden. I began the process by playing a research game with a group in their regular classroom, reminding them of the rules of the game and the 'ground rules' of play, then after only a few minutes of play would suggest the possibility of working in another, less noisy room. My supposed room search afforded me time to check the camera and start recording. I then returned to the classroom and encouraged the group to follow me into the recording room, whereupon I suggested that they should start the game afresh.

After only a few turns, depending on how long it took the group to settle, I announced my intention to leave the room in order to complete some other work, remaining nearby in case they should encounter any difficulties. Following the group's inevitable agreement that they could play the game without me, I left the room, staying very close to the door to listen for any behavioural problems. In effect, the overall behaviour of pupils was admirable and surprised most teachers who remained sceptical about the absence of an

adult. Of course, there were instances when the realisation of working alone in a less familiar room became too strong a temptation for pupils and behaviour suffered. At such times, either I would re-enter the room, or players themselves would refocus attention back to the game. Interestingly, I found that almost as soon as I left the room groups began to reframe the construction of play as an activity without adult support. This was clearly evident in their reaction to my sporadic re-entering of the room to check on their progress and reassure them of my presence nearby when, quite unconsciously I suspect, they signalled participation boundaries (i.e. “please don’t disturb us, we’re busy playing”). It was as if I had inadvertently intruded on a private conversation.

Pupils involved in the recordings were informed about the video camera on completion of all recordings within a school (i.e. no longer than a week after their group recording had taken place). If, at this stage, a pupil showed any unease at having been recorded, their group interaction would have been permanently removed from the research. However, pupils’ reactions upon being informed about the video camera were, without exception, positive and enthusiastic. Far from being anxious or upset, pupils were delighted at having been chosen for the recordings, and keen to know if they would “be on telly”. As the pupils had the ultimate power to decide whether their recording could be used as part of this study, I believe the pretext of working in a different room (in order that the recording could take place) is more appropriately described as a ‘distraction’ rather than an illegitimate deception (as defined by BAAL (2000)).

3.47 Transcribing

The next stage of research involved viewing the recordings and representing each group interaction on paper. It is now widely accepted that transcription methods, which vary greatly, reflect the function and purpose of the data, as well as the theoretical paradigm in which the research is situated (Milroy, 1990; Forman and McCormick, 1995). This is evinced in the transcription conventions advised for different analytical purposes within CHILDES (Child Language Data Exchange System), a computational tool used to process naturalistic spoken data (MacWhinney, 1991). This section will describe the transcription methods used in this study, chosen to reflect the process of analysis within a sociocultural paradigm.

As argued, research situated in a sociocultural paradigm is concerned with the process of learning ‘in flight’. Any transcript of the social act of learning is used to reveal ‘communicative moments’ (Hall, 1997) and consequently, must clearly display that which precedes and follows each speaker’s turn. As a result, interactions are transcribed as a whole and not in segments of exchanges pre-determined by the researcher as the most salient (Platt and Brooks, 2002). Transcription of an interaction in its entirety allows the sociocultural researcher to track changes in behaviour over the course of an interaction, thereby illuminating appropriation in action.

Sociocultural theory also determines that learners are able to collectively scaffold language in order to support and challenge each other. This implies the need for a transcript to highlight discourse features such as: pauses, both strategic and hesitation; emphasis; and simultaneous speech, cut-offs, and latched speech. Sociocultural research by Ohta (2000:

75) showed that within such features it is also essential to record fine details such as, “vowel elongation, false starts, filled pauses and intonation contours” as these are interactional cues which pupils both make and respond to. Hence, these are all features which should be marked on a transcript, for, as Ohta (2000: 75) argues, “narrow transcription is necessary, as fine details may be found to be pivots upon which the analysis turns”.

I do not believe, however, that interactions should be so narrowly transcribed, at least in the first instance, that the written text becomes impenetrable (Bull, 2002). As Milroy (1990: 117) argues, “an over-abstract representation can conceal important information.” As previously described, the transcripts in this research were viewed alongside recorded video evidence in the process of analysis (see Figure 1) and, as such, acted as a form of assistance (Bull, 2002). Consequently, I felt it was possible to reduce annotation of precise details, at least in the early stages of analysis, without detracting from the quality of the analysis. This was the approach adopted by Swann and Graddol (1994) in their study of boys’ dominance in interactions. As Swann (1994: 39) recounts, “we made a rough transcript of two video recordings that allowed us to identify general patterns in the data, followed by much more detailed transcripts of relevant extracts.” A similar approach has been adopted in this study with Chapter 4 relaying the more detailed qualitative analyses which resulted following initial transcription and coding of whole interactions.

I would also argue that in order to make one’s research both revealing and accessible, particularly to teachers, a balance must be sought between over abstraction and over simplification in transcribing discourse. Hence, whilst decisions regarding transcription

protocols used in this research have been informed by previous sociocultural research, they also relate to those transcription symbols I find the most visually representative of a discourse feature. For example, unlike Ohta (2000), I chose not to use a ‘full stop’ to represent ‘falling intonation’, but to use a falling arrow symbol (↘) (as recorded in Stenström (1994)).

Finally, I chose to write the transcripts as a series of vertical ‘turns’, “everything the current speaker says before the next speaker takes over” in line with most sociocultural research (Stenström, 1994: 30). Each speaker’s turn consists of one or more ‘moves’ or ‘utterances’, constituting a single semantic entity (i.e. that which the speaker intends to convey/wishes to communicate) (Stenström, 1994). A move may be a single word, or sound, or it may be a longer convoluted construction. The exact transcription conventions used in this study are presented in Appendix 8.

3.48 Coding and Analysing

On completing a transcription, the pivotal process of analysis began with the application of a discourse analysis coding system designed to correlate with the discourse produced during the playing of each game. A detailed exposition of the genesis and working of the coding systems involved in this research is given in 3.52.

Following this initial application, a statistical table was composed correlating the number of times each player in a group interaction made each type of discourse move (i.e. a particular interactive behaviour conducive to L2 language learning). The resulting

information facilitated quantification of the discourse as data, thereby enabling quantifiable comparisons between players across the whole interaction for each type of discourse move (i.e. the percentage contribution a player made for any given move). This highlighted areas of participation (or interactive behaviour) in which a player, in comparison to other players, was especially active or inactive. Furthermore, an overall pattern of participation for each individual player could be created by comparing the percentage participation of one type of move in comparison with the other moves made by that individual player over the course of an interaction. Such information was neither easily accessible nor readily retrievable from each coded transcript (see Appendix 5 for an example).

The process of coding and quantification meant that one could have a ‘snapshot’ of those patterns of interactive behaviour produced by players which were noticeably apparent or absent (generally or in comparison to other players). This could *suggest* which aspects of play pupils were most interested or engaged in and the strategies most commonly employed by pupils in order to solve the L2 language problems of a game (i.e. *how* pupils were using interactive behaviour to mediate their solving of linguistic problems). This information could then be used as a guide to exploring a more detailed exposition of pupils L2 language learning behaviour, as required by the research questions (see Appendix 5 for an example of this process).

Quantification of discourse moves is best perceived, therefore, as a tool enabling the researcher to make manifest and prominent those patterns and features of an interaction useful in guiding further holistic and contextual (i.e. qualitative) investigation. Figuratively speaking, it is not necessarily the numbers and percentages per se which are important, but

rather the story which lies beneath them. As Swann (1994: 30) writes, “a quantitative analysis may suggest something is going on that you wish to explore in more detail using a qualitative approach.”

In a similar vein, the next investigative stage of this study involved ‘following the leads’ highlighted by quantification and asking a series of deeper qualitative analytic questions. This was a critical stage of the analysis process as quantification alone could not answer those questions fundamental to a sociocultural microgenetic approach. It could not contextualise the information, nor address specific issues such as the reasons why a player should have made a particular discourse move at a particular time in the interaction towards a particular player, and the mechanisms (linguistic or other) by which they chose to do so. By framing a discourse move into an historically situated ‘communicative moment’ (Hall, 1997), microgenetic analysis enabled one to track changes in pupils’ participation in such communicative moments over the course of an interaction, necessary in order to reflect pupils’ gains in experience and confidence.

In this way, analysis beyond the static form of quantified data became dynamic and hence capable of revealing not only those strategies employed by learners during an interaction, and hence their knowledge as previously constructed, but also learning in progress as learners appropriated knowledge over the course an interaction. In other words, in asking the ‘why, when, where, what, how, to and for whom’ questions, a close microgenetic analysis was vital in uncovering pupils L2 language learning strategies (i.e. *how* and *what* pupils are learning) during the situated activity of game playing (Donato and McCormick,

1994). In short, the process of microgenetic analysis was of fundamental importance in investigating the questions posed in this study.

It is important to note that although I quantified *every* interaction in this study (i.e. composed a statistical table) in terms of the total number of coded moves made by each individual, I have not included this information within the thesis. This is because I felt that the most revealing information was contained in the qualitative analyses, and given the necessary restriction on wordage, it seemed more appropriate to exemplify the process of quantification, as found in Appendix 5.

Before ending this section I feel it important to stress that the relationship between the processes of transcription, coding and analysis, as experienced in this research, could not be described as linear or hierarchical. The application of a coding system to a transcribed interaction would often necessitate revisiting the original recording and augmenting the transcript, adding finer details such as intonation contours, in order to clarify the coding of a move. In addition, I found that the final stage of deeper analysis almost certainly dictated a further need to revisit the recording, resulting in similar augmentation of the transcript, and in some cases, although rare, a need to recode an utterance. As such, the overall procedure from the original viewing and transcription through to the final analysis of each group interaction is most appropriately described as a cyclic and iterative activity, as depicted in the diagram below.

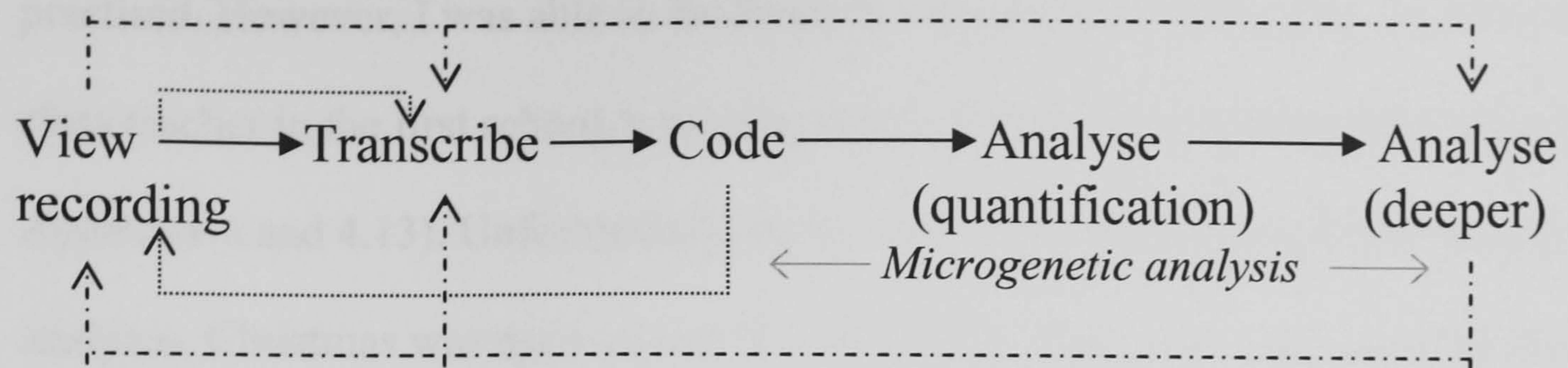


Figure 1 Transcribing, Coding and Analysing – An Iterative Process

Due to the iterative nature of this activity, the overall process from the stage of first applying the coding system through to the deeper analysis will henceforth be referred to as the process of microgenetic analysis in this study.

3.49 Feedback to Teachers

The final stage of the research entailed meeting class teachers and EAL specialist teachers in each of the research schools to offer feedback of information gleaned during the analysis process. This feedback was envisaged as invaluable in guiding future teaching practices, and hence in investigating the research hypothesis. In effect, due to situational factors, some of which were beyond my control, and the unforeseen length of time taken to transcribe and analyse each group interaction, this process turned out to be rather more difficult than expected.

Although relatively small in number, the time taken to transcribe, code and analyse recordings in the first research school took far longer than anticipated. As it turned out, the practice of transcribing, and the time taken to develop each discourse analysis coding system, decreased exponentially over the course of the research as I became more

practised. However, I was able to feedback the results of the first group analysis to the class teacher in the first school, a meeting which I audio recorded and then transcribed (see Appendix 6 and 4.13). Unfortunately, by the time I was ready to feedback the rest of the analyses, Christmas was upon us and the school was closed for a two week holiday. Consequently, the information gleaned from the initial group analyses was somewhat 'out of date' and therefore less appropriate to feed back.

I was aware that if this research was to justify the value of microgenetic analysis as a formative assessment tool, I needed to demonstrate how the information gleaned from the analyses could directly feed back into the teaching learning cycle. It was proving very difficult, however, to achieve this objective. Consequently, I found myself faced with an uncomfortable dilemma prior to recording in the second and third research schools. Should I spend longer in each school, focussing on one class at a time, completing the recordings and analyses more speedily, thereby ensuring a time sensitive feedback to teachers? Or should I remain in a school until all recordings were complete, analysing all transcripts at the same time but risking a delay in feedback to teachers?

Having discussed the problem with my supervisor, I decided upon the second option for three reasons. Firstly, I felt it important to have continuity of presence in a school so that I would remain a familiar face to both staff and pupils. If I concentrated on one class at a time, not only would this entail much more time spent in each class, a pressure I did not wish to impose on busy teachers, but also the need to keep re-introducing myself and reconstructing my role as a friendly helper. Secondly, if I focussed on one class at a time I would have to make a game based on that class' current literacy objectives, which would

involve making many more games than previously envisaged. Finally, I determined that the overall process of analysis would be more coherent if I were to analyse transcripts consecutively, rather than at intermittent intervals. In effect, I decided comprehensive development of the coding systems and the analysis practices were more important aspects of the research to develop at this stage than feedback to teachers.

This decision also impacted on the question of whether or not to show the recordings to those pupils concerned. A previous study had shown primary aged pupils keen to watch themselves, but unable to answer questions regarding their linguistic performance (Smith, 1999). Indeed, such questioning seemed to make pupils feel confused and agitated as their immediate goals in watching the recordings lay in some discomfort with my own, as researcher. Moreover, as Edwards and Westgate (1994: 76) note, when ‘taking back’ an observation to the participants, should this be, “carried out at some distance in time from the events recorded, there may be problems of memory over what may anyway have scarcely seemed significant at the time.” Given the inevitable time delay between recording and feedback in this study, together with my previous research experience, I decided not to show the recordings to any of the pupils concerned, and to approach validation issues in an alternative way (see 3.71).

Research in the second and third schools proved my predictions accurate as I found the overall process of transcription and analysis easier to correlate, summarise and cohere within the theoretical framework. However, I also found the process of feedback to individual teachers an impossible practicality. Although I met with the EAL specialists in both schools, and with one class teacher in the third school, I found that the amount of

information to feedback in one meeting was too substantial. I watched with resignation when, directly following the feedback meeting in the third research school, the EAL specialist teacher turned to me politely saying, “Thank you, I’ll read these later”, placing the analysis papers in her desk drawer probably never to re-emerge.

In order to address the important issue of feedback within this research, therefore, I decided to hold a discussion session in the University with an invited audience of experts (a description of which is outlined in section 3.71), and also to extend the research to one more school. Research in the final school was limited to two pupils in one class, and hence offered the opportunity for more time-sensitive feedback. I was extremely fortunate to be able to complete this research in the primary school with the most bilingual pupils in Newcastle (see 3.6), and with a most enthusiastic and flexible class teacher. After three weeks in the school, I recorded two group interactions and completed the transcription and analyses as swiftly as possible. Unfortunately, however, within a week of recording one of the targeted bilingual pupils left the school to return home to China. Nevertheless, I met with the class teacher and detailed the results for the remaining targeted pupil. We discussed how these results sat in accord with her knowledge and experience of the pupil and how such information could be used to inform her teaching of that pupil, both in terms of general strategies and pedagogic tasks, and also those specific to the teaching of literacy. I tape recorded and transcribed this discussion and sent a copy to the teacher to ensure mutual objectives. The class teacher kept a diary of events which we then discussed at a later meeting. A full account of this final part of the research is documented in section 4.5.

3.5 THE RESEARCH TOOLS

Having detailed the procedures involved in this research, I shall now describe my development of the research tools: the board games, and the discourse analysis codes.

3.51 The Board Games

This study questions whether specially designed board games focussing on aspects of English language learning promote an interactive context in which L2 language learning is facilitated. The ultimate aim of the study is to investigate whether information revealed in the interactive behaviour of pupils playing such games can be used as material for a formative assessment of their learning. The design of the board games is unique to this study and hence forms a crucial element of the research methodology.

The games were designed in light of the arguments presented in the previous chapter on what constitutes the most facilitative and revealing L2 learning contexts. I argued that joint meaning making in symmetric interactive activity facilitates the process of L2 language learning (see 2.4). In terms of the worth of board games, I argued that games of chance involving both collaborative and competitive behaviour provide a context in which L2 language learning is optimised (see 2.64). I also argued that collaborative problem solving (of language-based problems) is an ideal context in which to observe the process of L2 language learning in microgenetic action (see 2.5). As such, each game in this study is designed to involve the collaborative and symmetric solving of problems which incur decision making, reasoning and thinking about both the form and meaning of English. The problems arise as forfeits on which each player has an equal and unpredictable chance of

landing. Hence, the playing of each game enables the observation and analysis of pupils' knowledge of language(s) and their use of language(s) as a cognitive tool in problem solving involving: reasoning; recalling from and intentionally adding to memory; facing unfamiliar or conflicting information; and evaluating one and other's performance.

I shall now provide a more detailed description of the general design of the board and the specific language-related forfeits in light of the research questions. For an exact description of each game refer to Appendix 7. Before embarking upon this description, however, it is important to reiterate that the forfeits are to be viewed as tasks awaiting enactment as activities. As such, the variables associated with each game are considered as 'behaviour blueprints' (i.e. guides to behaviour and learning outcomes) (Coughlan and Duff, 1994).

I chose to develop the board games in this research in line with the National Literacy Strategy (NLS) (1998) objectives of 'word and sentence level' work corresponding to respective year groups. I did so for two reasons. Firstly, the NLS is now a major feature of class work in primary schools across the U.K. and hence games associated with its objectives were the most relevant to incorporate into class work. Secondly, although NLS objectives are standardised, the choice of particular texts used in 'text level work' varies considerably across schools, and even across classes within one year group in one school. I therefore chose to focus on 'word and sentence level' work in order to restrict the number of games, whilst increasing their relevance and accessibility across schools and across classes within a school.

The means by which a game would practise the NLS objectives of ‘word and sentence’ level work was the game’s forfeits. These were the extra tasks (or language based problems) which pupils had to perform should they land on particular sections of the board’s track. As the forfeits played a central role in each of the games, their design was particularly important. In developing the rules surrounding their operation, I found that a balance must be sought between those which are too simplistic, and therefore less interesting, and those which are too complex and which players are more likely to forget. In order to design the function of the forfeits, I began with a series of key questions:

- Which knowledge (linguistic and other) do I wish to encourage the (re)construction, practice and enhancement of?
- Which linguistic knowledge do I expect players to negotiate (the meaning and/or form of)?
- What difficulties and problems do I wish players to overcome during the playing of the game, and by what means will they be encouraged to do so?
- How will I encourage continued collaboration?
- How will I facilitate maintained interest?

Answers to each of these questions, and particularly the first two, require knowledge not only of recent NLS class work, but also of individual pupil’s participation in such work. It was essential, therefore, that each game was designed and constructed with particular individuals and groups of individuals in mind. For example, in the year five class of the second research school, the literacy objective pertained to the use and exploration of adverbs within sentences. Two Farsi speaking pupils had been identified amongst those in the class whom I wished to include in the research. However, neither the class teacher nor

the EAL specialist could advise me about these pupils' previous experience and knowledge of adverbs in Farsi or English. Indeed, this was one of the reasons for targeting these particular bilingual pupils. Hence, I realised that the game's forfeits must provide opportunities for the display of such knowledge, without presuming or necessitating fluency. Consequently, I decided that the forfeits should incorporate pictures alongside a supply of adverbs (written in English). In this way, pupils could argue and debate the most appropriate match of adverb to picture, producing their own adverb if necessary, thereby facilitating evidence of comprehension without necessitating the unsupported production of adverbs in English.

In contrast, when developing a compound word game in the third research school, teachers informed me that both year three classes had worked enthusiastically to produce a range of compound words. Consequently, in this case, I determined the need for picture cues as less important than the need for the creative production and validation of compound words.

The inclusion of pictures as a feature of three out of the four research games was no coincidence, as they facilitated a crucial link between meaning and form. Hence, although I designed the board games to focus on an aspect of 'word and sentence' language learning, I also wanted players to attend to meaning. As Swain (2000: 112) argues, "tasks which encourage students to reflect on language form while still being oriented to meaning making ... might be particularly useful for learning strategic processes as well as grammatical aspects of form." Such learning would therefore be open to observation and subsequent analysis.

I also used pictures as a means of equalising knowledge and power within a group dynamic which, as previously argued, encourages the kind of symmetric interaction which facilitates language learning (see 2.61). This special function was achieved by including pictures of cultural images, appropriate to the structure and function of a game, which were familiar only to those bilingual players targeted for the research, thereby raising their status within a game (see Appendix 7 for examples). Prior to making a game, I showed each of the targeted bilingual pupils a series of pictures about or relating to their country of origin or cultural heritage, researched and printed via the internet. Only those pictures with which pupils demonstrated the most affinity and interest were included in the final design. In other words, I did not assume cultural homogeneity in pictorial relevance. It was wonderful to watch the reaction of bilingual pupils to these pictures as a game was introduced to a group. The fact that other players may at some stage in the game need to call on the expert knowledge of the group player least experienced in English, was, at least initially, very effective in equalising perceptions of power in a teacher-less group interaction.

Another design feature which appears crucial in determining opportunities for equal participation was discovered during the research trial. I designed a board game in which one player acted as the group's specified 'reader' whose job it was to pick cards out of a bag and read them aloud for the other players. The reasoning behind such a design was to include bilingual pupils who were not yet fluent readers of English. I found that far from facilitating inclusion, however, differentiating a discrete and predetermined role for one player within a group caused friction and participant divergence. This stands in contrast to research by De Guerrero and Villamil (2000: 65) about adult peers working collaboratively to revise a narrative text written by one of the peers, 'the writer'. In this scenario, the scaffolding efforts of the other peer, acting as the 'reader', gradually resulted in,

“reciprocally extended support” and “the task regulation” as “more symmetrical”. It seemed that for primary age pupils, however, the role of ‘reader’ was inextricably linked with didactic tendencies and perceptions of expertise and power.

As a direct consequence of the research trial, therefore, I decided that future designs must avoid specification of disparate roles. I also decided to design each of the games as board games incorporating a basic racing track. I have found this design preferable to table games such as lotto or dominoes in facilitating collaborative interaction, seemingly because all of the action occurs on the board itself and players do not hold separate information pertaining to the course of play (Smith, 1999). Hence, the ‘state of play’ is clearly evident to all players at all times. This encourages a sense of competition amongst players and the maintenance, therefore, of player interest.

Having designed the basic structure of a game, and decided upon the operation and function of the forfeits, I made a test version of each game to trial at home. This helped to determine the effectiveness of a game’s rules in maintaining interest, and of a game’s functioning in the actualisation of the ‘behaviour blueprints’.

3.52 The Coding System

Before detailing the development of the discourse analysis coding system employed in this study, it is important to reiterate that it should not be viewed as operating in isolation from the analysis process as a whole. The coding of transcripts is only one stage in a composite microgenetic process as depicted in Figure 1 (see 3.48). It is also important to stress that

this coding system is unique to this study as it was designed to reflect the discourse produced during the playing of board games.

The design of the coding system used in this research originated in an earlier study during which I compared the interactions of one group of pupils playing two different board games (Smith, 1999). In order to do this, I needed to use a discourse analysis coding system developed for small peer group interactions. I found that most systems, such as the one proposed by Sinclair and Coulthard (1975), were developed to analyse teacher-pupil interactions and hence seemed less appropriate.

In contrast, the analysis system designed by Barnes and Todd was developed following a study of peer group interactions in two schools in the U.K. in the 1970s (Barnes and Todd, 1977/1995). Their analysis framework sought to distinguish between the social and cognitive functions of pupils' talk. It consisted of categories such as, 'discourse moves' (e.g. initiating, eliciting, responding); 'social skills' (e.g. competing, supporting); 'cognitive strategies' (e.g. raising a new question, setting up an hypothesis, expressing feelings); and 'reflexivity' (e.g. evaluating own and others' performance).

However, I found application of this system to the discourse of game playing very difficult and highly subjective, with many overlaps in categorisation. In practice, I found that I could not distinguish between social and cognitive functions of language use. It was as if the coding system didn't 'fit' the interactions, and didn't capture the essence of game playing discourse. On reflection, this is probably an accurate depiction, given that Barnes and Todd developed their system to analyse (or 'fit') the interactions of thirteen year old

pupils working together to discuss set tasks and topics such as ‘why do adolescent boys join in gang violence?’. Indeed, Barnes and Todd have never claimed their analysis system as validly transferable to other contexts.

Consequently, I found myself returning to the data and trying to look at it in a new way. I began by focussing on the types of questions pupils asked each other during the game. In effect, I was not so much interested in whether a move acted to ‘initiate’, but in determining the purpose or function of that initiation. An alternative system of categorisation slowly emerged. I realised that game playing discourse seemed to fall into two broad *categories* of talk consisting of those interactive moves which are expected in game playing, and those which are desirable but not necessarily expected (see Figure 2 below).

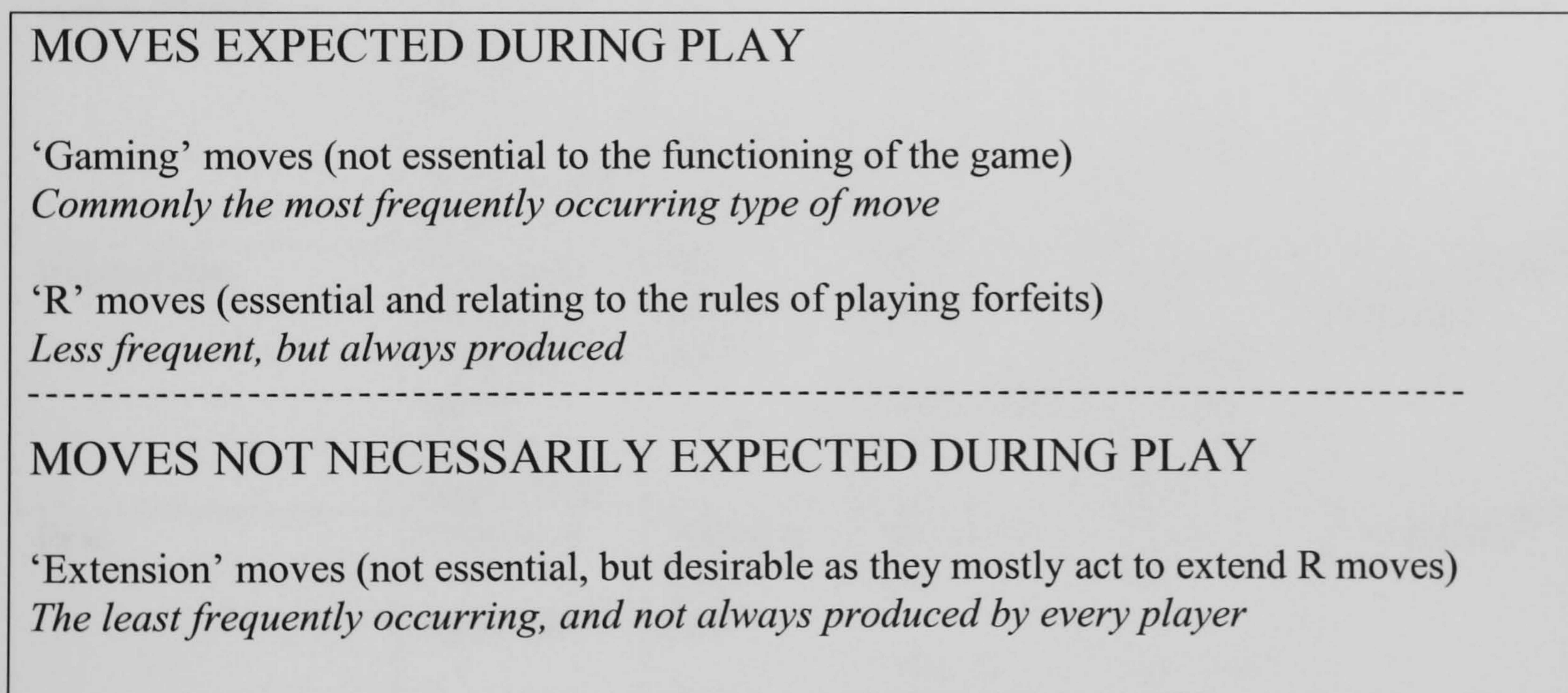


Figure 2 A Framework for the Discourse Analysis of Game Playing

Within the ‘expected’ category there are two *types* of moves: those essential for the game to function, which relate to the rules of the game, and therefore named ‘R moves’, and those which are not essential, which I later named ‘gaming moves’. Although not essential

to the functioning of a game, 'gaming moves' occur the most frequently. They correspond to the structure of a game and its artefacts and describe the physical acts required to play a game. Hence in the track games produced for this study, 'gaming' moves would relate to talk about: the position of players' counters on the track (C move); turn taking (T move); the throwing of the number die (D move); operating the forfeit artefacts, e.g. picking up a card (P move); counting and moving the coloured counters along the track (M move). In other words, these are the interactive moves players make in almost all games and function to organise, support, and add humour and fun. They are, if you like, the 'chit-chat' moves of game playing. The following Table will document example utterances produced during this research which have been coded as C,T,D,P and M moves.

TABLE 1
Typical CTDPM Moves

	C	T	D	P	M
Instructional	<p>"You cannot, you stay there"</p> <p>"Oh I have to do it"</p>	<p>"Go on then"</p> <p>"my go"</p>	<p>"Don't do it like that"</p> <p>"No wait"</p>	<p>"Give me them"</p> <p>"Pick up a card"</p>	<p>"No you have to do, one two.."</p>
Supportive	<p>"Oh you're leading"</p> <p>"You did it again!"</p> <p>"You're nearly there"</p>	<p>"It's your turn"</p>	<p>"Well done!"</p> <p>"How many is it?"</p>	<p>"You can do both of them at the same time if you want"</p>	<p>"1,2,3,4,5,six! Oh, one!"</p>
Fun	<p>"You're on top of him!"</p> <p>"I'm speeding ahead"</p>	<p>"When is it my turn?"</p> <p>"Yours again?"</p>	<p>"Please no six!"</p> <p>"You're cheating!"</p>	<p>"Please a bed!"</p> <p>"Oooh what is it?"</p>	<p>"A cheater!"</p>
Stating or asking about a fact or an opinion	<p>"You're the red one"</p> <p>"What is it?"</p> <p>"Just put it beside me"</p>	<p>"My turn"</p> <p>"Whose turn is it?"</p>	<p><i>Naming the number thrown.</i></p>	<p>"I have to choose one"</p> <p>"Which one is first?"</p>	<p><i>Counting aloud.</i></p>

The other type of move found in the ‘expected’ category of game playing is ‘R moves’. The ‘R moves’ directly correspond to the behaviour blueprints determined by a game’s forfeits (i.e. they are the moves which must be made in order to carry out a game’s forfeits and therefore relate to the solving of language problems). Hence should a forfeit require players to decide the existence of a compound word made by the throw of two dice (as in Game 3: see Appendix 7), the R moves would describe the behaviour, expected and observed, necessary to do so. In other words, pupils playing Game 3 could be involved in: reading the words on the dice (R1); asking for help in reading (R2); forming (or attempting to form) a compound word (R3); asking for help in forming a compound word (R4); agreeing or disagreeing with the compound word formed (R5) (see Appendix 7 for a more detailed exposition of the R moves for Game 3).

The best way to illustrate the coding of utterances as R moves is to provide an empirical example from a Game 3 interaction. The three players in this game are Selina, Amira and Vojtech (see 4.31). Selina has thrown the word ‘fire’, and the players are waiting to see which word she throws next.

1) S	fire	R1
2)	I need ma(:)n	R1 <i>predict</i>
3)	oh [fireball]	R3
4) A	[fireball]	R3
5) V	fireball	R3 <i>repeat</i>
6) V(to S)	it is right	R5+
7)	fire – ball (SEPARATES WORDS)	R3 <i>repeat</i>
8) S	no!	R5-

We can see that all players form the compound word aloud (i.e. make an R3 move) in lines 3,4 and 5. Vojtech is the first player to venture that the word ‘fireball’ exists (i.e. make an R5 move), which he attempts to verify by repeating the compound word aloud (another R3

move) in lines 6 and 7. Selina challenges his assertion, however, making her own R5 move in line 8. This short extract exemplifies the coding of utterances as 'R moves'; for a full and detailed analysis of this episode and the rest of this interaction see section 4.31.

I found an interesting correlation between some of the behaviours described in the 'R' category of moves and the findings of earlier research. For example, research by Wagner-Gough (cited in Ellis, 1995: 284) found that one bilingual pupil used an 'incorporation strategy' in learning English wherein, "he put together utterances by 'borrowing' a chunk from the preceding discourse and then extending it by affixing an element to the beginning or end". Whenever a game required the construction of sentences in English, I too found that pupils used the strategy of 'incorporation' to help them structure sentences, or to devise more complex sentences in English. Incorporation is similar to the type of talk described by Mercer (2000) as cumulative talk and would therefore suggest that this is an important feature of SLL interactions, particularly when this learning involves the construction of sentences in English.

As I found interactive moves relating to 'incorporation' as well as 'recasts' and 'vertical scaffolds' (behaviours also revealed in previous research as cited in Ellis, 1995) within the discourse of pupils playing board games, I incorporated such terminology into the moves descriptors for 'R moves'. In research, as in life, it seems, our utterances are filled with 'dialogic overtones', that is, "filled with others' words, varying degrees of otherness or varying degrees of 'our-own-ness', varying degrees of awareness and detachment" (Bakhtin, 1986, quoted in Wells, 1999(a): 104).

As shall become apparent in the following chapter, episodes of ‘R moves’ form the cornerstone of this research as they are the most frequently produced moves which reveal pupils’ L2 language learning behaviour.

The second category of talk consists of interactive moves which, although not necessarily expected as they are not essential to the functioning of the game, are desirable as they exist primarily as extensions of R moves. Originally, these ‘extension moves’ took the form of Barnes and Todd’s (1977) cognitive and reflexivity moves. As more game playing interactions have been transcribed, however, they too have metamorphosed into moves more closely associated with a game’s forfeits. Nevertheless, they still often relate in substance to that which Barnes and Todd described as, ‘expressing feelings’ and ‘recreating experience’. Hence, returning to our example of the compound word game, an extension move therein would be, ‘relating a compound word to personal experience’ in order to justify its existence. Consequently, in the example episode given above, Selina may have decided to justify her decision that the word ‘fireball’ did not exist by making an ‘extension move’ such as, “I have never seen a ball made out of fire”. Extension moves are thus particularly valuable in highlighting pupils’ reasoning and logical inferencing during episodes of exploratory talk. It is important to reiterate, however, that equally revealing information about pupils’ L2 language learning behaviour is evident in the ‘R moves’ as well as, albeit to a lesser extent, the ‘gaming moves’ (see 2.64).

As I found this basic framework could be transferred successfully to other games, particularly those with a similar structure (Smith, 1999), I used it to develop the coding systems particular to each game in this research. After making each game and trialling it at

home, I formulated preliminary codes. After the first few applications, however, I generally found that the 'R' and the 'Extension' moves descriptors were insufficiently accurate to describe players' actual behaviour and needed further clarification and extension. The coding systems were then revised in light of these observations, and the first few transcripts recoded. The exact nature of the coding for each category for each game is detailed in Appendix 7.

3.6 THE RESEARCH CONTEXT

This section will profile the schools in which the fieldwork was undertaken. As explained at the beginning of this chapter, the schools in this study were chosen because they each had a higher than average inclusion of bilingual pupils. The population of the North-East of England is slowly changing and becoming more diverse with a much broader range of first languages spoken by its inhabitants. This is reflected in the number and diverse range of languages spoken in each of the research schools.

The tables included in this section display information regarding the number of bilingual pupils in each class at the time of recording, and within each class the number of first languages spoken by those bilingual pupils. This information was provided by the EAL specialist teachers in schools A, B, and C and is therefore very accurate. The information from school D, however, was provided using the statistics collected for 'Form 7'; a general demographic collection tool used by LEAs, which is possibly less accurate. As will be argued, such information is important as it provides contextual information critical to the

transferability of this research (see 3.72). The Tables also show which game was played by each group within each school.

SCHOOL A

This school, the first in which the fieldwork was undertaken, has fewer bilingual pupils with a less diverse population of first languages than the other three research schools. Bilingual pupils constitute 17% of the total school population, out of which about 78% speak Bengali as their home language. The remaining bilingual pupils speak a range of languages including Berber, Arabic, Polish, and Farsi. The school employs one part-time bilingual specialist teacher, and one member of staff is bilingual (Bengali/English), though she was employed as a mainstream teacher and not as a bilingual specialist and, as such, felt very uncomfortable using her first language for teaching purposes.

TABLE 2
Recordings taken in School A in October/November, 2001 (term 1)

Recording number	1	2	3	4
Year group	3	3	5	4
No. of bilinguals in class	5	5	7	5
No. of languages in class	4	4	4	3
Game played	1	1	1	1

SCHOOL B

The second research school is situated in the west end region of Newcastle. At the time of recording, this school's population consisted of 42% monolingual pupils and 58% bilingual pupils. Of these bilingual pupils, 21% were Arabic speaking; 15% were Punjabi, Urdu, Mirpuri and Sindhi speaking; 7% Bengali; 4% Croatian and Czech; 3.5% Farsi; 2% Malay

and 5.5% were speakers of other languages. This 5.5% comprised of 13 other world languages: Cantonese, Mandarin, Ndebele, Setswana, Somali, Kiswahili, Xhosa, Lingala, Indonesian, Turkish, Kurdish, Portuguese, French and Swedish. Hence there were twenty three different home languages spoken in school B at the time of recording.

To support these pupils, there were two full-time EAL teachers, one English speaking (with some Bengali), and one Arabic speaking. There were also five bilingual teacher assistants, three of whom spoke Punjabi/Urdu, whilst the other two spoke Farsi and Turkish. Additionally, there was one Mirpuri speaking lady working with 'Children North East' who helped facilitate liaison between parents and the school.

TABLE 3
Recordings taken in School B in December 2001 (term 1)

Recording number	1	2	3	4	5	6	7
Year group	5	4	4	4	5	5	5
No. of bilinguals in class	14	19	19	19	17	17	17
No. of languages in class	6	8	8	8	8	8	8
Game played	1	2	2	2	2	2	2

SCHOOL C

The third school, school C, is also situated in the west end of Newcastle. At the time of recording, the school's population consisted of 74.9% EAL pupils and 25.1% English speaking monolingual pupils. Of the EAL pupils, 33% spoke Bengali as their home language and 6.6% spoke Punjabi/Urdu. In total there were 24 languages spoken in the school, including Dari (Afghan Persian), Nepalese, Mongolian, Czech, and Ndebele (Southern Zimbabwe). To support these pupils the school employed two part-time monolingual EAL specialist teachers, and one Bengali speaking nursery assistant.

TABLE 4
Recordings taken in School C in March 2002 (term 2)

Recording number	1	2	3	4	5
Year group	5	5	3	3	3
No. of bilinguals in class	11	11	15	8	15
No. of language in class	6	6	7	6	7
Game played	1	1	3	3	3

SCHOOL D

The final school is also situated in the west end of Newcastle and has the largest minority ethnic population in the Gateshead/Newcastle region. According to 'Form 7' statistics collected by the school, the proportion of pupils in the school who are not 'white British' or 'white other' is 91%. The figures reveal that approximately 85.5% of pupils speak a language other than English. The overwhelming majority of EAL pupils speak Bengali as their home language (47%), whereas 14.25% speak Punjabi/Urdu. The remaining bilingual pupils speak a range of African languages, Arabic and other Asian languages, including the Chinese languages. The school employs many bilingual staff. Both the Head teacher and Deputy Head teacher are bilingual. There is one class teacher who is bilingual (Bengali), and the specialist EAL teacher is herself bilingual (Urdu). There are eight 'specialist bilingual assistants' who are all bilingual, five of whom speak Bengali as a first language, two Arabic and one Urdu. There are also three 'specialist bilingual nursery nurses', who are all bilingual, speaking Punjabi/Urdu and Bengali.

TABLE 5
Recordings taken in School D in February 2003 (term 1)

Recording number	1	2
Year group	3	3
No. of bilinguals in class	24	24
No. of languages in class	5	5
Game played	4	4

3.7 ISSUES OF RELIABILITY AND VALIDITY

This final section will establish claims relating to the reliability and validity of this research as such terms have been applied to qualitative studies. Before doing so, however, a distinction must be drawn between application of the terms validity and reliability as they apply to the research study as a whole, and as they apply specifically to educational assessment techniques (as in 2.72). This chapter will be concerned with the former (i.e. with the validity and reliability of the research design described thus far in this chapter).

As illustrated at the beginning of this chapter, the case study approach to this research is ideographic in nature and therefore is not “concerned with generating statements that apply regardless of time and place” (Bryman, 2001: 49). Moreover, sociocultural theory, the theoretical framework in which this research is situated, argues the unstable nature of *activity* construction over time, setting, and participants (Coughlan and Duff, 1994; Roebuck, 2000) (see 2.1). As the *case* on which this research concentrates is a tool for the assessment of language learners as together they construct a language learning *activity*, this research must recognise all aspects of context and be sensitive to activity variation over time.

Consequently, it is not my intention to prove that this assessment technique in the format described herein is generalizable to all other contexts. Nor do I wish to prove the existence of a causal relationship between the results of the analysis as fed back to a teacher, and a pupil's subsequent learning. Rather, it is my intention to "elucidate the unique features" of this assessment technique, and prove its relevance and applicability as a tool in the formative assessment of bilingual pupils in mainstream classrooms in the U.K. (Bryman, 2001: 49). In short, therefore, this study is qualitative in nature. This has obvious implications for issues of reliability and validity.

Guba and Lincoln (1984) have argued that because reliability and validity are constructs historically associated with quantitative studies, there should be a more appropriate way of establishing and assessing the quality of qualitative research. They proposed that qualitative studies should have 'trustworthiness', a quality made up of four criteria: credibility (= internal validity), transferability (= external validity), dependability (= reliability), and confirmability (= objectivity). This section will now address these criteria in relation to this study.

3.71 Reliability/ Dependability

The construct of reliability has been applied to qualitative research as 'dependability'. Guba and Lincoln (1994) propose that in order to ensure a study is 'dependable' the researcher should keep detailed records of all phases of the research and feed this information to auditors (professional peers) for critical feedback. I believe this research is dependable as I did keep detailed records of the research process, and I did feedback to professional peers.

In fact, I presented papers emanating from this research at two conferences (one of which was an EARLI (European Association for Research on Learning and Instruction) international conference on ‘Learning Communities and Assessment Cultures’) and held two discussion sessions. The first discussion session was delivered to an invited audience consisting of EAL specialist teachers, including those involved in the research, and researchers in the field of education, including John Landon, Head of Education Research at Moray House School of Education, Edinburgh University. I chose participants with relevant expertise (i.e. those working on a daily basis with bilingual pupils in U.K. classrooms; those whose first language corresponded to the languages spoken in the research schools (Mandarin, Punjabi and Arabic); and those with experience of research pertaining to the education of bilingual pupils). (See Appendix 9 for an account of this session.)

The aim of this first discussion session, held after fieldwork in schools A, B and C, was to open the research procedures and results to reflection and debate in light of the theoretical stance adopted in this study (see Appendix 9 for notes from this session). I also wanted to investigate the ‘inter-rater’ reliability of the discourse analysis coding system (a criteria associated with quantitative descriptions of reliability), but found the time too short and the group too large. I felt that investigating the reliability of the coding system was a worthwhile endeavour given that the process of coding (and subsequent quantification) was an integral part of the qualitative analysis process in this study.

Consequently, I decided to hold a second discussion session to address this issue, adapting my approach in light of the difficulties experienced in the first. The aims of this session

were to discuss the meaning and appropriateness of the behaviour described in the codes from a pedagogic perspective, whilst also investigating the inter-rater consistency of the coding system when applied to various transcripts. I reduced the number of participants to two EAL specialist teachers, and one former NLS advisor, who is also a qualified TEFL teacher. I introduced them to two of the research board games and, after a short period of time playing each game, introduced them to the corresponding coding systems, explaining the moves in light of their playing experience. Before applying the coding system to a transcription extract, participants watched the corresponding video recording and were given time to discuss their observations. In line with sociocultural thinking, I decided the best way to approach the coding of each transcript extract was through discussion, in order to arrive at a joint understanding in a ‘collective search for the truth’(see 3.2). My role in this session was to facilitate discussion, by asking guiding questions such as, “why do you think she said that?” and to provide extra information about the discourse not annotated on the transcripts (for reasons articulated in section 3.47). We were able to reach an effective consensus between participants and between their coding and my original coding for both transcripts.

Both of these discussion sessions were an attempt not only to counter the absence of respondent validation in this research (see 3.49), but also to open it to academic scrutiny and practitioner applicability. The first discussion session and both conference presentations provided confirmation that the research had been carried out properly with due ethical consideration to teachers and pupils alike. Participants at the EARLI conference were very supportive about, and interested in, the use of board games as a pedagogic tool. Moreover, during the first discussion session, several EAL specialist teachers aired the view that the information gleaned from analysis of group interactions

could be useful as a formative assessment of bilingual pupils. This discussion session also encouraged members to question, “the degree to which theoretical inferences” were justified (Bryman, 2001: 274). Indeed, as recalled in the first part of this chapter, one member questioned the subjective nature of inferences drawn from sociocultural analysis as applied to educational assessment (see 3.2). The ensuing discussion encouraged me to consider “alternative theoretical and value positions and alternative interpretations of evidence” within this research (Foster, 1999: 3). In other words, it helped promote the objectivity of this study (i.e. its confirmability).

In short, therefore, I would claim that this study has dependability within the frame of reference described for qualitative research. Moreover, as results of the second discussion session verified, the coding system used in this research appears to have high inter-observer consistency.

3.72 Transferability and Credibility

Transferability (external validity) and Replicability

The quality of validity is concerned with “the integrity of the conclusions that are generated from a piece of research” (Bryman, 2001: 30). In other words, it questions whether the research findings are “‘really’ about what they appear to be about” (Robson, 2000: 66). One way of establishing the integrity and objectivity of results is to replicate the study to check against an initial “intrusion of the researcher’s values” (Bryman, 2001: 76).

If a study is to be replicated, however, it must be replicable. Qualitative research is therefore concerned with the replicability of research studies. This chapter has described the research procedures in great detail thereby facilitating transparency in, for example, participant selection, data analysis, and my role as researcher. This, together with the availability of video recordings of the group interactions and the second discussion session, and audio recorded evidence of feedback to teachers, bodes well, I would suggest, for the replicability of this research.

Similarly, researchers have argued that findings in qualitative research may be ‘transferable’ to other contexts which are considered “to be sufficiently similar to the first to warrant that generalization” (Robson, 2000: 405). In order for this to be possible, however, a ‘thick description’ of the details of the culture about which the research is concerned must be provided. As argued, I believe this chapter has provided a rich account of all aspects of the research procedures, tools and context. Together with the empirical evidence of video and audio recordings, therefore, this thesis acts as a rich ‘database’ of information upon which judgements about transferability can be made (Robson, 2001). In essence, I am arguing that schools elsewhere in the U.K. with a similar intake of bilingual pupils in terms of the number and mixture of first languages spoken in class may be able to use the assessment technique described in this research as a guide in the formative assessment of bilingual pupils in their own context. An exact replication of results, however, is neither an expected nor indeed useful outcome.

Considering the transferability of this study may also highlight a limitation. The fact that fieldwork was undertaken in only four schools in one borough of the U.K. and was not

extended to areas of the U.K. with different populations of bilingual pupils with different cultural and linguistic classroom expectations, may mean that aspects of the procedures and settings described herein are not ‘transferable’ beyond the North-East of England. For example, in schools where the use of L1 in class is common practice, the decision to incorporate two pupils with the same first language in a group recording may result in a different balance in the use of L1 and English as mediational tools in the learning of English within a game activity. Reasons underlying the choice of location and size in this study, however, pertain largely to issues of practicality and time restrictions placed upon myself as researcher acting alone.

Finally, adopting a slightly different stance, Bryman (2001: 283) argues that findings from qualitative studies should “generalise to theory rather than to populations”. I would argue that the detailed description of sociocultural theory, and its impact on all aspects of this research, favours any theoretical generalisation resulting from the findings of this study.

Credibility (internal validity)

Qualitative research is said to have credibility if “there is a good match between researcher’s observations and the theoretical ideas they develop” (Bryman, 2001: 271). In other words, it questions if the account of learning described in this research is credible.

Firstly, I would reiterate my belief in the cogency of the theoretical reasoning presented in this research, which I would argue increases the likelihood of a match between my observations and the theoretical conceptions of learning described herein. For example, chapter 4 will document examples of pupils’ use of private speech as a learning tool. The

means with which such examples were identified emanate from behavioural markers suggested in other sociocultural research. I was assisted in this feat by the fact that all interactions were recorded and thus available for ‘persistent observation’ (Robson, 2000).

Secondly, although I did not carry out respondent validation in this research, for reasons explained in 3.49, peer debriefing via the discussion sessions and conferences, feedback to a class teacher in school A, and close collaboration with the class teacher in school D have all helped shape and confirm my observations and interpretations.

3.73 Ecological Validity/ Authenticity

Ecological validity is concerned with the relevance of a study to the everyday natural settings of those involved in the study (Bryman, 2001). Maintaining a sense of the normal everyday learning environment not only supports language learning (and, therefore, assessment of that learning), but also means that findings resulting from such a study will be of the most pedagogic relevance to those concerned. In short, therefore, ecological validity is a value worth investigating in relation to this study.

As documented, every effort was made to retain a natural, authentic learning environment in which to observe pupils talking and learning together. For example, games were introduced at an early stage in the research procedure as NLS learning tasks so that pupils perceived their use as authentic and naturalistic. Furthermore, every effort was made to maintain a sense of the normal in the environment in which pupils were recorded playing the research games. Consideration was also afforded to the impact of the recording process

on the authenticity of pupils' interaction. Finally, I would argue that my decision to extend the research in order to investigate the relevance and effectiveness of feedback to teachers further strengthens the pedagogic relevance and ecological validity of this research.

3.74 Summary

To summarise, I would argue that by holding two discussion sessions in an effort to counter the absence of respondent validation, the dependability and confirmability of this study is supported. These sessions, combined with research in the final school wherein feedback to the class teacher was given in a time sensitive fashion, provide evidence of the credibility of this research. The cogency of theoretical argumentation and its influence in shaping the research practices also augment this study's credibility. The transferability of this research is supported by the 'thick description' of procedures and tools presented in this thesis. Finally, the efforts made to maintain as naturalistic an environment as possible in which to carry out the recordings, support the authenticity and ecological validity of this study. The next chapter will present extracts from these recordings, together with detailed qualitative analyses.

Chapter 4

The Results - Learning in Action

INTRODUCTION

The previous chapters have presented arguments in favour of the research hypothesis that specially designed board games focussing on aspects of English language learning can provide an interactive context which promotes bilingual pupils' learning of English. It was also argued that the processes of such learning are manifest in pupils' interactive behaviour whilst playing the games (the second research hypothesis). This chapter constitutes the body of the thesis and captures the voices of those pupils who participated in the research. Those voices present empirical evidence to substantiate the theoretical position adopted in this study (i.e. that the close qualitative analysis of pupil-pupil interactions during the act of playing the research games reveals bilingual pupils' learning of English). This chapter also presents evidence to support the central research hypothesis that such information can be used to support teachers' subsequent planning (i.e. as a formative assessment tool).

Before revealing this evidence, however, let us recapitulate the arguments thus far constructed.

In chapter 2, I argued from a sociocultural perspective that learning is a socially situated activity in which language plays a key, mediating role. It was further argued from a neurological perspective that thinking and learning involve the organisation and purposeful manipulation of images stored in 'memory' in order, for example, to plan, solve problems and memorise new information. The learning of an L2, therefore, involves the

appropriation of L2 items to manipulate and store in memory, and the appropriation of mediational tools (including a pupil's L1 and L2) with which to carry out these manipulations, in contexts of social interaction. Consequently, L2 language learners need to participate in the active appropriation and (re)construction of such items of knowledge. I argued that this was best achieved in the process of joint meaning making during symmetric interactive activity. It was further argued that pupils' thinking and knowledge (re)construction would be particularly evident during problem solving activity.

The research games are designed to elicit the collaborative solving of language related problems via the game's forfeits. These problems involve a simultaneous focus on the form of English (in sentence construction, verb tense placement, lexical item exploration) and on meaning. They represent the problems which all bilingual pupils face when learning English. By adding to a joint solution of such problems, therefore, pupils demonstrate the linguistic and other means by which they learn English as well as their knowledge of English as previously constructed. As the game progresses, pupils may also demonstrate appropriation of the English used by others during such problem solving activity. In short, it was argued that the research context (i.e. bilingual pupils working together to play the research games) would facilitate the observation and subsequent analysis of bilingual pupils' English language learning in action (i.e. as it occurs in the moment-by-moment unravelling of a problem and over the course of the activity).

As previously discussed, the process of analysis undertaken in this study entails the initial application of a discourse analysis system, unique to each game, followed by a more in-depth and close microgenetic analysis. Microgenetic analysis is concerned with the social

and historical process of learning (i.e. the (re)construction of knowledge as manifest in the interactive turns of a learning activity) and the use of language (both social and private) as a tool mediating that learning during, for example, episodes of cumulative and exploratory talk. It is also concerned with the mechanisms by which such learning is facilitated and negotiated between peers engaged in interaction, through, for example the process of collective scaffolding (see 2.63), and pupils' exploitation of such learning opportunities. The two analysis systems work in tandem to suggest patterns of learning and participation which could inform a formative assessment of pupils' learning.

The Structural Format

Extracts from almost all of the recordings are included in this chapter and are presented as interactional episodes. Each utterance is coded using the discourse analysis coding system (see 3.52 and Appendix 7), and each episode is analysed qualitatively to reveal the processes of L2 language learning in action at a microgenetic level. It is important to reiterate that although the tabular quantification of utterances (a process undertaken to inform the qualitative analysis) was completed for *all* of the interactions (see Appendix 5 for an example), due to space restrictions, they are not included in this chapter.

The chapter is structured game by game, not only to facilitate coherence, but also because the results of each game offered different perspectives on the processes of learning English as an additional language. Game 1 particularly highlighted the mediating power of collective scaffolding in players' attempts to construct meaningful sentences in English. Results from the analysis of Game 2 interactions, on the other hand, facilitated an exploration of pupil's motivation and ability to engage with the language learning aspects

of the game, and to ‘exploit the affordances of learning’ manifest in such game playing interactions (Lantolf, 2000(b)) (see 2.63). Game 3 provided some enlightening information as to pupils’ construction of English lexical items (i.e. compound words) as mental images.

The analyses for Games 1, 2 and 3 also include suggestions on how such information could be used as material for a formative assessment. This information is sometimes subsumed into the analysis itself or, if particularly salient, written as a separate subsection entitled ‘Implications for Formative Assessment’. Some analyses will also result in a subsection entitled, ‘Reflecting on the Analysis’, which highlights particular features of the interaction pertinent to developing an overall understanding and interpretation of the results. The results of the analyses for each game are then summarised.

The results of the final game are structured differently, as this was the only school in which the results of the analysis were fed back to the class teacher quickly enough for them to be used as information for a formative assessment; evidence crucial in addressing the central research question. After documenting the analysis and its use as a formative assessment, as in the previous games, the next two sections recount the journey taken by the class teacher and myself in discussing the implications of the analysis, planning future teaching in a feedback session, and reviewing the results of the teacher’s application of that teaching. Finally, I reflect on all aspects of this journey, and comment on the worth and practicability of using a microgenetic analysis as a tool in the formative assessment of bilingual pupils.

4.1 GAME ONE – COLLECTIVE SCAFFOLDING (DIDACTIC ROLE ACTUATION)

‘HAVE FUN WITH VERBS’

One of the most interesting features of Game 1 interactions is the evidence of collective scaffolding as players set about the collaborative process of constructing sentences in English using the past tense verb form. The findings suggest that even though the groups were structured to promote symmetric interactive activity, some pupils perceived themselves as having more ‘expertise’ and power and so acted with more didactic tendencies. Even so, the findings reveal that, unlike most teacher-pupil interactions, peers negotiate any such perceptions of power and status. In so doing, they were able to effectively negotiate one another’s ZPDs or ‘activity frames’ (Aljaafreh and Lantolf, 1994) (see 2.63) in deciding how much and what type of help to offer and accept or reject. This evidence is important in validating the use of games as a learning context, and in helping us to understand how pupils support one another’s learning of English in interactive problem solving contexts such as games.

The results of this game, the most frequently played in the research, will be relayed in two separate sections to reflect these findings. This first section documents those Game 1 interactions in which at least one player positioned him/herself in a position of authority in terms of their L2 language experience and expertise. The next section will detail those interactions in which there was a more symmetric role actuation.

It is important to note that the concept of scaffolding is operationalised in this study according to the behaviour descriptions given by Wood, Bruner, and Ross (1976) in


combination with those of Lidz (1991), as used by the sociocultural researchers Donato (1994) and De Guerrero and Villamil (2000), and as listed in sections 2.61 and 2.63 and Appendix 1. The behaviour descriptions will appear in the qualitative analyses as italic print.

The forfeits in this game involve placing verbs given in the infinitive form into the simple past tense form. Players also had to construct meaningful sentences incorporating the verbs, as well as, in some cases, a given sentence subject and object. The resulting play involved collaborative efforts to solve such problems, which were often exacerbated by ‘awkward’ throws of the ‘subject’ and ‘object’ dice. To fully appreciate the rules of this game (and hence the discourse analysis codes), and to understand references to the game’s artefacts in the following transcripts, it is essential to refer to Appendix 7. Such information was too complex to sufficiently detail within the body of the thesis.

4.11 Analysis A:1, G:1

The three players in this interaction were Samy (Sa) (Berber), acting as the L1 model, Isathiaq (Is) (Bengali), and Saira (Sr) (Punjabi/Urdu). Although Saira had been in the school for three years (with one extended visit to Pakistan), she was making disappointing progress in English literacy and was receiving additional specialist support. Her teacher was especially interested, therefore, in her participation in this context.

The game started and Samy had just moved his counter. It was Saira’s turn to throw the number die:

1) Sa	ah ha Samy's speeding ahead with his five ha ha	Ci
2) Sr	four	Di
3)	One, two	Mi
4) Is	I'm going [to beat]	Ci
5) Sr	[no I'm speeding] ahead Samy	Ci <i>a friendly riposte</i>
6) Sa	I've got [one there]	Ci
7) Is	[two]	Di
8)	One, two	Mi
9)	Fourteen I'm up to. I'm in the lead	Ci
10) Sa	you no my turn	Ti
11) Sa+Is	one	Di + Dii
12) Sa	and I'm speeding ahead with my one!	Ci <i>a joke made at his own expense</i>
13) All	two	Di + Dii
14) Sr	one, two	Mi
15) Sa	ahh	Cii
16) Is(to Sr)	you've got You have to do this	Pii <i>use of deictic</i>
17) Sa	you can do both of them at the same time if you want	Pii <i>referring to the dice</i>
18) Sr	I Oops (SHE DROPS THE DIE)	R1 <i>reading</i> P
19) Sa+Is	I – take	R1 <i>reading both words</i>
20) Sa+Is	coke	R1 <i>naming the picture</i>
21) Sa+Is	[coke]	R1 <i>repeat</i>
22) Sr	[yeah] coke	R1 <i>agrees with word</i>
23) Sa	I take I take coke to my [house] to drink	R3 <i>models for Sr</i>
24) Sr	[yes]	R3
25) Sa	I take coke to my house to drink	R8
26) Is	yeah	R9+
27) Sr	Yesterday I took coke (.) [to] drink	R10
28) Sa	[to] 	R5
29) Sa	[mhm]	R9+
30) Is	[my turn]	Ti <i>ends episode</i>
31)	[four]	Di
32) Sr	[I thought] it was my go	Ti

At the beginning of this group interaction a friendly competitive ‘banter’ arose between Samy and Saira about who was “speeding ahead”. In this initial part of the interaction we are witness to Samy’s tendency toward the role of expert or group leader in his attempt to

instruct Saira on how to roll the dice (line 17), even if followed with the hesitant “if you want”.

Once the forfeit was underway and Saira had rolled the dice, Isathiaq and Samy immediately, and pre-emptively, assumed a supportive role by reading the word ‘take’ for Saira, whom they suspected may have difficulty in reading it. In other words, they were attempting to make the task *manageable* for Saira (Wood *et al*, 1976). Interestingly, they both read both words aloud (i.e. they repeated the first word in order to ‘set up’ the construction) (line 19). In line 21, Isathiaq and Samy repeated the word ‘coke’, probably for the same reason (i.e. saying the word aloud in order to think about how this would fit into a meaningful construction together with the words, ‘I’ and ‘take’). In so doing they were *keeping the interaction* going and *maintaining the goal of the forfeit* task (Lidz, 1991).

In line 22, Saira repeated the word for herself, thereby attempting to take back ownership of the forfeit turn. It appears, however, that at this early stage of the interaction, Samy believed that Saira would need help in constructing a sentence, and hence took it upon himself to form an appropriate construction, thereby providing a *model* and *ideal solution* to the linguistic problem presented by the throw of the dice (Wood *et al*, 1976). Saira again attempted to take back ownership part way through Samy’s utterance, by beginning her own construction (line 24). Due to the overlapping speech, or possibly in order to stress his solution, Samy repeated his entire utterance (line 25). It is also possible of course that Samy chose to repeat it in order to check that his construction ‘sounded right’ and/or that it made sense (refer to 2.4). It certainly seemed to make sense for Isathiaq, who readily

accepted Samy's construction. Given Isathiaq's subsequent play, it would be fair to surmise that he used this move both to congratulate Samy's move, thereby accepting his role in this episode as expert, and to move play along. Consequently, at this stage in the game, Isathiaq did not appear to be fully engaged with the opportunities for language learning afforded by the task.

Saira, on the other hand, did not accept Samy's authority as group expert and acted to challenge his 'model' utterance by recasting it and repairing the verb tense. With this utterance, Saira demonstrated not only that she was capable of constructing her own sentence, but also of following the rules by correctly placing the irregular verb in its past tense form. During this construction (line 27) she paused after the word coke, which Samy read as a sign that she may need further support. Significantly, however, he chose to reduce the level of support this time and did not take over the construction. Instead, he made a vertical construction move (R5), expressed with an intonational contour which signalled his intent (i.e. "this is a good next word, now you finish the construction"). This is very similar to the intonational contour used by teachers to prompt students. It demonstrates Samy's *intentionality* in keeping Saira's construction 'alive', and his *contingent responsivity* (Lidz, 1991) in reading Saira's behaviour and responding with *graduated* support (Aljaafreh and Lantolf, 1994). These are important adult scaffolding strategies and suggest that Samy was acting in the role of teacher. Once Saira had completed the construction, Samy made a noncommittal "mhm", possibly signalling that he thought the construction could be improved, in terms of meaning perhaps, but was not willing to make a further challenge.

In this small but significant episode, we begin to see how these learners, whilst negotiating the perception of power and expertise within their group interaction, simultaneously also negotiated one and other's ZPD in terms of the support offered and accepted. The genesis of the linguistic scaffold was as much an aspect of power negotiation as it was intentional support. In this episode, Saira was not willing to take on board the mantle of 'novice', in much the same way as Samy was willing to forgo the role of group expert, even though both players were aware of Saira's difficulties in reading English, and Samy's competency in English literacy.

Play continued and two moves later Isathiaq landed on a forfeit:

33) Is	ah I have to do the thing (SING SONG)	Pi <i>another deictic</i>
34) Sr	where was Isathiaq? There?	Cii <i>argues Is's position</i>
35) Sr	one, two, three, four	Mii
36) Is	no I I was here	Ci
37)	One, two, three, four	Mi
Sr	(LOOKS PUZZLED)	
38) Is	I went before	Ti
39) Sa	yeah because he had another go remember?	Tii
40) Sr	oh yeah	T
41) Is+Sa	we	R1
41) Sr	no so so you were [there?]	Ci <i>interrupts flow</i>
42) Is+Sa	[take]	R1
43) Sr	you were there or there?	Cii
44) Is	there	Ci
45) Sr	oh	C <i>respond</i>
46) Sr+Sa	one, two, three, four (Sr IS NOW SATISFIED)	Mii
47) Is	[I want to get]	Pi <i>predicts</i>
48) Sa	[we take] (HE IS READING THE DICE)	R1
49) Is	a bed? (HE LOOKS AT Sa)	R1
50) Sa	bed	R1 <i>repeat</i>
	No but that [doesn't]	EXT <i>relates to meaning</i>
51) Sr	[we take] a bed	R3
52)	Yesterday we [took a bed] (QUICKENS TOWARDS END)	R10 <i>self recast</i>
53) Is(to Sa)	[take a bed]	R5
54) Is(toSr)	yeah	R9+

55) Sa	take a bed so we can sleep in it	R7
56)	So I can sleep in it then	R10 <i>self recast</i>
57)	Now my turn	Ti

This episode began with Saira again asserting her status within the group leading, unfortunately, to an interruption in the flow of play. Once again, Samy and Isathiaq read aloud together and in line 48 Samy used repetition to ‘set up’ the sentence construction. This move acted to help all players remain focussed on the task ahead, or as Wood *et al*, (1976) described it, *keep direction in terms of the goal*. Isathiaq’s questioning intonation following his throw of the bed picture (on the object die) signalled his recognition that this was an ‘awkward’ word leading to an awkward linguistic problem for the group to solve. In other words, Isathiaq’s intonation of the word ‘bed’ *marked it as a critical feature* of the problem (Wood *et al*, 1976). The fact that he looked towards Samy for support reinforces the assumption that Isathiaq continued to construe Samy as the group expert. Samy’s repetition of the word ‘bed’ in line 50 was an act of thinking aloud, synchronising this new information with the words ‘we’ and ‘take’ which, given his later moves (lines 55-56), he too seemed to conclude was problematic in terms of meaning.

Saira, meanwhile, focussed on constructing the sentence in the past tense form irrespective of meaning (lines 51-52). In other words, Saira constructed this as an activity in which grammatical form took precedence.

In line 53, Isathiaq attempted to take back some ownership of the construction by joining Saira’s utterance part way through. Interestingly, Isathiaq did not seem to be aware of the necessity to place the verb in the past tense following Saira’s inclusion of the adverb ‘yesterday’ and continued to use the present tense form. Once again, Isathiaq turned to

Samy for confirmation. Samy remained concerned about the construction's meaning, however, and so repeated Isathiaq's previous R5 move and then extended it in an attempt to make the sentence more meaningful, ignoring Saira's past tense formation. Hence it appeared that thus far Samy and Saira were interpreting the rules slightly differently, with Saira focussing on form and Samy focussing primarily on meaning. Isathiaq, on the other hand, although participating, continued to decline the opportunity to explore, at least externally, either the meaning or the form of the L2 sentence constructions. Consequently, although all players were collaborating and co-operating, they did not seem at this stage to have established a shared perspective on the objectives of playing the game.

Play continued with Saira blatantly cheating for fun, until, after several turns, Isathiaq landed on a siren:

58) Sa	doo-noo doo-noo (SIREN SOUND)	Cii
59) Is	kneel down	R1
60)	[its <u>nomas</u>]	EXT translates
61) Sa	[I kneel down]	R3
62)	so what do what do you know	
63)	what do your mum and dad do?	EXT
64) Is	ehm nomas?	EXT response
65) Sa	do they pray?	EXT
66) Is	yeah	
67)	[they pray god]	EXT response
68) Sa	[we::ll] well they could say (.) (LOOKS UP AT Is)	EXT encourages Is to construct with him
69) Sa	[I]	R3
70) Is	[we]	R3
71) Sa+Is	<u>we</u> kneel down	R3 (R7 for Sa)
72) Sa	to pray	R7 continued
73) Is	to to pray tomorrow	R7
74) Sa	or today?	R10
75)	it doesn't really matter	EXT affect
76) Is	or today?	R8
77) Sa	under to the bottom of the pack	P

The picture Isathiaq picked up showed a boy kneeling down to pray. The words printed on the card read 'kneel down'. Isathiaq immediately recognised the picture and related it to his own experience using the Bengali word 'nomas' (to pray). Given the lack of L1 use in this game, it seems very revealing that Isathiaq used a Bengali word to describe an activity which he undertook primarily in the presence of other Bengali speakers. Samy, unable to recognise this Bengali word, began to form a simple construction incorporating the verb (line 61). At this point he realised that a particular verbal extension would make the most meaningful construction and hence set about trying to prompt Isathiaq's linguistic production by asking the question, "so what do your mum and dad do?" Samy used this question in exactly the fashion used by teachers to elicit a particular response (i.e. to encourage Isathiaq to form the utterance 'I kneel down to pray'). By appropriating the teacher's voice Samy was *regulating the task* in order to induce Isathiaq's *strategic thinking*, whilst at the same time exhibiting *joint regard* (i.e. trying to view the forfeit from Isathiaq's perspective) (Lidz, 1991). Isathiaq replied in his L1 which, unfortunately, Samy did not understand. Consequently, Samy tried again this time narrowing Isathiaq's options by providing him with the necessary vocabulary in English, thereby *reducing degrees of freedom* within the problem (Wood *et al*, 1976). This is typical teachers' questioning behaviour (Chaudron, 1993) and suggests that Samy had appropriated such questioning as a linguistic problem solving strategy for his own L2 development (see 4.16 and 4.19 for an extension of this argument).

Isathiaq responded by incorporating the English vocabulary (line 67) but, by then, Samy had begun his final attempt at prompting Isathiaq's construction. In line 68, Samy's use of the word 'well' signalled a connection between the information held in Isathiaq's previous move, 'my mum and dad pray', and the forfeit task; to make a sentence with the words

'kneel down' (i.e. Samy was *marking meaning*) (Lidz, 1991). Furthermore, by prolonging his enunciation of the word 'well' and by pausing and looking towards Isathiaq, Samy signalled his intent to share the ensuing responsibility with Isathiaq. Both Isathiaq and Samy then attempted the construction together, Samy deferring to Isathiaq's choice of pronoun, thereby promoting Isathiaq's status and ownership of the construction.

Line 73 demonstrates Isathiaq's first committed 'language-related engagement' (Platt and Brookes, 2001) (see 4.12), when he repeated and extended part of Samy's previous utterance. Interestingly, he used an adverb of time, an appropriation of the models provided earlier in the interaction by Saira. Unfortunately, this was an inappropriate choice for the verb tense and so Samy acted to repair. The questioning intonation used by Samy in offering this repair with "an illocutionary force akin to that of a question, in that it is not an assertion, at least not a categorical assertion" (Anton and DiCamilla, 1999:240), combined with his following comment, "it doesn't really matter" demonstrated his sensitivity towards Isathiaq's feelings and self-confidence. Such sensitivity seems to have acted to 'disinhibit' (Donato, 1994) Isathiaq, who responded with a direct repetition (including intonation), rather than a simple agreement, demonstrating, therefore, continued engagement on his own forfeit turn.

An interesting aspect of this episode is the different manner with which Samy supported Isathiaq's participation, in contrast to the support he had previously provided for Saira. This is further evidence that peers *can* negotiate one another's ZPDs with instructional intent which is 'contingent' (i.e. is withdrawn when deemed unnecessary) (Wells, 1999(b)). Also interesting is Saira's lack of involvement in this episode which, I would

suggest, is less of a reflection of her ability to participate than of her motivation to participate in this particular instance (i.e. she did not perceive it as necessary, or perhaps appropriate, for her to help Isathiaq; a behavioural pattern which persisted throughout the game).

Play continued and Samy landed on a card forfeit, for which he constructed a simple sentence, followed by a self-recast of the verb tense, revealing his awareness of this aspect of the game. This is interesting as it suggests that he chose not to repair Isathiaq or Saira's constructions in terms of grammatical form, another indication perhaps of his sensitivity to their experience of learning English.

Play continued until, eventually, Saira landed on a card forfeit:

78) Is	you have to choose a	P <i>trailed off</i>
79) Sa	nee nee nee nee (ALARM SOUND HANDS Sr A CARD)	Cii
80) Is	write	R1
81) Sa	write	R1 <i>repeat</i>
82)	I (.)	R3
83) Sr	<u>write</u> (LOUD)	R5
84) Is(toSa)	about pictures?	R5 <i>suggests</i>
85) Sr(to Sa)	about pictures	R5 <i>repeat</i>
86) Sa	fine if that's what you want	R9
87)	I <u>wrote</u> about pictures	R10
88) Is(to Sa)	no! you're not allowed to that! (TALKING ABOUT THE PILE OF CARDS)	P
89) Sa	that's in the past tense	EXT <i>metalinguistic</i>
90) Is	right its my turn now	Ti

Once again, both Isathiaq and Samy read the word on the card for Saira and then, in contrast to his first attempt at scaffolding support for her, Samy began the construction,

pausing to invite Saira's participation. In this way he acknowledged her previous participation, and framed the scaffold in such a way so as to *challenge* her (Lidz, 1991). Saira responded by adding the next word in the construction in a loud voice with added stress, probably in order to claim ownership of this, her own forfeit turn. Isathiaq's following utterance completed the construction, but again he used a questioning intonation looking towards Samy for confirmation. Before Samy could respond, however, Saira repeated Isathiaq's contribution and the construction was complete.

Samy's feedback was grudgingly positive, before he repaired the construction by altering the verb tense form. This was the first time in the interaction that Samy repaired the verb form on another player's forfeit turn, and probably signalled his acceptance of Saira's L2 linguistic knowledge as previously demonstrated in the game. He then followed with the first metalinguistic utterance of the game, externalising and therefore sharing his linguistic knowledge with the group, and reminding them all of the rules of the game. De Guerrero and Villamil (2000: 57) describe such scaffolding as a 'minilesson', whereby, "students exteriorize their expertise and offer each other knowledge about language."

After a short 'R' episode in which Isathiaq and Samy worked together to construct a simple sentence in the past tense, play continued until Saira landed on a dice forfeit:

91) Is	th[ey]	R1
92) Sr	[they]	R1
93) Is	bring=	R1
94) Sr	=bring	R1 repeat
95)	they bring	R3
96)	I want coke	R1 predict
97) Sa	they bring a (..)	R3 sets up construction

98)	what's that?	P <i>can't see dice</i>
99)	they bring a sari	R3
100) Sa (toIs)	or whatever	R4 <i>unsure of word, so turns to Is for support</i>
101) Sr	or a scarf	R10 <i>changes object</i>
102) Is	yeah come on [let's go]	R9+ / T
103) Sa	[headscarf]	R7 <i>accepts Sr's idea</i>
104) Is	its ehm my turn	T

All players were collectively involved in scaffolding this construction and it is an example of cumulative talk. Isathiaq began by reading the words for Saira, who quickly joined and then repeated him (lines 92 and 94). Saira then took control of her own forfeit turn, indicating the picture she would like to throw. Samy extended the construction in anticipation of Saira's throw by adding the indefinite article, 'a'. This would probably have been a sufficient scaffold for Saira to continue independently; unfortunately, however, Samy continued and formed a complete sentence construction (line 99). His next move, "or whatever" (line 100) is significant; by acknowledging that he was unsure of the word 'sari', and by turning to Isathiaq as the more expert partner regarding such information (an accurate depiction as Isathiaq speaks fluent Bengali), Samy reduced the status of his sentence construction, thereby encouraging the others to repair, recast or extend his contribution. In fact, Saira responded accordingly by suggesting an alternative sentence object (line 101). In contrast to previous episodes, however, in which she made R10 moves as a direct challenge, by incorporating the word 'or' in this utterance, Saira appropriated the illocutionary force of Samy's previous utterances. This is a sign that the power relationship between Saira and Samy had subtly altered, a pattern which would henceforth be replicated as the two players began to work together more effectively in enacting a level of mutual understanding. Unfortunately, Isathiaq remained keen to move play along and hence, in contrast to Saira and Samy, he remained unmotivated to engage with the activity

in ‘exploiting the affordances of learning’ facilitated by participation in this collaborative interaction (Lantolf, 2000(b)).

This interactive pattern continued in the next ‘R’ episode when Saira landed on a dice forfeit:

105) Is	she make	R1
106) Is+Sa	she make	R1 repeat
107) Sa	made!	R10 self-repair
108) Is	made	R10 repeat
109) Sr	ugh!	P didn't like picture
110) Sa	a sari	R1
111)	made a sari	R3
112)	yeah you can make you can make a headscarf or anything	R9/EXT explains why it is meaningful
113) Is	ah [my turn]	T
114) Sr	[I know] because you can get (...)	EXT tries to explain
115)	what do you call it?	Explicit request for word to make sense
116) Sa	I don't know	EXT response
117) Is	come on my turn	T
118) Sr	you get (...)	EXT repeat
119) Sa	you can buy it you can buy it or you can [sew it]	EXT circumlocution to find word
120) Sr	[make it]	EXT join
121) Is	four	Di

As in the previous episode, whilst contributing to the reading aspect of the forfeit, Isathiaq refrained from participating in the construction process other than to disturb the flow of play in attempting to prematurely end the episode.

Saira and Samy continued to be engaged in language learning, however, attempting to clarify and verify the meaningfulness of the sentence construction in searching for a

particular L2 lexical item. The word for which they were searching was probably ‘fabric’, a topic the class had recently been studying as part of their science lessons. Saira used repetition (line 118) and an explicit request for help (line 115) to aid the lexical search. The repetition in line 118 acted as what DiCamilla and Anton (1997) call a collaborative ‘holding platform’ to encourage the group to think of the most appropriate word to come next in the phrase (i.e. ‘you can get... some fabric’). (I will discuss repetition as a holding platform in detail in section 4.21). Consequently, it was also a means whereby Saira *maintained pursuit of the goal and controlled frustration* (Wood *et al*, 1976). Samy extended this thinking by describing the properties of the elusive word (i.e. ‘you can buy fabric and you can sew fabric’), thereby using ‘circumlocution’ as a communication strategy (Yoshida-Morise, 1998). Before either could recall the L2 word, however, Isathiaq ended the episode by throwing the number die.

Soon after this episode, Samy landed on a dice forfeit and Saira once again repaired Samy’s sentence construction by altering the verb tense, marking it with an R9- move and stressed enunciation of the verb, thereby *marking important features* (Lidz, 1991).

Although Isathiaq was not directly involved in the construction process, he ended the episode by remarking “it makes sense”, demonstrating that by this stage of the game he too was aware of the importance of meaning within the sentence constructions.

The final ‘R’ episode followed when Saira landed on a card forfeit. By this stage all three players demonstrated more collaboration irrespective of whose forfeit turn it was in working towards a shared task orientation (i.e. to form meaningful sentence constructions

placing the verb in its past tense form). The following episode is again an example of cumulative talk:

122) Is	what's that? let's see	P
123)	pray	R1
124) Sa	I prayed to god	R3
125) Sr	yeah	R9+
126) Is	we pray to god	R10 <i>recast</i>
127) Sr	no miss Smith prays for god (LAUGHS)	R9- / R10 <i>for fun</i> <i>ludic language play</i>

In this final episode Samy once again provided the model which both Isathiaq and then Saira recast without argumentation. Isathiaq changed the pronoun to make the sentence more meaningful to him, whilst Saira too changed the pronoun to my name, for fun. Shortly after this episode, Isathiaq won the game and play ceased.

4.12 Reflecting on the Analysis

This interaction revealed Saira's and Samy's motivation to construct the playing of Game 1 as an activity in which to 'exploit the affordances of learning' (Lantolf, 2000 (a): 84). Both Saira and Samy exhibited that which Platt and Brookes (2001: 372) refer to as language-related engagement by "repeat(ing) to themselves or respond(ing) vicariously to others' questions and statements about pieces of linguistic data". In contrast, Isathiaq's motivation seemed, at least initially, less concerned with 'learning' and more focussed on playing and winning. This finding supports Coughlan and Duff's (1994: 185) assertion that "the same basic task can be conceptualised differently by different people" and therefore corroborates the sociocultural contention that a task is not the same entity as an activity

(see 2.1). In other words, even though the players in this interaction were playing the same game (i.e. the task), the ‘game’ being played by each player (i.e. the activity) was different.

4.13 Implications for Formative Assessment

As Saira relied heavily on teacher assistant support during the Literacy Hour, the teacher was keen to find out how she would participate in a peer group interaction without adult support. The teacher’s view of Isathiaq was that if he couldn’t think of a word in English then “he’ll say I don’t know the word, or or.. he sometimes can think round it, in fact more so I’ve noticed this term than last year when I worked with him. ... he’s becoming so much less shy and so much more conscious of what is correct or acceptable” (from recorded feedback session, see Appendix 6). Consequently, she was interested to discover how confident Isathiaq would appear in a peer group interaction and how this would be manifested in his learning discourse.

Analysis of Saira’s participation

The discourse analysis revealed that Saira made 5 R10 moves, 3 of which were to correct the verb tense (i.e. from the present tense to the past tense). One of these R10 moves was a self-repair (line 52), whilst the other two were made following constructions by Samy. If this assessment was oriented towards output or ‘product’, therefore, we could say it showed that Saira was able to place the irregular verb ‘take’ into its correct past tense form (lines 27, 52), but failed to find the correct past tense of the verb ‘sleep’.

From a ‘learning as process’ perspective, however, this analysis suggests something far more revealing. Saira’s repairs and recasts were made independently of feedback from

either Isathiaq or Samy. In other words, she took responsibility for noticing and correcting linguistic 'errors' made in the course of play by herself and Samy. According to Aljaafreh and Lantolf (1994: 470), this symbolises a development towards 'self-regulation' during which, "the learner may even reject feedback from the tutor when it is unsolicited (e.g. "let me see if I can do it alone")." This seems to describe Saira's behaviour perfectly, particularly in the early stages of the interaction as she strove to assert her status and participatory role.

In line with her difficulties in reading English, however, her participation in the reading aspect of the game revealed a different picture. Throughout most of the interaction Saira accepted support from both Isathiaq and Samy in reading aloud the words on the dice and cards. In fact she made only 15% of the total number of R1 moves made in the game (5/34), only one of which was made entirely independently when she read the word 'I'. This indicates that in contrast to her role in constructing sentences in English in the past tense, Saira accepted her role as an 'other-regulated' reader (Aljaafreh and Lantolf, 1994). Interestingly, however, towards the end of the game, Saira started to move away from this dependence on others and began to try to read aloud together with (line 92) or immediately after (line 94) another player. In other words, Saira was trying to claim some ownership of this participatory role too and, in this sense, the analysis shows a development of her self-construction from an other-regulated reader to a self-regulated reader over the course of the activity.

This information was valuable as a formative assessment as it revealed that Saira may have become over-reliant on adult support during literacy sessions, and needed to be encouraged

to participate more independently during whole class discourse. The analysis also suggested that because Saira's spoken knowledge of English exceeded her literacy skills, she would benefit from group writing activities, or from recording her ideas for writing tasks on tape to be transcribed later with adult or peer support. Furthermore, the analysis suggested that in order to boost Saira's confidence and motivate her to reconstruct her identity as 'a reader of English', she should participate, together with more capable peers, in the type of collaborative problem solving activities where reading is a crucial aspect of achieving another related goal (i.e. where reading is for a purpose other than just reading). Such activities should also promote multiple opportunities for repetition and contingent support in the authentic and non-threatening practice of reading English.

When I relayed the results of this analysis to the class teacher she was surprised by the amount and quality of Saira's participation. Prior to the results of this analysis, she told me that when Saira struggled to find the correct word in English, rather than apply certain strategies, "she usually just smiles at you". Following feedback of the results, however, the teacher affirmed that she would now, "be able to encourage Saira.... to use what now I know she's got, this ability .. instead of just, yeah, just not trying.. or choosing a partner who she knows will do it all for her" (recorded feedback session: Appendix 6).

Analysis of Isathiaq's participation

The analysis clearly demonstrated Isathiaq's heavy reliance upon the scaffolds provided for him by Samy and to a lesser extent by Saira: an interactive pattern which did not substantially change over the course of the activity. Isathiaq did not appear fully engaged with the 'affordances of learning' presented by participation in this activity (van Lier, 2000). An example of this was his lack of repetition, particularly following a recast or

repair by another player. The analysis also revealed that unlike Saira, Isathiaq did not notice tense errors made by himself or by others, and hence did not act to correct either himself or the other two players. Although he made the most R9 moves ($6/14 = 43\%$), all of these were to express explicit agreement and acted more as a support to other players (a characteristic also replicated in Isathiaq's frequent C(ii) moves when he commented on how well other players were playing) and as a means of moving play along (i.e. to finish an 'R' episode), than to reflect on actual linguistic production. This may be a sign either of his developmental stage in learning English or of his confidence in and his motivation for playing this particular game with these particular players on this particular occasion. Interestingly, however, Isathiaq made the most R1 moves (reading the words on the cards and dice) ($16/34 = 47\%$) and did so for all players. This would suggest that Isathiaq was confident in his status as a reader of English in this context.

Consequently, the analysis suggested that Isathiaq would benefit from language learning activities in which his learning was scaffolded as in this game, but in which the scaffolds were gradually and contingently 'dismantled' (Donato, 1994), or in which he was able to directly participate in the scaffolding process himself. Furthermore, in contrast to the teacher's impression of Isathiaq, the analysis suggested that he was not able to notice errors or inconsistencies (e.g. line 53). He may, therefore, have benefitted from explicit practice in noticing his own and others' verbal errors in English; a task which may also be accomplished as a verbal game.

Finally, and in stark contrast to his teacher's view that Isathiaq could "think round" an unknown word, analysis of the interaction as a whole showed that he regularly made

incomplete or linguistically ‘reduced’ utterances (Yoshida-Morise, 1998). Message abandonment occurs when, “learners ... abandon their attempt to express an intended meaning in the middle of the sentence rather than employ an alternative strategy” (Yoshida-Morise, 1998: 209). The Table below reveals that Isathiaq produced reduced utterances by making 10 abandonments, only four of which could be explained by unsmooth speaker shifts or cut offs.

TABLE 6
Isathiaq’s Use of Message Abandonment

<u>moves</u>	<u>utterance</u>
C moves	You haven’t
	I’m in
	I’m going [to beat]...
T moves	She’s...
P moves	You have to go...
	You have to choose a...
	No you’re not allowed to do tha...
	[I want to get]
Non-classified	[that’s]...
	We di[dn’t]....

The analysis also revealed that Isathiaq reduced his utterances by ‘semantic avoidance’ which is said to occur when “learners change their intended message slightly rather than abandoning. Learners may reduce the scope of the message, resulting in rather general or vague meanings within the context” (Yoshida-Morise, 1998: 209). Isathiaq made noticeable use of deictic words as a means of semantic avoidance in expressing the ‘gaming moves’ as the Table below details.

TABLE 7
Isathiaq's Use of Deictic Words as Semantic Avoidance

Naturalistic usage	Use as semantic avoidance
(C) <u>there</u> – <i>response to a question</i>	(P) You have to do <u>this</u> – <i>throw dice</i>
(C) look at the three of <u>them</u> - <i>counters</i>	(P) Ah I have to do the <u>thing</u> – <i>throw dice</i>
(C) <u>that's</u> mine, the green <u>one's</u> mine – <i>a counter</i>	(P) I can do <u>this one</u> – <i>throw dice</i>
(P) I have to choose <u>one</u> – <i>a card</i>	(C) I can do <u>that</u> – <i>have another turn</i>
	(P) no you have to do <u>this one</u> – <i>throw the dice</i>
	(P) if you get happy face you have to do <u>this one</u> – <i>throw the number die</i>
	(C) oh we got <u>there</u> and we got <u>there</u> – <i>positions on the board</i>

This Table demonstrates how Isathiaq avoided using certain nouns and verbal clauses, especially 'throw/roll the dice', replacing them with deictic words such as *this*, *that*, *there*, and *thing*. The overuse of deictic words and the tendency to abandon his message in this game, would suggest that Isathiaq's teacher should pay close attention to his L2 language production and make sure that he is encouraged to hold his turn and extend his utterances when in whole class and group interactions. The teacher could encourage the production of achievement strategies such as circumlocution as demonstrated by Samy (line 119) in describing the properties or functions of the meaning of a word. This could be achieved through games and group work which explore synonyms in English or through tasks such as barrier games (where a physical barrier such as a board is placed between two individuals as in 'battleships' or 'mastermind') for which the use of deictic words are ineffective.

As Isathiaq's situated performance was so at odds with his teacher's predictions and expectations, it would be valuable to compare this analysis with the results from another

group interaction wherein Isathiaq replayed the game with a different group of pupils shortly after having played with Saira and Samy. The following section will document the most salient features of this second interaction in comparison to the first.

4.14 Analysis A:2, G:1

Unfortunately, the behaviour of this all boy group was poor as the other two players, Saiyed (S) (Bengali) and Sam (Sm) (native English), both of whom were chosen by Isathiaq as playing partners, over emphasised the competitive element of the game to the detriment of collaboration. Isathiaq worked hard to control the others' behaviour and to introduce a collaborative spirit, being the only player to consistently produce R1 and R3 moves (i.e. reading and constructing sentences) for and, in co-operation with, another player.

In the previous interaction, Isathiaq had relied on the scaffolds provided by the other two players to participate in the construction of sentences in English. Consequently, the majority of 'R moves' made by Isathiaq in the first interaction involved adding to the end of collaborative/vertical constructions. In contrast, during the second interaction Isathiaq instigated the scaffolding process by initiating R3 moves for himself and the other two players, compelled to do so, no doubt, by their lack of collaboration. In fact, Isathiaq made 9 R3 moves in this group interaction, 5 of which were for another player. Even on his own forfeit turn, Isathiaq acted to encourage collaboration as evinced by the following particularly interesting episode.

Just over half way through the interaction, and after several unsuccessful attempts by Isathiaq to introduce collective scaffolding, Sam landed on a dice forfeit:

1) Sm	take (S GRABS DICE AWAY)	R1
2) Sm	what was that?	R2 (<i>by necessity</i>)
3)	take and she,	R1
4) S	take she, why me?	R1 <i>makes rhyme for fun</i>
5) Is	she take ↘	R3 <i>sets up construction</i>
6)	she take what? ↘	R3 <i>more explicit help</i>
7) Sm	she take coke can	R7 <i>no change in verb</i>
8) Is	no you have to ...	R9-/ EXT
9) Sm	she drink coke can	R10
10) Is	she dranked (Is PUTS ALL DICE TOGETHER)	R10
11) Sm	she take	R3 <i>starts again</i>
12)	she took	R10 <i>self</i>
13)	she taked	R10 <i>self</i>
14) S	this! (HE TURNS LARGE DIE OVER)	P
15)	she she take men ehm shari	R3 <i>starts again</i>
16) Sm	eeh yeah!	R9+
17)	she take shari	R8
18)	you love her don't you?	Unclassified

The episode ended with Sam and Saiyed fighting over the girl in the picture and hence no further repairs were encouraged. Notice also that after line 10, the pupils did not build on each other's utterances collectively and both Sam and Saiyed start their own R3 move (lines 11 and 15).

This episode is interesting because of the nature of the scaffold Isathiaq attempted to construct for Sam's participation. Firstly, with rising intonation, Isathiaq invited Sam to continue and complete the construction (line 5). When this was unsuccessful he decided to be more explicit by incorporating an interrogative to signal his exact intentions (line 6).

This was very similar to the eliciting procedure Samy constructed for Isathiaq in the first interaction (A:1, lines 59-76). It appears as if Isathiaq had appropriated the instructional role together with the linguistic mechanism of elicitation. Indeed, for the first and only time in either interaction, Isathiaq made an R9- move (i.e. explicitly disagreed with a construction) followed by an EXT move, also previously used by Samy. Given Isathiaq's subsequent R10 move (line 10), the EXT move was probably meant to convey the fact that Sam should have used the past tense. Sam seemed to interpret Isathiaq's move as relating more to meaning, however, as he tried to make the sentence more meaningful. Isathiaq then accepted Sam's recast and attempted to repair the verb tense.

This was the only time in either interaction that Isathiaq noticed a verb tense error and acted to repair it, a sign perhaps that this was not beyond Isathiaq's developmental capacity, but that his motivation to do so was dependent upon the participatory role he constructed for himself within an interaction. In other words, as an extension to the remarks made earlier, it would appear that Isathiaq would not only have benefited from tasks which explicitly required him to notice his own and others' verbal errors in English, but that this activity may have been enriched by his self-perception as group expert. This could be achieved by giving Isathiaq previous experience of a particular task and a verbal acknowledgment of this experience by the teacher in the presence of other participants, saying, for example, "now Isathiaq has played this game before and he will be able to notice if anyone makes a mistake".

Towards the end of the interaction, Sam landed on a card forfeit. I was present in the room during this 'R' episode, trying to refocus the group's attention back to the task objectives.

Hence, H = myself in this extract. Sam threw the first die:

19) Is	threw	R1 <i>puts in past tense or misreads</i>
20) Is(to H)	I threw the ball (Sm STARTS TO CONTINUE PLAY)	R3
21) H	hey oh Sm you haven't waited [for him]	
22) S	[let's see] let's see that	P
23) H	you haven't been doing that all of the time have you?	
24) Sm	no	
25) S	doing what?	
26) H	[<u>wait</u> for each other]	
27) Is	[I threw]	R3
28) Is	I threw (...)	R3 <i>repeat</i>
29) S	pass it back to	D
30) Sa	I'm on I'm [behind you]	Ci
32) Is	[threw] the ball (VERY QUIET) (Is GIVES UP AND PUTS CARD BACK)	R3

This short episode further demonstrates the un-collaborative nature of Sayed and Sam's discourse, their inattention to other players and consequently, their non-response to Isathiaq's collaborative cue (line 28). It is obvious that Isathiaq did not intend this utterance as an implicit call for help, as he had already formed a complete construction (line 20). Rather, Isathiaq's utterances in lines 27 and 28 (line 27 repeated due to overlapping speech), symbolic of his attempts throughout this interaction, were directed towards Sam to encourage collaborative participation. Isathiaq eventually gave up and formed the construction himself (line 32).

Although Isathiaq independently formed four verbs in the past tense in this game, as opposed to only one in the first, there was evidence that he did struggle with their

formation, particularly the irregular verbs. Consequently, analysis of both interactions adds weight to the assumption that Isathiaq needed more practice in forming the simple past tense of verbs in English. Analysis of the second group interaction revealed that despite his more ‘instructional’ role, he continued to overuse deictic words in reducing the scope of his message, and to abandon his message rather than finding another way of expressing his intended meaning.

4.15 Reflecting on the Analysis: Same Task, Different Activities

A comparison of these two interactions, A:1 and A:2, promotes an understanding of the sociocultural construct of ‘activity’, as previously described in section 2.1. Although the ‘task’ remained the same (i.e. the board game and its associated rules), Isathiaq’s construction of his participatory role within that task changed when he participated in the same task with a different group of players. This change was primarily influenced by the behaviour of the other participants and their perceived relations with one another.

In the first group (A:1), players acted collaboratively to support one another and, in particular, to support Isathiaq’s construction of sentences in English. In the second group (A:2), however, the other participants behaved in a decidedly unsupportive and non-collaborative manner, their goal for participating aimed primarily at competing to win. Consequently, Isathiaq’s immediate goals in performing the forfeit tasks in the second interaction shifted in comparison to those held in the first interaction as he was no longer able to construct his role as that of the recipient or benefactor of scaffolds erected for him by others. This time, rather than accepting the role of novice and the one for whom learning was ‘facilitated’, Isathiaq was motivated to perceive his role as that of the expert

and learning ‘facilitator’ in attempting to redirect the goals of the other players and reconstruct the playing of the game as a collaborative learning activity. In reconstructing his participatory role, Isathiaq appropriated the linguistic mechanisms of scaffolding exploited by Samy and Saira in the first interaction, for example, pausing to invite vertical participation, even when clearly capable of doing so independently (lines 27, 28 above), and by using an interrogative to explicitly elicit a response (line 6 above).

Hence, Isathiaq’s transformed performance in the second interaction, as compared to the first, supports the sociocultural reasoning that, “activities have no inherent parameters or boundaries, except those imposed by the task and by the interpretations and expectations of the individuals involved in a given task” (Donato, 1994: 175).

In effect, therefore, the results of analysing one player’s participation in two different groups using the same cognitive task, emphasises that not only is the same task enacted differently by different pupils participating together at the same time, but also that the same pupil can construct the same task differently on two separate occasions given a different group of participants with different local agendas and sociohistorical relations. Furthermore, it emphasises the crucial factor that whomsoever one participates with in an interaction, is an influential determinant of how one performs within that interaction. This is a serious point to consider in relation to assessments based on bilingual pupils’ performance within group interactions, as argued by Swain (2001) (see 2.72).

Let us now consider the activity constructed by the first group of players in school B.


4.16 Analysis B:1, G:1

This interaction involved two Bengali speaking pupils, Dina (D), very experienced in English and Syeda (S), who had arrived from Bangladesh just over one year ago. Their playing partner was Ayanda (A), a fluently bilingual pupil from South Africa. Dina was extremely shy in class and found talking to the teacher in English very difficult. She had, however, made friends with other pupils in the class.

The first 'R' episode occurred early in the game when Ayanda landed on a card forfeit:

1) D+A	I	R1
2) A	_____ going to be wear (VERY QUIET)	P
3) S+D+A	sleep!	
4) A	I wonder (VERY QUIET)	P
5) D	[a::h]	P
6) S	[slept] (POINTS TO PICTURE, LOOKS TO A)	R1
7) A	I= (REARRANGES DICE)	R1
8) S	=bed	R1
9) A	I slept (.) in bed	R3
D	(CLAPS AND LAUGHS)	
10) A+S	your turn	Tii
11) D	it's a good game	EXT

Play continued and only four moves later Dina landed on a card forfeit:

12) D	I oh ho ho ho	R3
13) D(to A)	I (..)	R3
14) S	_____ (SOUNDS LIKE HAVED BUT VERY QUIET)	R5
15) D(to A)	haved (SPOKEN VERY SLOWLY)	R3 continued
16) D	no	R9- self
17)	I <u>had</u> my (.) (AGAIN LOOKS TO A)	R10 self
18)	no	R9-
19) S	my teddy bear 	R5 suggests
20) A	don't tell her	Behaviour check

Ayanda and Dina then went on to construct a completely different sentence and Syeda took no further part in the episode.

At the beginning of this interaction, we can see that all three players were working together to solve the linguistic problems. In the first episode, Syeda was keen to contribute to Ayanda's forfeit turn. In lines 6 and 8 she tried to indicate that Ayanda had thrown the best picture possible to accompany the verb sleep. In so doing (line 6), she tried to put the verb in its past tense form, (or perhaps this was just a pronunciation error). Ayanda then proceeded to independently construct a sentence in the past tense. Noticeably, however, when she paused mid-way through the construction, neither Syeda nor Dina attempted to intervene. This suggests that even at this early stage of the interaction, both Dina and Syeda construed Ayanda as expert enough to work independently on the forfeit tasks. Dina's clapping and her utterances in lines 5 and 11 were 'affective markers' (Donato, 1994), which showed '*joint regard*' to the task, whilst simultaneously also acting to encourage collective participation (Wood *et al*, 1976).

During the second episode, Syeda made two R5 moves (i.e. vertical extensions) both following pauses by Dina. Line 14, although unclear on playback, sounded something like 'haved'. Her second R5 move (line 19) acted to suggest a completion to Dina's construction with the words 'teddy bear', as found on the picture card. The intonation rise used at the end of this utterance implies that, in a similar vein to several moves made in the previous interaction (A:1), this move was employed simultaneously for its 'social and its cognitive impact' (i.e. was a suggestion rather than an assertion) (Anton and DiCamilla, 1999). Hence, at this early stage in the interaction, even though Dina was looking towards

Ayanda for help, Syeda was able to interpret Dina's subtle bids for help and was confident enough to offer polite and appropriate support by making meaningful vertical collaborative moves, thereby *keeping the interaction going* (Lidz, 1991) and *controlling* Dina's *frustration* (Wood *et al*, 1976).

Ayanda, on the other hand, did not offer verbal support to Dina, and her remark to Syeda signalled that that her intention was to encourage Dina to complete the construction independently. In other words, Ayanda was in the process of negotiating a developmentally appropriate 'activity frame' in terms of the support she was prepared to offer or withhold from Dina (Aljaafreh and Lantolf, 1994). In this instance she chose to withhold support, thereby *challenging* Dina's participation (Lidz, 1991). Her decision was probably based on previous experience of Dina's participation in class and group literacy based activities. Unfortunately, Ayanda's criticism of Syeda's participation in line 20 was quite harsh and seemed to 'inhibit' Syeda's subsequent performance in contrast to those scaffolding features which are said to 'disinhibit' learning (Donato, 1994).

Syeda was the next player to throw and she too landed on a card forfeit:

21) A	you ah she's got a siren	C
22) D	ahh (S PICKS TOP CARD)	C
23) A	what does that say?	R2 inauthentic/instructs
24)	speak speak speak (GETS QUIETER)	R1 teaches
25) S	[ehm]	
26) A	[sp – eak] sp-eak BREAKS IT PHONETICALLY)	R1 repeat
27) D	say what's that word?	R2 inauthentic/instructs
28) S	I speaked (QUIET) ↗	R3 suggest
29) D	yes!	R9+
30) A	yes	R9+

31)	cos look speak see she's [speaking]	R1 / R3
32) D	[speaking]	R3 join
33) A	to her mutha (GEORDIE PR.) ↙	R6
34) D	right mutha (LAUGHS AT A'S PR.)	R9+ / R8
35) D	oh I think I went to that school man	EXT <i>describes picture</i>
36) A(to S)	I <u>spoke</u> to mam?	R10 self
37) D	yeah S NODS	R9+
38) A	[I spoke to my mam]	R10 } <i>all</i> R3 join } <i>together</i> R8 }
39) S	[my mam]	
40) D	[I spoke to a man]	
41) D	spoke [to the teacher?]	R10
42) S	[to a]	R3 join
43)	teacher	R8 accepts
44) A	you want right you want I spoke to my teacher?	R10
45) D	uh-hu	R9+

This lengthier 'R' episode began with Ayanda changing the orientation of her message from one directed towards Syeda to one directed towards Dina about Syeda (line 21). This is significant as it signalled a perception of separateness, herself and Dina as users of English, versus Syeda, a learner of English. In this way, Ayanda began to position Syeda as the novice of this interaction, a status which was then actuated in terms of subsequent scaffolding behaviour.

Ayanda and then Dina both displayed *instructional intent* by prompting Syeda into reading the word on the card (lines 23 – 27) (Lidz, 1991). In line 24, Ayanda repeated the word 'speak' three times in an effort to encourage Syeda's recognition of the word in English (i.e. "this is the word 'speak', do you know it?"). Then, before Syeda had chance to reply properly, Ayanda repeated the word again, this time splitting it into its onset, 'sp' and rime 'eak' constitutive parts in an attempt to teach Syeda how to read the word 'speak'. This is a reading strategy commonly applied in key stage one teaching of English literacy and one

which Ayanda is likely to have appropriated in her own literacy development (see 4.19 for an extension of this argument).

Instead of repeating the word, however, Syeda attempted to construct her own sentence in English incorporating the word and attempting to place it in its past tense form (line 28). The raised intonation and lowered voice signalled that Syeda was not yet fully confident of her solution. Rather than immediately correcting this error, however, both Dina and then Ayanda enthusiastically agreed with Syeda's effort. This showed their 'mutual sensitivity' (Ohta, 2000) towards Syeda's self-confidence and acted to motivate her further participation. Ayanda then extended her supportive role. In using the word 'look' followed by the word 'see', she attempted to facilitate an intermental association between the word 'speak' as written on the card, and its meaning as depicted in the picture of a teacher speaking to her class, thereby externalising the thinking process underlying the performance of the card forfeits. This clearly demonstrates Ayanda's *intentionality* in using language intermentally in order to *regulate the task* to make it intramentally accessible for Syeda (Lidz, 1991).

Already apparent within this interaction is the noticeable difference in the scaffolding provided by Ayanda to support Syeda in comparison to the support she withheld for Dina. This confirms that pupils' can work with *contingent responsivity* and affective sensitivity in negotiating each other's ZPDs during collaborative interaction (Lidz, 1991).

Line 33 was the beginning of the group's extension of Syeda's construction. Dina described the picture by *sharing her experiences*, thereby promoting a sense of group

collectivity (Lidz, 1991). Meanwhile, Ayanda continued to think about the sentence they had thus far constructed ('I speaked to her mutha') and realised that the verb was incorrect, and so acted to correct the error, *marking* the change by adding stress to the verb (Wood *et al*, 1976) (line 36). She also changed the word 'mutha' to mam which, following Dina's earlier repetition, she must have realised was heavily accented. Interestingly, in forming this recast, Ayanda used a questioning intonation, signifying her openness to feedback or further recasting, a cue to which all players then responded synchronously (lines 38-40). By joining this mutual construction (lines 39 and 42), Syeda showed a continued engagement with this her own forfeit turn. From the initial construction, "I speaked" the group eventually emerged from the collective scaffolding in this episode with the recast construction, "I spoke to my teacher", a sentence Syeda would probably not have been able to produce independently in English prior to the game.

Play continued with Dina landing on a dice forfeit and forming her own sentence, "I pushed Ayanda off her bed!" about which all players laughed. Shortly afterwards, Syeda landed on a dice forfeit:

46) D	right [_____]	P
47) A	[_____] one first (BOTH D AND A ARE REFERRING TO THE ORDER IN WHICH THE DICE SHOULD BE THROWN)	P
48) D+A	think	R1
49) D	(<u>aesay aesay</u>) (<i>Hindi= this way this way</i>)	P
50) S	he	R1
51) A	[think and]	R1
52) D	[(<u>egu egu</u>)] (<i>Bengali = this one this one</i>)	P
53) A	oh I've forgot what its called	R2
54) D	sari	R1
55) A	sari	R1 repeat
56)	he thinks about saris?	R3 suggests
57) D	yeah hmm	R9+

58)	no	R9-
59)	he <u>thinked</u> about saris	R10
60) A	oh yeah	R9+
61)	he <u>thought</u> about saris	R10
62)	that that's the past tense	EXT
63) D	okay	R9+
64)	right my turn	Ti

In this episode we witness an interesting use of L1 and the removal of an appropriate participatory scaffold for Syeda. In line with results from other sociocultural studies, this L2 interaction reveals the use of L1 (in this case Sylheti Bengali and Hindi) by learners in order to “navigate themselves and each other through (the task)” (Lantolf, 2000b: 86). The specific form of Bengali (and Hindi) used by Dina in lines 49 and 52, however, was not only used as an instrument of task control, controlling the physical aspects of performing the forfeit, but was also used to assert authority over Syeda. By repeating an imperative form, Dina was assuming an authoritative position, thereby “establishing the tone and nature of their collaboration” (Swain and Lapkin, 2000: 268). This may have blunted Syeda’s initial confidence in starting the game, accounting, perhaps, for her subsequent lack of verbal participation in this episode.

On the other hand, Dina and Ayanda did not directly encourage Syeda’s continued verbal participation. Their mutual scaffolding is interesting however, because, as in Donato’s (1994: 45) study of adult L2 learners, “correct knowledge is subsequently secured from incomplete and incorrect knowledge” through a process of ‘collective argumentation’. Ayanda’s first sentence construction attempt was formed in the present tense, which Dina then incorrectly attempted to convert to the past tense. This grammatically incorrect construction, or ‘negative evidence’ (Donato, 1994), then triggered the correct solution from Ayanda, who subsequently explained her repair with a ‘minilesson’ (De Guerrero and

Villamil, 2000) sharing her linguistic knowledge with the group and reinforcing the game's rules. Hence, this episode is an example of exploratory talk in the process of L2 language learning.

Shortly after this episode, Dina landed on a dice forfeit and before beginning the forfeit turned to Syeda saying, “eta amargo”, translated as “this is my turn dear”, a patronising expression, to which Syeda wittily replied in English, “ok dad”. This riposte by Syeda may have challenged Dina's positioning of Syeda in a cognitively subordinate role, thereby unsettling her decision to use L1 as a tool with which to dominate Syeda. Syeda took no further part in this ‘R’ episode, other than to join in reading the words on the dice. Play then continued until Syeda landed on a dice forfeit. This time Dina made a deliberate effort to directly involve Syeda in the ensuing construction:

65) D	she's it again	Cii notice 3 rd person
66) D+A	take	R1
67) A	take	R1 repeat
68) D+A	she	R1
68) D	ooh! salo salo (<i>Bengali = throw it throw it</i>)	P
69) A	she takes fish (SPOKEN VERY QUIETLY)	R3 models
70) D	she (D POINTS TO THE WORD FOR S)	R1 instructs
71)	cou (<i>Bengali = say it</i>)	
72) D	she (SLOW, AND AS IF READING A NARRATIVE)	R3
73) S	she	R1 repeat
74) D	taked (..) (SLOW AND AS ABOVE)	R3 continued
75) S	fish	R5
76) D	yes!	R9+
77) A(to D)	she taked fish from the (rock) shop	R7
78) D(to A)	fish monger?	R10 suggests
79)	fish monger	R8 self confirms
	A NODS	
80) S	fish munga	R8 practices
81) D	monger	R8 corrects pr.
82) S	munga	R8 practices pr.

The episode began with Dina and Ayanda dominating the reading and Dina, yet again, using a repetitive imperative form of Bengali. Once all three dice had been thrown, Ayanda quietly formed a simple sentence construction. I do not believe, however, that she made this move as an intentional model, rather as a form of private speech, thinking to herself, “ok she’s thrown ‘she takes fish’, now does that sound right, does it make sense, could I make it more meaningful?” (see 2.4). The fact that she spoke so quietly did not overtly address her utterance to another player as in previous moves, and did not use a questioning intonation to suggest this as a possible model, as she had frequently done in the past, supports the contention that this was indeed an outward manifestation of her intramental thinking.

Meanwhile, Dina decided to encourage Syeda’s verbal participation by explicitly instructing her to repeat Dina’s own utterances, and by enunciating each word as if reading a narrative, replicating a style often used by teachers to encourage repetition or ‘shadowing’ (Lantolf, 2000(b)) (lines 70 –74). By doing so, Dina *recruited* Syeda’s *attention* and *reduced the demands of the task to make it manageable* for her (Wood *et al*, 1976). Syeda responded appropriately and Dina *encouraged* her effort enthusiastically (Lidz, 1991).

Ayanda allowed Dina to take responsibility for this part in the collective scaffolding process, and then continued her previous line of thinking trying to make the sentence more meaningful, although it remains unclear what she meant by the expression ‘rock shop’. The fact that Syeda repeated Dina’s repair, perhaps in an effort to practice saying a new word aloud, shows a returned ‘language-related engagement’ which contrasts with the previous

two episodes (Platt and Brookes, 2001). Consequently, the effort made by Dina in encouraging and facilitating Syeda's participation acted to repair Syeda's knock in confidence and 'disinhibit' her subsequent participation (Donato, 1994).

The game continued with both Ayanda and Dina landing on forfeits, during which time Syeda participated by repeating others' reading (R1 moves) and attempting an R5 move (i.e. a vertical extension). Eventually, Syeda landed on a card forfeit and again Dina acted to encourage Syeda's verbal participation:


83) D	what is it?= =catch	R2 <i>inauthentic/instruct</i>
84) A		R1
85) S+D	catch (D DEMONSTRATES WITH HER HAND)	R1 <i>repeat</i> <i>Provides miming clue</i>
86) D	catch	R1 <i>repeat</i>
87) S	catch it (PUTS CARD BACK)	R3 <i>formulaic expression</i>
88) D	[I caught] ↗	R3 <i>sets up construction</i>
89) A	[he caught]	R3
90) A	<u>he</u> caught	R3 <i>repeat adds stress</i>
91) D(toS)	oh I cau:::[ght]	R8
92) S	[caught]	R8
93) A	<u>he</u> caught	R10 <i>changes pronoun</i>
94) S(toD)	[catch my ball] (SMILES)	R3 <i>new construction</i>
95) D	[<u>he</u> caught]	R8 <i>accepts A</i>
96) A	or I caught	R8 <i>accepts D</i>
97) D	yeah I (..)	R9+ R10 or R8
98) S	ooh Dina's gone first	Cii <i>ends episode</i>

This episode began with Dina's employment of an explicit teaching strategy in an attempt to hand responsibility for reading the card back to Syeda. This was the first evidence of an attempt to 'dismantle' the reading scaffold, as both Ayanda and Dina had previously read the words on the dice and cards for Syeda (Donato, 1994). Unfortunately, Ayanda had already begun to read the word on the card. In an effort to make sure Syeda understood the

meaning of the word, Dina mimed a catching action and repeated the word. Perhaps it was the mime which reminded Syeda of playing with a ball in the school yard or in the street, where children shout to each other, “catch it” which inspired her production of this formulaic expression. Whatever her motivation, however, Syeda seemed content to end the episode at that point.

Dina and Ayanda, on the other hand, wanted Syeda to make a more complex construction using the subject-verb-object (S-V-O) formulation of the dice forfeit. Dina’s use of the word ‘oh’ in line 91, which followed Ayanda’s stressed repetition of the correct form, signalled that she had recognised her initial error. Dina then addressed her repetition of Ayanda’s repair to Syeda with an elongated expression (line 91). This acted to encourage Syeda to join her, a significant move as it was the first time in the game that Syeda had repeated another player’s utterance containing a verb. Syeda’s subsequent move in line 94 showed her continuing wish to participate but her inability, perhaps, to include the verb in its past tense form. Nevertheless, the repetition in line 92 was significant and it signalled a subsequent shift in Syeda’s verbal participation.

The next time Syeda landed on a forfeit, it was Ayanda who provided the initial scaffold:

99) S	oh again (LAUGHS)	Ci
100) A	carry	R1
101)	carried	R10
102)	cos its in past tense	EXT
103) D	carry (SING SONG)	R1 repeat
104) A	carried	R10
105) D	I <u>carried</u> this	R3
106) S	I carried my book 	R10 suggests
107) D	yeah! A NODDED AND PUT CARD AWAY	R9+

This short episode marks the first time in the interaction that Syeda formed a complete R3 move in the S-V-O format. The initial scaffold by Ayanda involved placing the verb firstly in the present tense and then in the past tense, followed by an explanation of this change. The scaffold continued when Dina formed a sentence incorporating the deictic, ‘this’, referring to the picture of a woman carrying a pile of books. This scaffold acted as sufficient mediation at this stage of the game for Syeda to construct her own meaningful sentence in the past tense.

Shortly after this episode the final episode of the game occurred when Syeda again landed on a card forfeit:

108) S	ehmm	<i>implicit call for help</i>
109) A	look on the other side	
	look on the other side	P
110) S	I drew a picture ↗	R3 suggests

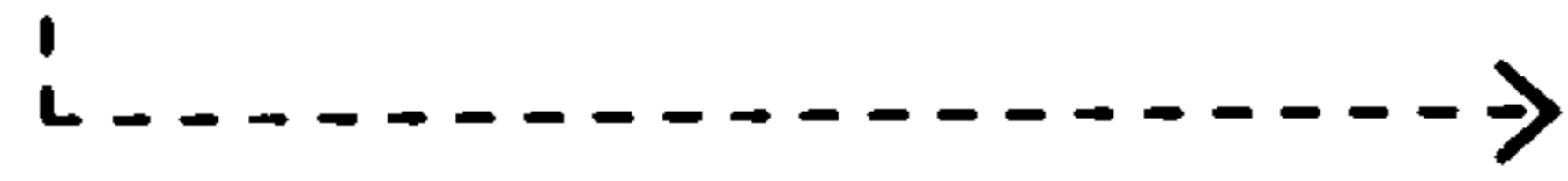
Finally, in this the very last episode of the game, Syeda independently constructed a complete and meaningful sentence in the S-V-O format, correctly placing the irregular verb in its past tense form. Ayanda must have realised that after several scaffolding episodes, Syeda was ready to try an independent construction and hence, in marked contrast to her own and Dina’s earlier scaffolding strategies, neither player provided Syeda with any linguistic clues upon which to build. Ayanda’s only move was to help Syeda interpret the meaning of the written word by referring to the picture on the other side of the card.

4.17 Reflecting on the Analysis

When viewed as a whole, this interaction reveals the mediating power of collective scaffolding in an L2 learner's gradual appropriation of an L2 linguistic form. Despite the de-motivating and 'inhibiting' aspects of the interaction, such as the third person references and Dina's controlling use of Bengali, Syeda was able to utilise the scaffolds manifest in this interaction to improve her knowledge and production of a particular linguistic form (as demonstrated in Figure 4 overleaf). The 'disinhibiting' scaffolds (Donato, 1994) which facilitated this appropriation can be differentiated into two types of mediating strategies: those explicitly employed by Dina and Ayanda as intentional teaching strategies, and those which occurred naturally as part of the process of collaborative problem solving (i.e. those which occurred more implicitly) as in Figure 3 below:

Explicit Mediating Strategies:

(Equivalent to those employed by Sa and S in A:1 and Is in A:2)



- * teaching strategies, e.g. reading strategies (onset and rime), slow and narrative style reading
- * direct elicitation strategies, e.g. asking "what does that say?", or demanding repetition
- * 'minilessons' exteriorising linguistic knowledge.

Implicit Mediating Strategies:



- * collective scaffolding to solve linguistic problems, e.g. cumulative talk, or using negative evidence to secure correct knowledge through 'collective argumentation' (Donato, 1994)

Figure 3 Implicit and Explicit Mediation in Collective Scaffolding

The explicit mediating strategies intentionally employed by Dina and Ayanda, together with the implicit mediating strategies of which all players partook, supported Syeda's

participation, thereby enabling her to exploit the affordances of learning presented in playing this game, as she gradually appropriated the means to produce a S –V –O sentence construction in the past tense in English. This gradual appropriation is evident in Syeda’s changing pattern of participation over the course of the game, as illustrated in Figure 4 below:

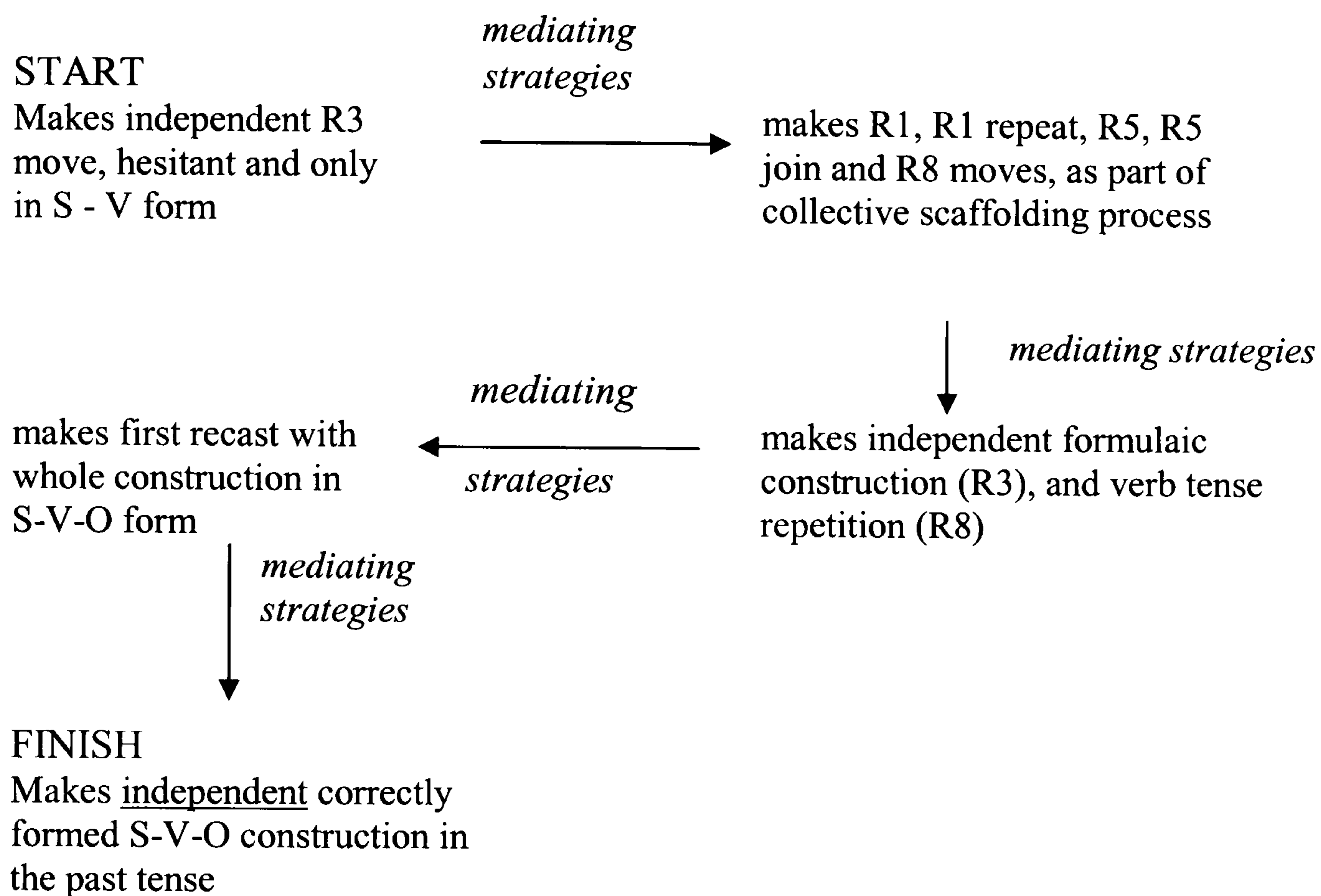


Figure 4 Syeda’s Pattern of Developing Participation

Early participation, adding to vertical constructions and repeating significant or unfamiliar words, as well as hearing repeated examples of sentence construction and collective argumentation by Dina and Ayanda, acted as a learning scaffold for Syeda. Eventually having gained (or perhaps regained) in confidence and practice, Syeda began to construct sentences independently, at first relying on formulaic expressions and incorporation, until finally she was able to construct a complete sentence incorporating a verb in its past tense form.

4.18 Implications for Formative Assessment

The analysis suggests, therefore, that Syeda would have benefited from participating in collaborative group activities in pairs or small groups with supportive peers more experienced in English. Group writing with co-operative peers with whom Syeda felt confident enough to participate would have been a favourable context to promote literacy skills in English.

The analysis also suggests that Syeda benefited from the opportunity to hear and collaborate in the production of repeated examples of L2 syntax. This information could prove useful in encouraging Syeda to speak in whole class literacy work. It also suggests that highly structured and repetitive tasks such as games or sequencing work would especially promote Syeda's developing knowledge of L2. The linguistic mechanisms of the collective scaffolding evident in this game, which proved particularly beneficial to Syeda's participation, could be a useful guide as to the most appropriate mediating tools for the class teacher in 1:1 work with her.

4.19 Summary (Didactic Role Actuation)

Analyses A:1, B:1, and to a lesser extent, A:2, have involved an activity context in which at least one member positioned him/herself as group expert, whilst simultaneously positioning other players as group novice. This led to the employment of the type of discourse moves I have labelled 'explicit mediating strategies' by the 'expert' players in their effort to support and guide the 'novice' players. Analysis of these explicit mediating strategies has revealed them as an appropriation of pupils' prior experiences as a novice in

interactions between, for example, parent/sibling or teacher/student. For example, it is likely that the player who employed the strategy of splitting the word ‘speak’ into the consonant blend ‘sp’ as the onset, and ‘eak’ as the rime (line 26, B:1) in order to teach another player how to read the word, appropriated this teaching strategy from those reading strategies now commonly applied in the teaching of the NLS. From a developmental/genetic perspective, therefore, a pupil’s use of such strategies is an indication not only of their intermental instructional intent at the microgenetic level of an interaction, but also of their ontogenetic intramental development. This is because of Wells’ (1999(a): 55) contention (as discussed in chapter 2) that the resources employed during such problem solving activity are dependent upon:

“the manner and extent to which participants have *ontogenetically*, i.e. in their own life trajectories, appropriated the resources available in the culture of which they are members, that is to say, the practices, tools, motives, and values in terms of which cultural activities are organised.”

Hence, the pupil described above is likely to have used the splitting of a word like ‘speak’ into the constituent parts of onset and rime as a reading strategy in her own L2 literacy development. This is why the game ‘playing teacher’, often enjoyed by younger learners, is so beneficial to their cognitive development as they set about appropriating the language of the teacher as a tool mediating their own thinking and learning (see 4.45 for more examples of the appropriation of teacher’s talk).

The analyses have also revealed that the type and level of support offered by those pupils who positioned themselves as group experts was negotiated between players as they struggled to simultaneously negotiate perceptions of power and status. Analysis of interaction A:1, for example, revealed Saira’s non-acceptance of the role of novice as

initially tacitly constructed by the more experienced player, Samy. Even in group B:1, where cognitive roles were more clearly articulated and actuated, the 'novice' player, Syeda, subtly resisted attempts by fellow Bengali speaker, Dina, to control her physical participation in the game.

Consequently, unlike traditional teacher/pupil interactions in which there is always an expected and accepted 'wide discrepancy in expertise' (Wells, 1999(b)) and, therefore, power, peers working together in collaborative activity negotiate perceptions of power and status in their struggle to construct their own participatory role and learner identity. Such negotiation affords each a greater opportunity to negotiate their own and each other's ZPDs (i.e. the most appropriate type and level of support necessary for learning to take place). This active engagement with the mutual construction of each other's activity frames facilitates the provision of 'minimal guidance' which is 'contingent' (i.e. withdrawn when no longer cognitively necessary) as pupils negotiate how much help to bid for and accept, and how much and what sort of help to offer, or indeed withhold from each other (Aljaafreh and Lantolf, 1994). In other words, whenever perceptions of power and control are negotiable, even in situations when one player assumes the role of expert, the group dynamic changes and responsibility for the provision of those scaffolding features thought most effective (i.e. graduated and contingent support) becomes a more reciprocal endeavour. As we have seen in interactions A:1 and B:1, such negotiation can be very enlightening in revealing players' motivation to construct the playing of the game as an activity in which to exploit the affordances of learning (an element of play discussed in more detail in section 4.3).

4.2 GAME ONE- COLLECTIVE SCAFFOLDING (SYMMETRIC ROLE ACTUATION)

Not all of the Game 1 interactions involved the construction of an activity in which the positioning of players as expert or novice took precedence. As will shortly become apparent, in interactions where there was a more symmetric cognitive role actuation, expertise became a more fluid notion capable of emerging as a feature of a group with all players at some stage of an interaction able to offer contingently appropriate support and guidance to others (as found in studies by Donato, 1994, and Ohta, 1995). In such interactions, there may be less deployment of intentional teaching (i.e. the use of explicit mediating strategies), and a greater emphasis placed on ‘collectivity’ in, for example, the building upon of each other’s discourse contributions in ‘cumulative talk’, or in the securing of L2 knowledge through collective argumentation in ‘exploratory talk’ (Mercer, 2000).

In such situations, *intentionality* (Lidz, 1991) (i.e. the conscious attempt to influence another player’s actions) may occur at a micro level in “moment-to-moment interactional decision making” (or *micro-intentionality*, as I shall henceforth refer to it), as opposed to one participant’s overarching motivation for participating in an activity, as would be the case for a teacher (De Guerrero and Villamil, 2000: 53). Moreover, as Lantolf (2000(b): 82) wisely acknowledges, “the goal of an activity, which is intentional, may well have consequences which are not.” In other words, during episodes of cumulative and exploratory talk, even though a player’s primary motivation may be to contribute to the collaborative process of problem solving, a consequence of their actions may be opportunities for their own or other’s learning.

Furthermore, participation in such collaborative talk often involves much of the behaviour thought essential in adult scaffolding (as will shortly be demonstrated), for example, *contingent responsivity, affective involvement, meaning, joint regard and task regulation* (Lidz, 1991). In other words, even though there may be an overall absence of intentional teaching, learning can still result from participation in collective scaffolding and from situations involving the emergence of micro-intentionality during episodes of collaborative problem solving. Hence, in concurrence with De Guerrero and Villamil (2000), and in opposition to Wells (1999 (b)) who argued that instructional intent is a key feature of scaffolding behaviour, I would argue that maintenance of the metaphor ‘scaffolding’ in the context of symmetrically actuated peer group interaction remains justified (see 2.63). Consequently, I will continue to use the term collective ‘scaffolding’ to describe behaviour in the following Game 1 interactions, in which individual members did not assume an a priori position of expertise.

4.21 Analysis A:3, G:1

This group consisted of two Bengali speakers, Monsur (M), who had recently arrived back in the U.K. after spending the last three years in Bangladesh, and Hannah (H), who had more experience in learning English. Their playing partner was an English monolingual pupil, Mary (Ma), whom I subsequently discovered had some literacy difficulties. Shortly after the interaction began Mary landed on a dice forfeit:

1) Ma	w[e]	R1
2) M	[w]e	R1 <i>join</i>
3) Ma	[sleep]	R1
4) M	[sleeps]	R1

	oh!	P surprised at throw
5) H	si sari	R1
6)	ehmm (SHE REARRANGES DICE)	
7) M	we slapt (MISPRONUNCIATION)	R3 attempts to begin
8) H	no	R9-
9)	we we slept	R10 or R3
10)	no we [slept]	R9-(p.s.) / R3 repeat
11) M	[we] slept	R3 join (note pr.)
12) M+H	we slept	R3 repeat
13) M(to H)	what's that? do you think (LAST PART VERY QUIET)	R2
14) H	sari (VERY QUIET)	R1 respond
15) Ma	here your go (PASSES H THE DIE)	Tii
16) H	no you have to make a sentence up	EXT rules
17) Ma	we	R3 begins
18) H	slept (QUIET, AND SUGGESTIVE)	R5
19) Ma (to H)	slept about saris?	R7 suggests
	H LOOKS TO M AND LAUGHS	<i>not a vindictive laugh</i>
20) H	no ehmm	R9-
21) Ma	yesterday we [slept]	R10
22) H	[slept]	R3 join
23) H	no yesterday we drea yesterday we slept and dreamed [about saris] (SHE POINTS TO THE PICTURE)	R9- (p.s.) / R10
24) Ma	[about saris]	R3 join
25)	yeah	R9+
26)	your go H	Ti

In this episode Hannah emerged as providing some expertise in noticing Monsur's mispronunciation (lines 8 + 9), *maintaining the focus of the interaction* through repetition, recasting and reference to the rules (line 16), whilst also ensuring that *making sense* was a priority (line 23) (Lidz, 1991). It seemed that her motivation for doing so, however, related primarily to adherence to the rules of the game.

Hannah's move in line 6 set the forfeit problem solving task in motion as she manipulated the order of the dice to facilitate this task (evidence of artefact mediation). Monsur made the first attempt at sentence construction placing the verb in its past tense form.

Recognising his slight mispronunciation Hannah made an R9- move to *signal* this *error*, and then proceeded to *model* the correct pronunciation (Wood *et al*, 1976).

In line 10, however, we see a different use of ‘R9-’ followed by a direct repetition. This time Hannah’s use of the word ‘no’ was indicative of a conversation she was having with herself in attempting to find a more suitable expression (i.e. it was oriented primarily intramentally as private speech conveying the thought, “no that’s not quite right, I wonder what would be better?”). Her subsequent repetitions together with Monsur not only allowed Monsur to hear and then practise the correct pronunciation but also, perhaps more importantly, allowed time for all players to consider the most appropriate extension (i.e. solve the problem of how to combine the words ‘we’ and ‘sleep’ with the noun ‘sari’). In this way, repetition acted to *keep the interaction going*, and to help *maintain pursuit* of the immediate *goal* (i.e. to complete the sentence construction) (Wood *et al*, 1976). This type of repetition has been described by DiCamilla and Anton (1997: 617) to function as a ‘holding platform’, enabling players “to cling to what they have thus far constructed, in order to maintain their focus of attention, to think, to evaluate, and from that point possibly construct new forms”, or in this case complete a meaningful construction.

By line 15 Mary was ready to end the episode before a joint solution was reached, subscribing to what Wesche and Paribakht (2000: 207) have called ‘the principle of minimal effort’ when learners do “not necessarily follow all the instructions provided or engage themselves in the mental processes envisaged.” Hannah’s response, reminding Mary of the rules of the game, acted as a ‘communicative ratchet’ (De Guerrero and Villamil, 2000) which *kept the interaction going* (Lidz, 1991). The subsequent moves

made by Mary and Hannah in lines 17 – 19 constitute an example of cumulative talk resulting in a sentence construction by Mary which, as in previous interactions, acted as a sample of ‘negative evidence’ upon which a more meaningful sentence could then be built (Donato, 1994). Mary’s use of the preposition ‘about’ inaccurately placed next to the verb sleep, probably gave Hannah a clue to solving the problem, which she then set about doing together with Mary (lines 21 - 24). Hannah’s action in pointing to the picture of the sari on the die together with her verbal recast in line 23, promoted a sense of joint understanding (i.e. you can’t sleep in a sari, but you can dream about a sari).

Consequently, although there were instances of micro-intentionality within this episode, the maintenance of a more symmetrically actuated interaction resulted in a final sentence formation which constituted all player’s previous contributions.

The next two episodes demonstrate a shift in role construction as Mary acted to recast and repair the other players’ efforts. The first of these episodes occurred approximately half way through the interaction when Mary landed on a card forfeit:

27) M	I have a hug	R3
28) Ma(to H)	yesterday [I have a]	R7
29) M	[I have a hug]	R5 and R3 repeat
30) Ma	I had a hug	R10
31) H	yeah	R9+
32)	I had a hug from my friend	R7 suggests

↗

Relatively shortly after this, Hannah landed on a dice forfeit:

33) H	we	R1
34) M	we	R1 repeat

35) M	take	R1 <i>predict</i>
36) H	think	R1
37)	we think	R3 <i>sets up construction</i>
38) M	about (SOUNDS LIKE ABOOR)	R5
39)	mendhi mendhi	R3 <i>predict</i>
40) Ma	about (SLOW)	R5 <i>repeat</i>
41) Ma + H	saris	R1
42) Ma	[we thought about saris]	R3
43) H	[we thought about saris]	R3
44) Ma	we <u>thought</u> about saris	R8 <i>self-repetition</i>
45) H	yeah	R9
46)	we thought about saris	R8 <i>other-repetition</i>

In the first episode above (lines 27 – 32), Mary recognised her own verb tense error and acted to correct it. Even though it was Mary’s forfeit turn, Hannah responded by repeating and extending Mary’s construction, showing good ‘language-related engagement’ (Platt and Brookes, 2001). Hannah’s commitment to the activity as a learning opportunity is further demonstrated in the second episode above. This time both Monsur and Mary attempted to support Hannah’s construction by adding the appropriate preposition ‘about’ prior to Hannah’s throw of the third die (lines 38 + 40), thereby setting up the construction (i.e. *regulating the task to facilitate problem solving* (Lidz, 1991)). Following this, Mary then repeated her own construction stressing the correct verb tense, thereby *marking the discrepancy* between Hannah’s construction and the correct form (Wood *et al*, 1976). Hannah repeated Mary’s move in its entirety, immediately appropriating this feedback as a repair.

Once again, this episode demonstrates the role of cumulative talk and exploratory talk (based on negative evidence) as implicit mediating strategies in collective scaffolding occurring naturally over the course of a collaborative interaction in which no single player positioned themselves in the overarching role of cognitive expert.

4.22 Reflecting on the Analysis

These three episodes taken from interaction A:3, corroborate Ohta's (1995: 109) findings that "any peer with mature skills to contribute becomes an expert. Even a peer who is weaker overall is expert when his or her strengths are contributed to help another learner." In interactions such as these where responsibility for exteriorising expertise is shared, and perceptions of power and status are more balanced, the occurrence of explicit mediating strategies is reduced, whilst the presence of implicit mediating strategies with emergent micro-intentionality facilitate opportunities for learning within a such a context. Lantolf (2000(b): 84) suggests that learning in situations of "dialogic mediation amongst peers is likely to be more effective than the monologic mediation displayed by teachers" in some sociocultural studies of teacher/pupil interaction (see also 4.36). Whether players exploit the opportunities for learning presented in such collaborative interactions is revealed in microgenetic analysis and, as previously argued, is an illuminating aspect of players' motivation to do so which is thus useful information for a formative assessment (see 4.34 and 4.36 for an extension of this discussion).

In terms of evidence of L2 language learning having occurred as a result of participating in the above interaction, it is interesting to note that immediately after the game I asked the pupils if they could place some of the verbs into the simple past tense form. It was Hannah who offered the past participle 'thought', which, given that her original attempt in the interaction had been 'thought' (line 43), seems to suggest that she had (at least for a short period) appropriated this form following participation in the process of collective scaffolding.

The next episodes are taken from interaction C:1, and demonstrate collaborative problem solving in a symmetrically actuated group interaction.

4.23 Analysis C:1, G:1

This was a mixed language group. Ahmad (Ah) is an Arabic speaker from Libya who had been in the school for only 10 months at the time of recording. Helmi (H) is a Malay speaker who had been in the school for even less time, only 6 months. Helmi's father was a visiting lecturer at Newcastle University and both of his parents spoke fluent English. Finally, there was Arfah (Ar), a Bengali speaker who had been in the school for over five years. Her progress was causing some concern as her English development seemed to have plateaued at level four (see Appendix 10).

In this episode, Ahmad had landed on a dice square and was attempting to construct a sentence with the words, 'you' and 'make' and 'tamar' (dried beans eaten in Libya). Once again, it is not the end product or solution to the problem, but a microgenetic analysis of the collective process undertaken to arrive at the solution, which is the most revealing in terms of pupils' thinking. The problem in this episode is Ahmad's desire to find a meaningful translation into English for the Libyan word 'tamar':

1) Ah	make		R1
2)	you		R1
3) Ar	make you		R3 sets up construction
4) H	you make		R10 Recasts order
5) Ah	you ma(:)ke (.) [you ma(:)]		R3 / R3 repeat
6) Ar		[what is it?] (QUIET)	R2 can't see picture
7) Ah	you=		R3 restarts

8) Ah(to Ar)	=what is it again?	R2 <i>authentic</i>
9) H	you make (QUIET)	R3 <i>repeat</i>
10) Ar	what's that? (PICKS UP DIE)	R2
11) Ah	a tamar (QUICK + AUTHORATIVE)	R1 <i>respond</i>
12)	yu we ma(:)ke ↗	R3
	AH PUTS HIS HEAD DOWN AND H+AR COPY	
13) H	you make	R3 <i>repeat</i>
14) Ah	<u>I</u> and <u>you</u> make= ↗	R7 <i>Plays with subjects to stimulate ideas</i>
15) H	=yesterday	R5
16) Ah	yesterday you make a:(..)a(.)a AH LOOKS UP TO H TO INVITE SUPPORT	R7
17) Ah	what is it again?	R2
18)	yesterday, yesterday you make a=	R3 <i>repeat</i>
19) Ah(to H)	=what is it again? AH STARTS TO MAKE A GRINDING ACTION WITH HIS HANDS	R2 <i>repeat</i>
20) H	[tamar?]	R1 <i>suggests</i>
21) Ah	[like] yellow yellow AH MIMES EATING ACTION	EXT
22)	what is it again?	R2 <i>repeat</i>
23) Ar	eat	R1 <i>respond</i>
24) Ah	like you eat a yell yellow s yellow something eat [no]	EXT <i>private speech</i>
25) Ar	[yellow](..)[banana?]	R1 <i>respond</i>
26) Ah	[you eat] yeah you eat the eh	EXT
27)	what is this again?	R2 <i>repeat</i>
28)	you eat like em(...)	EXT
29)	like the bees get it from the flower	EXT
30)	what is it?	R2
31) Ar	bee?	EXT <i>rep. Clarification request</i>
32) H	pollen	EXT <i>respond/ R1</i>
33) Ah	pollen yeah	R1 <i>repeat / R9+</i>
34)	yesterday you ma(:)ke f you make a pollen ↗ ↗	R7
35) H	huh? AR LAUGHS	R9-
36) H	that's not pollen	R9- <i>more explicit</i>
37) Ah	yes you can you can go to the tamar like that GRINDING ACTION	EXT <i>justifies</i>
38)	and its and its get like a: <u>pollen</u> (SMILES)	EXT
39) H	okay then	R9+

The search for the L2 lexical item began in line 5 with Ahmad's repetition, verb prolongation and raised intonation, all of which signalled that Ahmad was thinking and

searching for the most appropriate word in English. This repetition and subsequent repetitions in this episode, as in the previous interaction (A:3), acted as a ‘holding platform’ enabling players to search for an unknown L2 lexical item (DiCamilla and Anton, 1997). I suspect that Ahmad’s repetition in line 5 was primarily an intramental activity as he tried to ‘recall’ a word (or phrase) from memory, but its externalisation in this collaborative context acted intermentally to encourage all players to *maintain pursuit of the goal* (i.e. to solve the immediate problem) (Wood *et al*, 1976).

It was not until line 8 of this episode that Ahmad explicitly recruited the help of the other players in this L2 lexical search, and in so doing *marked the critical feature* of the problem (Wood *et al*, 1976). This propelled Helmi into quietly repeating the phrase, ‘you make’, a move which was probably also primarily intramental in orientation (i.e. private speech as a holding platform). Arfah, meanwhile, concentrated her efforts in asking Ahmad for the word signified by the picture (lines 6 and 10). After responding in a quick and authoritative manner signalling that this information was of no use in solving their problem, Ahmad continued by once again repeating the initial part of the construction in an effort to ‘spur’ his memory and the other players’ thinking. At this stage, Ahmad became frustrated by his lack of L2 knowledge and their collective inability to solve the problem. Several seconds elapsed during which all players could easily have lost interest and focus and abandoned their problem solving efforts entirely. Fortunately, Helmi restarted the L2 lexical search (line 13), *controlling Ahmad’s frustration* (Wood *et al*, 1976) by once again repeating the initial part of the sentence and therefore returning “to that portion of the scaffold from which new structures and forms [could] be attempted” (DiCamilla and Anton, 1997: 619). This move, although a simple repetition contributing no new information, was an important

‘communicative ratchet’ (De Guerrero and Villamil, 2000: 60), which acted to *keep the interaction going* so that the scaffold would not collapse (Lidz, 1991).

Ahmad then responded by making slight changes to the sentence subjects in a further effort to solve the problem and spur the group’s thinking. Helmi’s suggestion of including the adverb ‘yesterday’ was quickly incorporated by Ahmad, but to little avail, as he once again stumbled in his lexical search. Eventually, Ahmad *transcended* the somewhat fossilized state of their problem solving activity, by referring to *meaning* (Lidz, 1991). He did so by miming a grinding action which encouraged the building up of a visual image of the word for which they were searching, and then describing its appearance (lines 21 and 24). Helmi and Arfah demonstrated *contingent responsivity* in their sensitive effort to support Ahmad’s problem solving efforts (Lidz, 1991). Ahmad’s incorporation of their contributions during lines 21 – 28 demonstrates the group’s ‘interanimation’ as they “form(ed) a kind of joint ownership as they work(ed) through the task” (DiCamilla and Anton, 1997: 623). In other words, whilst the group searched for a shared meaning, they remained closely aligned in their goal of collective problem solving.

After a long pause, Ahmad finally found another way to describe the image about which he was thinking by associating its appearance to that of ‘something the bees get from flowers’ (line 29). To recap, the image that Ahmad had thus far painted was of ‘something yellow’, which looked like ‘something to do with bees and flowers’ and which you ate after it had been ground up. Helmi was able to use all of these clues to suggest the word pollen, to which Ahmad readily agreed.

Finally, Ahmad was able to construct his sentence, “yesterday you make a pollen”, the meaning of which he seemed entirely content with. Unfortunately, the sentence did not make sense to Arfah and Helmi, who pointed out that the picture on the die did not look anything like pollen (line 36). Ahmad’s subsequent explanation was expressed in a manner which signalled his desire to end this episode, a cue to which Helmi and Arfah acceded. I would suggest that Ahmad’s intended meaning, which he tried to explain in lines 37 and 38, was something akin to ‘yesterday you made some food called tamar which after it has been ground up and cooked looks a bit like yellow pollen from a flower’.

In this long and somewhat arduous episode, no single player assumed the role of teacher or expert, as each player contributed enough information for a final solution (at least in Ahmad’s eyes) to be reached. Through the skilful use of miming, linguistic incorporation and repetition, Ahmad was able to succeed in sharing an image of the target word for which he was searching in terms of its function and appearance (i.e. paraphrasing through ‘circumlocution’ (Yoshida-Morise, 1998)). He employed Arfah and Hemi’s help through a variety of cues both subtle (e.g. vowel prolongation in final word and self-repetition) and overt (e.g. repeatedly asking for other’s help). Helmi and Arfah responded supportively with surprising patience. Both Helmi and Ahmad made use of repetition as a holding platform, a strategy which DiCamilla and Anton (1997: 627/8) found held “the scaffold in place, as it were, creating a cognitive space in which to work (e.g., think, hypothesize, evaluate), and from which to build (i.e. generate more language).” As previously commented, I believe their repetition acted as both intermental and intramental activity. Intermentally, the holding platform *kept the interaction going, engaging everyone’s attention* towards the shared *goal* of finding the missing L2 word (Lidz, 1991). Intramentally, the repetition held in place the beginning of the sentence whilst Ahmad

searched for the most appropriate L2 word to describe his knowledge of the picture (or sentence object). Or, as described from a neurological perspective, the repetition acted to maintain focussed activity “in a broad parallel display” in the separate brain regions which are synchronously activated during thinking (Damasio 1994: 84).

Also from a neurological perspective, I argued that language exists in our ‘memory’ as a multisensory image incorporating verbal and non-verbal elements together with an idiosyncratic meaning founded upon our “expectations of, and involvement with, and purposes related to the image” (Stevick, 1996: 51). We are eventually privy to Ahmad’s thinking during this repetition in his search for a word which existed in his memory as the multisensory image of ground and cooked beans. His understanding of this image resulting from his previous ‘involvement’ with the beans as depicted in the picture, was constructed via his ‘expectation’ of its appearance once ground and its ‘purpose’ as something which is eaten. Ahmad’s depiction of such imagery involved both verbal and non-verbal description, as would be expected with multisensory image reconstruction.

Consequently, Ahmad’s verbal and non-verbal attempts to paraphrase the missing word is very revealing in terms of the mental associations and imagery created in his mind in, for example, his association of the image of ground beans with that of pollen; an interesting correlation springing, perhaps, as much from texture as from vision. Ahmad’s use of visual and textual imagery and association in memory recall (or more accurately, image reconstruction), could be useful information in helping a teacher teach new and unfamiliar words and concepts, particularly technical or abstract terms. Furthermore, should the class have been recently studying pollen as part of their science work, this analysis would

demonstrate Ahmad's understanding of its visual and, perhaps, textual appearance, and Helmi's ability to recall and use the word 'pollen' outside of a science context.

Arfah played the game for a second time with two Czech speaking pupils Daniel (D) and Pavel (P) both of whom were relatively new to English. Given her greater experience of English, combined with her previous experience in having just played the game, therefore, Arfah must have been afforded some 'expert' status within this group. Exactly how she actuated such responsibility is revealed in the following analysis.

4.24 Analysis C:2, G:1

Pavel was the bilingual pupil about whom the class teacher expressed the most concern. He was happy to try to interact in English with pupils and adults alike, but was having difficulty in forming relationships with the other pupils in the class. He was struggling to learn English and seemed less literate in Czech than his playing partner, Daniel, who was making better overall progress. The school were unsure of Pavel's previous history and were concerned that there may be other factors interfering with his cognitive development.

The first problem solving task arose early in the game when Pavel landed on a card forfeit:

1) Ar	hey	Cii
2) P	I'm	P or R3
3) Ar	drew	R1
4) P	I'm I'm draw	R3 <i>note tense change</i>
5) D	draw (TRIES TO LOOK AT CARD)	R1
6) P	newspaper? (QUIETER)	R3 continued
7) Ar	what?	R9 <i>acts both as a</i>

		<i>clarification request and error marker</i>
8) P	I'm draw on paper	R10
Ar	(LAUGHS BUT ACCEPTS)	
9) Ar	now your turn	Tii

In this initial short 'R' episode, Pavel took full responsibility for his forfeit task. Arfah's only support was offered in the form of the clarification request, "what?", which also acted as an indirect error marker. Although Arfah did not explicitly mark Pavel's error, he was able to interpret Arfah's clarification request as requiring some change to his original construction. His recast is interesting as not only did he repair the sentence object to a more appropriate noun, he also added an appropriate preposition. Arfah's subsequent laugh signalled that she recognised his verb error but chose to accept his construction rather than offer a further repair. This decision could have been based on a sensitivity towards Pavel's developing confidence or, as subsequent episodes would suggest, be more indicative of Arfah's denial or refusal to act upon the role of expert.

The game continued and, as the following extract demonstrates, Pavel made every effort to participate despite his lack of experience in English:

P	(CHEATS AT THROWING THE NUMBER DIE)	
10) Ar+D	no!	Dii
11) Ar	cheating! (SMILES)	Dii
12) all	two	Di + Dii
13) P	one, two	Mi
14)	ahh the same	C
15) all	six!	Di + Dii
16) P	ah he win	Dii (<i>P means 'she' wins</i>)
17) Ar	one, two, three, four, five, six	Mi
18) P	uh-hu	Cii (<i>Ar landed on forfeit</i>)
19) D	which one is first?	
	that one's the first then that one	P
20) Ar+D	sh[e]	R1

21) P	[she]	R1 <i>join</i>
22) Ar	thi[nk]	R1
23) P	[thi]nk	R1 <i>join</i>
24)	fink	R1 <i>repeat</i>
25) Ar	oops	P
26)	what does that [mean]?	R2
27) P	[shati]	R1 <i>respond</i>
28) Ar(to D)	what does that mean?	R2 <i>repeat</i>
29) P+D	shati	R1 <i>respond</i>
30) P	[dre]	R1 <i>translates</i>
31) D	[clo]	R1 <i>translates</i>
32) D	you are that clothes	R1 <i>translates</i>
33) Ar	hmh she(:) thi(:)nk	R3
	(LOOKS UP TO CEILING)	
34) P	shati	R5
35) P+Ar	shati	R5 <i>repeat</i>
36) Ar	what does that?= =shati is that one (POINTS TO PICTURE)	R2
37) P	they're clothes	R1/EXT
38) D	they're clothes?	R1/EXT
39) Ar	yeah	R1 <i>repeat clarifies</i>
40) D	she [she thinked]	R1 <i>respond</i>
41) Ar	[she thinked] shati	R3
42) P	she thinked she <u>wore</u> shati	R3 <i>join</i>
43) Ar	yeah	R10
44) D	(LOOKS COMPLETELY LOST)	R9+

The beginning of this extract unveils Pavel's continued desire to participate in the activity.

He tried to promote his inclusion by purposely cheating and by making CTDPM moves

(i.e. gaming moves) for and about other players. Even when Arfah began her forfeit task,

Pavel joined in with the reading. Pavel's repetition (with incorrect pronunciation) of

Arfah's R1 move (line 24), probably signalled his association of the word 'think' as read

by Ar, with the word 'fink' as internalised and, therefore, understood by himself. This

demonstrated a level of 'language-related engagement' (Platt and Brookes, 2001).

Moreover, when Arfah threw the picture of a Czech lady dancing, Pavel was keen to

exteriorise his L1 knowledge and acted to support Arfah's turn. Interestingly, Pavel's

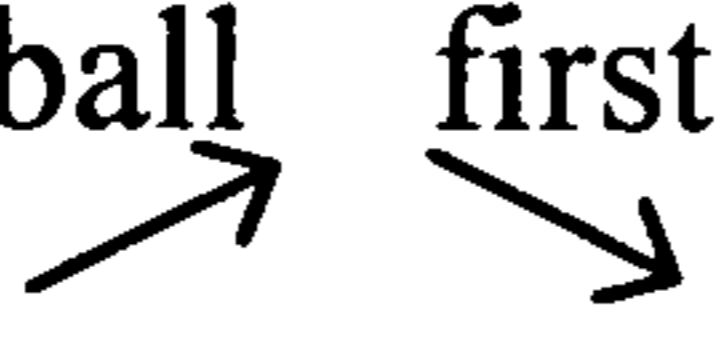
attempt at an L2 translation in line 30 resulting in the word 'dress', was in fact a more

accurate translation than Daniel's word 'clothes'. Unfortunately, neither player heard or attended to Pavel's suggestion.

Arfah persevered until she was satisfied with the meaningfulness of her construction. Her repaired construction in line 43 was too complex for Pavel to understand, and even though it was clear from his facial expression that he was confused, neither Daniel nor Arfah acted to support his comprehension. From this moment on Pavel struggled to participate and, unlike interaction B:1 above, neither Daniel nor Arfah supported his continued participation. In fact, out of the eleven remaining 'R' episodes which followed, Pavel contributed to only three, two of which were on his own forfeit turn.

In other words, although the more experienced player and group member with the most experience of English, Arfah was not motivated to provide appropriate support and linguistic scaffolding to facilitate opportunities for Pavel's L2 language learning. Indeed, she made little effort to construct this activity as one involving collaborative problem solving, preferring instead to work from 'the principle of minimal effort' (Wesche and Paribakht, 2000). Consequently, despite early signs of eagerness to participate and 'language-related engagement', Pavel's subsequent participation and opportunities for L2 language learning were inhibited (Platt and Brookes, 2001).

Daniel, on the other hand, was able to exploit the collaborative nature of the task as a basis for his own L2 language learning. He achieved this by intentionally contributing to Arfah's forfeit turns forcing her to respond, and by intentionally engaging Arfah's participation on his own and Pavel's forfeit turns as demonstrated in the following episodes:

45) Ar	catch	R1
46)	I=	R3
47) D	=I caught the ball?	R3 suggests
48) Ar	I caught the ball  first	R10
49)	not really (VERY QUIET AND TO HERSELF)	R9- private speech

Later in the game, Daniel himself landed on a dice forfeit:

50) Ar+D	she	R1
51)	bring	R1
52) P	hands	R1
53) Ar	mendhi	R1 in L1
54) D(to Ar)	what mendhi?	R2
55) Ar	mendhi –eh- this paint (POINTS TO PICTURE)	R1 respond
56) D	she bring the mendhi hand	R3
57) Ar	no	R9-
58)	mendhi she bring the mendhi	R10
59) D	she she bring the mendhi	R8

Finally, towards the end of the game, Arfah again landed on a dice forfeit:

60) Ar	he	R1
61) D	she he	R1/R10 corrects
62) Ar	think	R1
63)	shari again (VERY QUIET)	R1
64)	he thinked (..) he thinks=	R3
65) D	=his wife can wear shari	R5
66) Ar	he thinks his wife looks beautiful with sh shari on	R10
D	(NODS)	R9+
67) D	now my turn	Ti

In episodes 46-49 and 60-67, Daniel enticed Arfah's scaffolding behaviour by suggesting sentence constructions before she had time to form a sentence herself, thereby *engaging her attention* and proposing a *challenge* to her L2 knowledge (Lidz, 1991). In response, Arfah was coerced into providing a *model* form (Wood *et al*, 1976) that, in the final 'R' episode of the interaction (line 67), provided Daniel with a model of a far more complex L2 sentence than previously attempted in the game. On his own forfeit turn (lines 50 – 59),

Daniel explicitly recruited Arfah's support by asking her the meaning of the word *mendhi*. Once her *attention* was *engaged* and her momentary status as expert promoted, Arfah acted to repair Daniel's construction, focussing on meaning at the expense of grammatical form. Daniel then repeated this imperfect construction showing good 'language-related engagement' (Platt and Brookes, 2001).

4.25 Reflecting on the Analysis

In terms of facilitating an effective learning context, this interaction demonstrates a less satisfactory outcome for symmetrically actuated interactive activity. In this case, the one player with more experience and knowledge of English did not act with *intentionality* (Lidz, 1991) (emergent/micro or overarching/dominant) to facilitate collaborative problem solving. Consequently, the opportunities for one player's learning were stultified as his access to participation floundered. The other player, meanwhile, sought to encourage the 'expert' player to exteriorise and share her expertise, thereby providing a scaffold from which he could benefit. In other words, this interaction demonstrates how, in the absence of a motivated expert, one player can intentionally influence and encourage another player to position him/herself, at least momentarily, in the role of expert or facilitator. Hence, in contrast to didactic teacher/pupil interactions, this analysis suggests that in peer interactions, *intentionality* is not a uni-directional construct. It does not just flow from the expert (overarching or emergent) to the novice, but also from the novice to the expert in their effort to engage another player's expertise and encourage the production of scaffolding behaviour in order to mediate their own learning. In effect, 'exploiting the affordances of learning' (Lantolf, 2000(b)) within a peer group interactive activity can involve not only making the most of the support bid for and offered in an interaction, but

also the attempt to position another player as expert and therefore motivate them to provide such support. Consequently, this suggests that the relationship which exists between the negotiation of power and identity and the negotiation of participants' ZPDs within peer group interactions is of a truly dialectic nature.

4.26 Implications for Formative Assessment

Although this interaction may not have been an effective learning environment, it did provide some revealing information for a formative assessment.

Analysis of Pavel's Participation

The analysis suggests that self-confidence played a major role in Pavel's L2 language production and learning. It would therefore appear that Pavel would benefit from participating in activities wherein he perceived himself as either confident of the task, or as an expert in some respect (as when, for example, Arfah was forced to make sense of the picture of a Czech lady dancing). It is likely that in order to make progress in learning English Pavel would require scaffolding involving both explicit and implicit mediating strategies. He may benefit particularly from incorporating repetition as a learning strategy in, for example, repeating new/unfamiliar words to practise their pronunciation. The analysis also suggests that Pavel, though not able to notice his own L2 errors, would be able to work towards self-correction/self-regulation with 'strategic assistance' from a more knowledgeable peer (De Guerrero and Villamil, 1994). One of the errors he consistently made throughout the interaction concerned his confusion over the pronouns 'he' and 'she', preferring always to use 'he'. This is an aspect of English form that Pavel would need to practise. Finally, the analysis revealed that he enjoyed the fun of playing this language

game and hence would probably benefit from other tasks involving L2 ludic language play; an ideal context, perhaps, to introduce repetition.

Analysis of Daniel's participation

The discourse analysis revealed that Daniel contributed 50% of the total number of R3 moves made in this interaction. Closer analysis revealed that these moves were made for all players, on all players' forfeit turns. In other words, Daniel was very confident of his ability to construct sentences in English in this context. Close analysis also revealed that Daniel made every effort to exploit the affordances of learning in this game, even attempting to influence another player's linguistic behaviour in order to maximise such opportunities for his own learning. This suggests that Daniel was highly motivated to learn English, particularly in contact with peers. During the final 'R' episode of the game, Daniel contributed an R5 move (line 65) which was far more complex than any sentence he had previously produced. This suggests that collaborative activities which offer repeated and progressively more complex examples of L2 linguistic forms would be a particularly beneficial context for the development of Daniel's L2 knowledge. Although Daniel made 4 R9 moves, they were all positive and acted to support other players, rather than to question grammatical form or meaning. The analysis suggests, therefore, that Daniel may not yet be able to recognise L2 linguistic errors in his own or other's production, and would benefit in practising doing so, or in working with a more experienced peer who could notice and question such mistakes. Finally, during the long 'R' episode (lines 20-44), Daniel demonstrated a good awareness of the need for clarity in providing comprehensible input to others. He also made the only 'EXT' move of the game, asking Arfah if Arab women wear saris, thereby further demonstrating his awareness of meaning in L2 sentence construction. Consequently, it would appear that Daniel would benefit from participating

in tasks which promote a reflection on language form while ‘still being oriented to meaning making’ (Swain, 2000).

4.27 Summary

The analyses of Game 1 interactions have clearly demonstrated how learners are able to scaffold each other’s participation and language learning “through a variety of interactive strategies that appear to be sensitive to the ZPD” (Lantolf, 2000b: 84). The scaffolding strategies employed by the learners have included *intentionality* in their bid to consciously attempt to influence and *challenge* each other’s participatory behaviour and language learning (Lidz, 1991). They did so by *keeping the interaction going, engaging one another’s attention, and maintaining mutual goal orientation* (Lidz, 1991). Participants also acted intentionally to *mark critical features and discrepancies* (Wood *et al*, 1976) between what was produced and the ideal solution to the linguistic problems faced by the rules of the game. They also acted to *regulate the task* by facilitating each other’s participation, *inducing strategic thinking* (Lidz, 1991), and *modelling* idealized solutions (Wood *et al*, 1976). Throughout such scaffolding, there was evidence of *affective sensitivity* and *contingent responsiveness* (Lidz, 1991) in that players were aware of and acted sensitively and timely upon the subtle interactional cues underlying one another’s cognitive and social/affective needs.

The analyses of Game 1 interactions have demonstrated that, as Donato (1994) found in his study of adult L2 learners, scaffolding in peer interactions is often put in place by and used by participants for the group’s collective benefit. Hence, no single player provided the entire scaffold for the sole use and benefit of another participant. More than one player was

often involved in 'erecting' the scaffolds and at some stage each player was involved in using them to facilitate the problem solving process. The analyses have also shown that those scaffolds erected by pupils who positioned themselves as group experts were generally of a more explicitly instructional nature than those erected over the course of more symmetrically actuated group interactions. Nonetheless, the analyses have shown that both situations provide opportunities for L2 language learning.

Because power and participatory roles are negotiable in peer interaction, and particularly during game playing (see 2.64), the support bid for and provided or withheld between interlocutors is necessarily also negotiable, even if one player is commonly perceived as more experienced. The responsibility for ensuring a 'minimal level of guidance' (graduation) and the gradual withdrawal of support (contingency), argued as essential scaffolding behaviour (Aljaafreh and Lantolf, 1994) is similarly also a shared and negotiable endeavour. Analyses of Game 1 interactions have clearly demonstrated that in collaborative peer interaction, the negotiation of power and expertise operates dialectically with the mutual negotiation of players' ZPDs, or the emergent 'activity frames' in which players construct their interactive roles in creating and using scaffolds for learning.

The analyses have also revealed that players' construction of the game as an activity in which to exploit the learning opportunities provided by such scaffolding was dependent upon their underlying motives for playing the game with these particular interactants, and subsequently, therefore, the continued construction and negotiation of their own and indeed others' participatory roles. For example, if a player constructed the playing of the game as an opportunity to have fun and to compete to win then they would be more likely

to become minimally engaged in language learning episodes, particularly on other players' turns. Their pattern of participation may gradually change over time, however, as they appropriate the participatory means of other players in the group's move toward shared goals and expectations (see, e.g. 4.11). If, however, a player saw the game as an opportunity to practise their English in a fun and non-threatening environment then they would be more likely to exhibit 'language-related engagement' (Platt and Brookes, 2001) on their own and others' turns and to appropriate the collective scaffolds manifest in the interaction for their own learning. One interaction even demonstrated a less experienced player's determination to encourage another, more experienced player, to fulfil the participatory role of expert and scaffolder in order that she provided appropriate scaffolding from which the less experienced player could then benefit. This suggests, therefore, that *intentionality* can be a reciprocally operated construct.

4.3 GAME TWO - EXPLOITING THE AFFORDANCES OF LEARNING

‘TALK ABOUT ADVERBS’

The results of Game 1 analyses have paved the way to understanding how pupils’ participatory motivation and role construction impacts on their engagement with the language learning episodes and, therefore, their exploitation of the activity as an opportunity for L2 language learning. The results of Game 2 extend our understanding of the reasons why pupils construct an activity as one in which to exploit the affordances of learning. At the same time, close microgenetic analysis of the interactions highlights repetition as a particularly salutary linguistic mechanism used by pupils engaged in L2 language learning.

The forfeits in this game required players to pick a coloured card on which there was a picture and sentence cue, and to choose the most appropriate adverb to match the card from a choice of adverbs on a corresponding coloured board. The game was designed, therefore, to highlight: players’ reading of the cards and adverbs; their formation of associations between the various adverbs and the meaning portrayed on each card; and the process of debating and justifying each other’s adverb choice. Just as with Game 1, in order to fully appreciate the rules of Game 2 (and hence the discourse analysis codes), and to understand references to the game’s artefacts in the following transcripts, it is essential to refer to Appendix 7.

4.31 Analysis B:2, G:2

The final analysis of Game 1 demonstrated an interaction in which one player was not fully engaged with the task, preferring instead to work from the ‘principle of minimal effort’ (Wesche and Paribakht, 2000). This impacted on the opportunities for learning available to the other two, less experienced players. The following interaction, the first from Game 2, follows a similar pattern. There are two players, Kamran (K), a Mirpuri Punjabi speaker and Faiza (F), a Punjabi speaker, both of whom had been designated at level 3 of English language development, although Kamran had been in the school one year longer than Faiza.

The first ‘R’ episode of the game occurred early in the interaction when Kamran landed on a forfeit. Although he began reading the card, Faiza took over and the episode ended swiftly. Shortly after, Kamran again landed on a forfeit and, although Faiza lifted the card to share, Kamran pulled it off her and began reading alone:

- | | | |
|------|--|--------------------------|
| 1) K | how did the (..) ta[xi] | R1 |
| 2) F | [xs] | R2 <i>attempt</i> |
| 3) | drove shoutly at the man | R4 |
| 4) | the taski drove task task whatever drove shoutly | R1 |
| | ↗ | |
| 5) | so we’ve got the blue ones | P |
| 6) | woo! loudly | R7 |
| 7) K | yeah | R9+ |
| 8) F | yeah | R9+ |

Although it was Kamran’s forfeit turn, he allowed Faiza to make five consecutive moves without interruption (lines 2-6) during which time she made several reading errors. Faiza’s

use of the word ‘shoutly’ in lines three and four is interesting as it demonstrates her awareness of the most typical adverb form (adjective + ‘ly’) incorrectly applied, in this case, to a verb. In fact, it seemed as if this adverb form was at the forefront of Faiza’s thinking whilst playing the game, as shortly before this episode she turned to Kamran and, reprimanding his dice throwing, said “don’t do it fastly”.

Returning to the episode, we can see Faiza’s inattention to reading for meaning and syntax, as she concentrated solely and unsuccessfully on phonic and graphophonic reading strategies. Her repetition of the word taxi together with the raised intonation in line four as she struggled to form the phoneme ‘xs’, could have been interpreted by Kamran as a cue for help. As such help was not forthcoming, however, Faiza chose instead to cease trying, saying “whatever”, thereby signalling that she was fully aware that she had made a reading error. This was another opportunity for Kamran to provide some support so that the pair may solve the reading problem (and subsequently, therefore, so that we may observe Faiza’s reaction to such support). Both players chose instead to rely on the picture alone as a clue to matching the most appropriate adverb to the card’s intended meaning.

This interactional pattern was repeated in the very next ‘R’ episode when Faiza landed on a forfeit:

- | | | |
|-------|---|------------|
| 9) F | ooh pink eeh | P |
| 10) F | how did the teacher spoke to the (...) night (.) ee(::<) boy | R1 |
| | (RAISES HER HAND TO DISMISS THE WORD NAUGHTY AND THEN QUICKLY READS THE WORD BOY) | |
| 11) F | he spoke | R1 |
| 12) K | loud (POINTS TO PICTURE) | R7 |
| 13) F | loudly _____ (UNCLEAR) | R10 |

actual word 'snap'. Although the word 'spin' exists, it bears little relationship to the word alligator (though alligators do spin when they have captured their prey). It is therefore possible that, yet again, Faiza used phonetic reading strategies at the expense of meaning. At least she seemed more aware of syntactic structure in this episode as she attempted to place the verb 'spin' into the past tense ('spinded' - line 21).

4.32 Implications for Formative Assessment

Although the interaction was not an ideal model of collaborative learning, the analysis did provide some revealing information about each player. The fact that Kamran was reticent to become fully involved in the reading aspect of the game suggests either poor self-confidence as a reader of English or an attitudinal problem towards reading English or, perhaps, a general lack of interest in playing this game with this particular playing partner (although he was fully committed to making CTDPM moves (see below)). Had I had more time in the school, I would have liked to record Kamran reading English in a different context with different pupils.

Faiza's participation, however, revealed useful information regarding the strategies she used to read English in this context. Even though the game clearly demanded reading for meaning in order to associate each card with the most appropriate adverb, the analysis revealed that Faiza relied heavily on phonic and graphophonic reading strategies. This led to attempts at reading which were at best semantically inaccurate and, at worst, nonsensical. Consequently, even when she did notice a reading mistake, she was not motivated to self-correct in order to make sense or maintain syntactic accuracy. This would suggest a need to help Faiza use a range of reading strategies other than phonics, and to

notice mistakes in her own reading due to a breakdown in meaning or syntax. Of course, it would also be more helpful for her to work with a more motivated peer. Faiza's attempts to incorporate the newly introduced adverb form (+ly) into her 'gaming' moves as well as the forfeit tasks provides an interesting glimpse into her motivation to use and experiment with new or unfamiliar words and structures in English.

4.33 Reflecting on the Analysis

As in the previous analysis (C:2, G:1), one player's non-engagement with an aspect of the interaction important to the function of the game directly impacted on the opportunities for learning available to their playing partner. Faiza's construction of the activity was clearly one in which players helped each other read and choose the most appropriate adverb. In contrast, Kamran, although motivated to participate in the 'gaming' aspect of the game (he contributed 47.9% of the total number of CTDPM moves made in the game, $\frac{3}{4}$ of which were directed towards Faiza's play) was not motivated to exteriorise or share his expertise in reading English. Consequently, both players' ability to choose the most appropriate adverb was severely impaired. Analysis of this interaction clearly illustrates, therefore, the detrimental effect to learning of a breakdown in shared motives for participating and, therefore, players' construction of the task as a learning activity. It also demonstrates, however, that analysis of such interactions may still prove a useful context for formative assessment.

The following analyses of Game 2 interactions demonstrate the construction of activities in which opportunities for learning were both afforded and exploited by players. They help us to appreciate why some pupils may not exploit such learning affordances, and how, unlike

the previous interaction, pupils can be supported to do so within peer group interaction.

The analyses also promote a greater understanding of the role repetition plays as a linguistic mechanism promoting L2 language learning during game playing interactions.

4.34 Analyses B:3, G:2 and B:4, G:2

The players in the first interaction B:3, G:2, were Davor (D) (Croatian), Tanja (T) (Serb-Croat), and Omair (O) (Urdu). Davor and Tanja had both been in the school for just over two years and were both placed at level 2 in their English development. Omair was very experienced in English and acted as the L1 model in this interaction.

Unfortunately, there were only three 'R' episodes in this entire interaction because, as luck would have it, Omair kept landing on squares entitling him to take another turn (the reason I changed this aspect of the board in the third game – see Appendix 7 (A7.3)). The first 'R' episode began when Omair landed on a blue forfeit:

- | | | |
|------|--|------------------|
| 1) O | blue yes square | Ci |
| 2) O | how did the woman paint the picture
(T LOOKING, D COLLECTING DIE, THEN LOOKING) | R1 |
| 3) O | she painted | R1 |
| 4) | right so it's a it's a blue | P |
| 5) | she painted it (...)
↗ ↖ | R1 repeat |
| | (ALL PLAYERS ARE VERY QUIET) | |
| 6) O | neatly (TAKES WORD OFF BOARD) | R7 |
| 7) T | neatly oh hu-hu
↘ ↗ | R7 repeat |
| 8) T | _____ going out (HANDS OVER FACE) | P |

In this episode Omair did not share the task of reading the card or choosing an adverb with the other players who allowed him to complete the forfeit independently. The long pause after his re-reading of the card (line 5) allowed Omair to read all of the adverbs on the blue board in silence. Once he had made his final decision, both players unquestioningly accepted it: Tanja by repeating Omair's choice and Davor by remaining silent. Tanja's repetition of the adverb acted not only to accept Omair's choice, but also to practise saying the adverb aloud. It is also possible that such practice facilitated a memory search or the placing of the word into memory through some sort of concept association. Whatever the motivation behind such repetition, it signalled an early language-related engagement within this interaction, a pattern that, as we shall shortly discover, was to continue in the next interaction.

The next 'R' episode in this interaction occurred several moves later after an argument about Davor's counter. Tanja landed on a forfeit and Omair picked up the card sharing the reading with Tanja:

9) O	ho[w]	R2
10) T	[ow]	R2
11) T+O	did	R2 continued
12) T	[the boy]	R2 continued
13) D	[no! on there!] (SHRIEKS)	Cii
14) O	uh! she landed on there and you went and moved it	Cii
15) D	no!	C respond
16) O	yeah	C respond
17) D	no!	C responds
18) T	how did [the boy] (QUITE LOUD)	R1 refocuses attention
19) O	[how did the boy] (RUSHES TO CATCH UP)	R4
20) O	drive	R2
21) T	dri(:)	R2 repeat
22) O	drive	R2 repeat
23) T	d-d-drive [the bike]	R2
24) O	[the bike]	R2

25) T+O	he rode (T A LITTLE BEHIND ON THE WORD RODE)	R2
26) O	right you can choose there	P
27) O	he rode slowly, carefully, badly, quickly	R6
28) D(to T)	quickly (WHISPERED)	R7
29) O	speedily	R6 <i>continued</i>
30) T	quickly	R7
31) D	yeah heh!	R9+
32) O	if I was you I would've done speedily	R10
33) O	cos he was going so fast but it dunt matter	EXT
34) D	my turn	Ti

This episode is a perfect example of contingent support in Game 2. In Game 1, support surrounded the construction of meaningful sentences in English. In this game, support focused on the reading of the cards and on choosing an adverb to match the card. Omair could have chosen to read the card for Tanja, as in the previous 'R' episode, but instead, he chose to read in unison with Tanja, allowing her to take control whenever possible (line 12). This type of reading contrasts with players whose intention is to read independently as each word is slightly stressed and generally read more slowly, as in a word-by-word approach. This corresponds to the method of reading used by teachers, particularly in supporting the early stages of reading development, to encourage pupils to join in reading a text as if saying "let's all read together". In fact, the recording shows that Omair may have been pointing to each word on the card as they both read, strengthening the assumption of supportive intent.

When Tanja did struggle in reading a word (line 21), rather than continuing to read the rest of the card, Omair repeated that one word and then allowed Tanja several attempts to copy before they both continued to read in unison. In other words, just as in Game 1, a player acted with *intentional* (Lidz, 1991) and *contingent* (Aljaafreh and Lantolf, 1994) support to

encourage the participation and L2 development of another player, in this case, in reading English.

Once the reading of the card was complete, Omair then changed the level of his support or ‘upgraded the scaffold’ (Donato, 1994) by focussing Tanja’s attention on the adverb board (line 26) and then reading aloud all of the adverbs (line 27). He probably did so because he believed that Tanja would struggle with this aspect of the forfeit task. His repetition of the phrase ‘he rode’ alongside the adverb list was a particularly supportive *task regulation* (Lidz, 1991) strategy as it ‘set up’ or contextualised their adverb choice, reminding everyone of the sentence into which the adverb must fit.

Tanja decided to accept Davor’s suggestion, a decision which Omair subsequently challenged. The manner in which he did so (lines 32-33) was very reminiscent of moves made by players in interactions A:1, and B:1 in that his phraseology endowed his utterances with both a social and cognitive dimension (Anton and DiCamilla, 1999). Although he was suggesting a different adverb, and providing justification for his choice (i.e. offering a more *ideal cognitive solution* (Wood *et al*, 1976)), he intimated that this was a reflection of his own thinking and therefore did not overrule their thinking. In other words, Omair was not necessarily implying that they were wrong and he was right, but that an alternative was possible and they should discuss it. Even the veracity of his EXT move was quickly countered by his contention that, “it dunt matter”. Unfortunately, play continued without further discussion, indicating, perhaps, that in this instance, he should have stressed the cognitive force of his utterance.

Shabih supported Tanja's reading in this episode in much the same manner as Omair had done in the preceding one (lines 6-8), although it was Tanja who initiated the support by repeating the sentence up to the word she was struggling to read and then pausing and looking up towards Shabih. This repetition is interesting as it demonstrates that Tanja was motivated to read for meaning: returning to the part of the sentence she knew did not make sense rather than, and in complete contrast to Faiza in B:2, continuing to read any further. This is useful information for the teacher in building a picture of Tanja's L2 reading strategies.


The repetition also functioned to *recruit the others' attention, maintain goal orientation* and *inhibit further disruptive behaviour* (Lidz, 1991) just as in the previous interaction (B:3, line 18) when Davor was having a similar argument with Omair. Once the card had been read, Tanja repeated the final word of the sentence, which she read incorrectly, in order to 'set up' the adverb choice. This is similar to repetition moves made in Game 1 to 'set up' constructing a sentence. In this instance, it gave Tanja time to focus on the meaning of the card so that she could choose the most appropriately matched adverb (i.e. she was probably thinking something like "swim, how do dolphins swim?"). In other words, it was a move directed intramentally as a 'holding platform' from which she could attend to meaning (Di Camilla and Anton, 1997). As an intermental tool it acted to *recruit Shabih's attention* (Lidz, 1991), spurring her into reading the adverb choice aloud. Refer to Figure 5 in section 4.47 for a more in-depth discussion of the relationship between speech for inter-and-intramental purposes.

Tanja's moves in lines 12-14 although seemingly inconsequential, after all she was only repeating her choice of adverb, are, on closer inspection, very revealing. Close transcription of the moves reveal that her first utterance was directed towards Shabih and was enunciated with a questioning intonation (i.e. "happily is that the right word?"). Voicing the word aloud, however, seemed to trigger some sort of memory association and so her second repetition, spoken slightly more quietly and directed to no particular player, acted as private speech as she said to herself, "yes happily, that's the word I want, I recognise that word". In an effort to share this new found information, Tanja then repeated the word for a third time, this time with rhythmic sing-song enunciation and a smiling face, thereby underlying her recognition of the word happily (i.e. "I recognise that word, so I'm going to say the word happily in a happy voice"). On closer inspection these three seemingly simplistic moves unveil the problematic assumption of dichotomising speech as an intermental versus intramental tool in social interaction. I return to this discussion in sections 4.47 and 5.41.

Once Tanja's choice was made, Shabih tried to challenge it by repeating the whole sentence with questioning intonation, inserting Tanja's adverb choice. This acted as a confirmation check and an implicit error marker (i.e. "do you really think the word happily is the best choice for this sentence?"). Tanja, who understood the implication of this utterance, repeated her choice and so Shabih tried the more explicit tactic of offering an alternative adverb (line 21), as Omair had in the previous interaction. Unfortunately, Shabih did not offer an explanation as to why her alternative was a better choice (i.e. she failed to *mark the discrepancy* between what was produced by Tanja and the more *ideal solution* (Wood *et al*, 1976)). Consequently, Shabih did not *promote understanding* (Lidz, 1991) and hence Tanja was not persuaded to change her decision. This is perhaps an

indication that a more explicit explanation/error marker would be necessary in order to facilitate Tanja's understanding of the difference between the adverbs happily and gracefully, and about which adverb is most commonly associated with the act of dolphins swimming. This information would be useful in recognising the level of support necessary to encourage Tanja's appreciation of the subtle shades of the meaning in the use of adverbs to modify particular verbs.

The next forfeit task occurred when Shabih landed on a red square. As it was her forfeit turn, she read the card quickly and independently:

- | | | |
|--------|--|------------------|
| 26) Sh | how did the man ride the horse
he rode (...) | R1 |
| 27) Sh | speedily | R7 |
| 28) T |  speedily speedily speed
(LAST WORD WHISPERED) | R7 repeat |
| 29) T | whose next? | T |

Tanja's repetition of Shabih's adverb choice demonstrates her continued 'language-related engagement' (Platt and Brookes, 2001) even when not her own forfeit turn. The repetitions carried both a co-operative (i.e. social) function and a cognitive function. By repeating Shabih's adverb choice, Tanja was showing acceptance/agreement of this choice. At the same time, however, the repetitions were an opportunity for Tanja to practise saying this word aloud, thereby facilitating the activation of any memory associations with this word (not forgetting of course that Omair had already explained the subtle difference between the adverbs quickly and speedily in the previous interaction (lines 32-33)). The fact that she whispered the last repetition and reduced it to 'speed', indicates, perhaps, that she had

formed an association between the adverb ‘speedily’ and the more recognisable verb ‘to speed’ (or the noun ‘speed’).

The next ‘R’ episode occurred approximately mid-way through the interaction when Davor landed on a forfeit. It highlights the major differences between his and Tanja’s approach to the game:

30) D	how [du did] the [tigers rar rar roar] at roared	R2	} <i>overlap</i> <i>at same</i> <i>time</i>
31) T	[d – d] [tigers rar rar roared] rared r	R2	
32) Sh	[roar]	R4	
33) D	the tigers [ro-armed red]	R2	
34) T	[r roar at roar] (MAKES ROARING SOUND) (SHABIH GETS UP AND LOOKS AROUND ROOM ALL PLAYERS ARE OFF TASK) (DAVOR PULLS TANJA’S ARM)	R2	
35) D	how did the tiger (.) [rared] roared	R1	
36) Sh	[roar]	R4	
37) D	the tigers ra-wed (SLOWLY) (SHABIH STILL DISTRACTING TANJA)	R1	
38) T	roared	R5	
39) D	rared r-o-a-d	R1	
40) T	roared roared right (SHOUTS)	R5	
41) D	red how did the tiger red?	R1	
42) Sh	roar	R5	
43) T	green [green]	P	
44) Sh	[noisy] noisily	R6	
45) T	[noisily] noisily (SING-SONG)	R6 repeat	
46) Sh	[angrily]	R6 continued	
47) Sh	noisily or angrily	R7 narrows choice	
48) T	<u>noisily</u> noisily (SING SONG ON LAST WORD)	R7	
49) D	angrily	R7	
50) Sh	all right then	R9+	

The episode began with confusion over the word ‘roar’. It clearly demonstrates Davor’s reliance upon phonic reading strategies. He did seem aware, however, that the sentence did

not make sense without decoding the word 'roar', evinced by his continued attempt to re-read it. His inattention to others' help in reading this word is clearly observable as, even though Shabih and Tanja each read the word three times, he did not appropriate their support and continued to misread the word variously as rared, red and even ra-wed. This is crucial information for Davor's teachers as it suggests that he was at an 'object-regulated' developmental level in reading English. In other words, when he:

“gets “stuck” with a troublesource (in his reading), he does not know how to solve it, but keeps going in circles around it without making any progress” and does not “respond to prompts for revision made by a peer” (De Guerrero and Villamil, 1994: 487).

This may suggest that Davor needed extensive support in appropriating reading strategies other than phonics in order to be able to benefit from feedback from peers.

In this particular episode such inattention to others' prompts may have been an indication that Davor did not recognise the word 'roar' and this seems to have been Tanja's interpretation of his behaviour given her attempt to demonstrate its *meaning* (Lidz, 1991) by saying the word onomatopoeically. This is an interesting strategy which, given Tanja's recurring use of repetition with specific patterns of intonation throughout both interactions, suggests that she was using the strategy of “remembering new language information according to its sound” and meaning (Oxford, 1990: 42). In other words, in this context she was utilising already existing associations between the L2 written word (a visual image), its oral presentation (an auditory and somatic image) and its meaning. This would be enlightening formative information, which could help guide the future teaching of new L2 words or concepts. It also suggests the possibility that Tanja may be making auditory links between her first language and English; an investigation worth pursuing.

Tanja's participatory behaviour seemed to stand in direct contrast to Davor who made little effort to engage himself in other players' forfeit turns or, as evinced by this episode, to repeat or appropriate other players' verbal support on his own forfeit turn; strategies he may need explicit guidance in appropriating. In other words, it appears that Tanja was fully engaged with the activity and thus was able to exploit the opportunities of learning, whilst Davor, although engaged with the task, did not exhibit 'language-related engagement' (Platt and Brookes, 2001) and hence did not fully exploit such opportunities.

I found the comparison of Tanja and Davor's participatory behaviour across both interactions an illuminating aspect of the analyses because, although she and Davor had both been in the U.K. and the school for approximately the same length of time, Tanja's pronunciation of English was considerably better. This would suggest another and perhaps rather obvious benefit to repetition as a mediating tool in the learning of an additional language in that repeating a new or unfamiliar word to access its intended meaning may also benefit appropriation of its pronunciation. Equally, however, repeating a word in order to practise its pronunciation may encourage the formation or recollection of mental associations. Consequently, it would appear that these two functions of repetition (to practise pronunciation and to facilitate the creation or recollection of mental associations) can operate reciprocally in the context of social interaction.

Finally, returning to the episode, we can see that Shabih's off-task and disruptive behaviour stood in contrast to Davor's efforts to refocus attention back to the game (behaviour replicated by both players throughout the interaction). This was somewhat at odds with their teachers' predictions and would therefore strengthen the sociocultural

contention that orientation to a task is necessarily individualised and consequently, “task performance – that is, activity – is not predictable” (Roebuck, 2000: 84). This means that ‘role attribution’ within an activity can be misleading (Coughlan and Duff, 1994). This was the reason, given in chapter 3, underpinning my decision not to be entirely reliant on teachers’ recommendations for pupils to work as collaborative partners in the group interactions (see 3.43).

These interactions begin to suggest a special inter-and-intramental mediating role for repetition in L2 language learning in contexts of peer group interaction. However, although Omair and Shabih provided contingently appropriate scaffolds for participation in the reading aspect of the game, both interactions failed to provoke critical discussions of adverb choice. Consequently, there was no real exploration of the meanings of adverbs and subtle differences in shades of meaning. The following Game 2 interactions provide evidence of such discussions, which occurred primarily through the process of ‘collective argumentation’ (Donato, 1994).

4.35 Analysis B:5, G:2

The players participating in this interaction were Sean (S), a native speaker of English, and Elahe (E) and Mohammed (M), both Farsi speakers. Mohammed had been in the U.K. for two years longer than Elahe, who had been in the school for just over a year, though she had previously spent a very short period in Margate. Elahe was shy in class, but happy to speak to adults on a 1:1 basis. The class were set into ‘ability’ groups for literacy and numeracy. Sean was viewed by his literacy teacher (the other year five teacher) as ‘bright’ but highly disruptive; a pattern of behaviour with which I largely concurred following my

observations of Sean’s literacy group. His behaviour in his regular class, however, was much more relaxed and less disruptive. Sean had approached me prior to the recordings and asked if he could participate in playing the game, adding, “I bet you won’t choose me miss”. I found his contrasting behaviour intriguing and so decided to group him with these two very well behaved bilingual pupils. Sean’s subsequent behaviour during the game was not that which either teacher would have predicted.

The first ‘R’ episode occurred early in the game when Elahe landed on a forfeit:

- | | | |
|------------|--|------------|
| 1) S | it has to be one of these (LIFTS BOARD) | P |
| 2) | the man rided the horse | R1 |
| 3) | slowly, badly, quickly (...) [dangerously] | R6 |
| 4) E | [quickly quickly] | |
| | quickly quickly | R7 |
| 5) S(to M) | what do you think? | R7? |
| 6) E+M | quickly | R7 |
| S | (NODS AND ALL SMILE) | |

Although Sean took responsibility for reading the card and adverbs, his move in line five was significant and set the pattern for the entire interaction. This co-operative move opened the adverb choice aspect of the forfeit task to all players, thereby opening the possibility for disagreement. It was in fact a direct copy of an utterance I had used in demonstrating how to play the game prior to recording. In other words, the phrase, “what do you think?” had acted as a model ‘linguistic protocol’ (Cooke and Pike, 2000) appropriated as a co-operative move by Sean. The fact that all players were beaming with smiles at the end of this first episode would suggest mutual satisfaction at their collaborative effort.

The next episode occurred almost immediately after when Sean landed on a forfeit.

Interestingly, Elahe tried to read the card with Sean, even though it was his forfeit turn and he was clearly capable of independent reading:

7) E	[the don oh]	R2 attempt
8) S	[how did the] boy ride the bike?	R1
9) M	ehm badly? (LOOKING AT BOARD)	R7 suggests
10) S	wait	Behaviour check
11) M	badly aye	R7 repeat / R9+
12)	no dangerously=	R9- / R10
13) S	=carefully (SHOUTS) carefully	R7
14) M	dangerously (QUITE LOUD)	R10 repeat
15) S	carefully	R7 repeat
16) M	look look	P
17) S	nah	R9-
18) M	[he's re]	P/EXT
19) S	[how did the] how did the boy ride his bike	R1
20)	he rode the bike (.) <u>carefully</u>	R7
21) M	no!	R9-
22)	well how did he fell?	EXT
23)	like that?	P
24) S	[badly]	R10
25) E	[he sleeps] (SHE COULD MEAN 'SLIPS')	EXT reply
26) M	badly	R7 repeat
27)	nah yeah	R9- / R9+
28)	you could do dangerously	R10
29) S(to E)	do you agree like?	R7?
30) M	aye	R9+
31) S	Elahe	Tii

After Sean had read the card but before he had time to read the adverb choice, Mohammed suggested the adverb 'badly'. In lines 9, 11 and 12, Mohammed seemed to be having a conversation with himself as he worked out which adverb was the wisest choice. This seemed to act as a provocation to Sean who immediately challenged Mohammed's suggestions. Donato (1994: 45) describes 'collective argumentation' as the process of 'competition and resolution'. In this episode the resulting competition between Sean and Mohammed almost turned into 'disputational talk' (i.e. a "yes it is – no it isn't exchange")

(Mercer, 2000: 97)) before Mohammed tried to associate his suggestion with the *meaning* (Lidz, 1991) implied on the card (line 16). This was not explicit enough, however, and Sean remained unconvinced. Sean then tried to justify his own decision by placing the adverb in the context of the sentences on the card (lines 19 + 20). In other words, Sean tried to demonstrate that the word had morpho-syntactic relevance in the collocation of the adverb 'carefully' with the phrase 'riding a bike'. The underlying intention in repeating the sentence as a whole, therefore, was to say "you see the adverb 'fits' this sentence".

Mohammed then made the key utterance of the debate when he explicitly questioned association of the adverb 'carefully' with the picture of a man who had fallen off his bike (lines 22 + 23). In doing so, he was *promoting understanding by highlighting what was important to notice* (Lidz, 1991). This prompted Sean to accept Mohammed's argument and reconsider his choice of adverb. The debate drew to a resolution when Mohammed accepted Sean's repair with the proviso that his own choice was also a possibility (line 28). His use of the word 'could' in this proviso is another example of the use of language "deployed simultaneously for (its) social, specifically polite, function and for (its) cognitive, specifically hypothetical function" (Anton and DiCamilla, 1999: 240). In this instance, the utterance relayed Mohammed's acceptance of Sean's choice as a valid option (the social impact), whilst also proposing an alternative solution (the cognitive intent).

Although Elahe was not fully involved in this episode, her response to Mohammed's question (line 25) is interesting. Presuming that she *had* said, 'he slips', this would suggest, firstly, that she understood Mohammed's question, and secondly, that she was making a suggestion as to how the boy could have been riding carefully but still have fallen off his

bike: something which obviously neither boy had considered. It was a shame that her suggestion was voiced so timidly as it could have led to an interesting debate.

Shortly after this episode, Elahe landed on a forfeit. Again Sean read the card and adverb choice for her, and Mohammed reduced the adverb choice to 'angrily' or 'loudly'. Elahe chose the more appropriate adverb angrily. Mohammed then addressed Elahe in Farsi saying, "I think I could put the other one as well" (an exact translation), meaning that the other adverb 'loudly' was equally valid. This R10 move carried exactly the same illocutionary force as his previous utterance made to Sean in English (line 28). His use of Farsi to address Elahe is interesting though, as perhaps Mohammed thought it would help her access the task itself, (i.e. focus her attention on the fact that either adverb could be used in the context of the sentence on the card).

Whatever Mohammed's motivation in using Farsi, Elahe's reaction was unequivocal. Her reply in Farsi translated as, "I know", was spoken so vociferously, and her facial expression showed such disdain, that her underlying intent was clear: 'I don't need you to speak to me in Farsi in this context'. Mohammed acquiesced and refrained from speaking in Farsi for the rest of the game. It would appear, therefore, that Elahe felt some discomfort in acknowledging and using her first language in this small group context with one native speaking pupil (as suggested may occur, see 3.44). This information could prove valuable to the class teacher and may signal the need for her to enhance Elahe's perception of the status of her first language within the school context, whilst carefully empowering Elahe's confidence to use it during school work.

The game continued until Elahe once again landed on a forfeit:

32) S	how did the dolphin swim?	R1
33)	it's a blue	P
34)	messily neatly happily gre-c-efully carefully	R6
E	(FROWNS AT SEAN'S PRONUNCIATION)	
35) M	gracefully	R7
36) S(to M)	she has to say it not you	Behaviour check
37) M	oh	Behaviour response
E	(PUTS HEAD DOWN AND SMILES)	
38) S	which one? gracefully carefully messily neatly or happily	R6
	(ALL PLAYERS WAIT PATIENTLY FOR SEVERAL SECONDS)	
39) E	cafully (SHORT ENUNCIATION OF 'A')	R7
40) S	carefully?	R7 repeats to clarify
E	(NODS)	<i>non-verbal clarification</i>
41) M	that	P
42) E	mhm (TAKES WORD OFF BOARD)	R9+

Yet again, Sean took responsibility for the reading aspect of the forfeit, misreading the adverb 'gracefully'. Luckily, Mohammed chose this adverb and hence provided both Sean and Elahe (who had appeared confused by Sean's reading of the word) with the opportunity to hear the word pronounced correctly. It is noticeable that when repeating the adverbs for Elahe in line 38, Sean subsequently read the word correctly.

Possibly the most important move of the entire interaction, however, occurred in line 36, when Sean reprimanded Mohammed for not allowing Elahe the opportunity to make her own decision. This, together with their subsequent patient refrain from intervention (often not practised by teachers), handed Elahe the status of an equal participant, able to make her own informed decisions. Upon completion of the entire analysis, I realised that this was a crucial moment in the interaction and a turning point for Elahe. The analysis revealed that

prior to this episode, Elahe had not made any R9 moves (i.e. she had not explicitly agreed or disagreed with another player's adverb choice) and had made only three R7 moves (choosing an adverb) all of which were on her own forfeit turn. Following this episode, however, Elahe made 10 R7 moves, some of which were quiet repetitions functioning as intramental activity as the following episode will demonstrate, whilst others were made as suggestions for other players on another player's forfeit turn. She also subsequently made 5 R9+ moves, four of which were made without being asked for her opinion, and one R9-move on Mohammed's turn.

In other words, Sean's seemingly insignificant behaviour check acted as a 'self-confidence ratchet' for Elahe (cf. 'communicative ratchet', De Guerrero and Villamil, 2000) disinhibiting her subsequent participation, and endowing her with the confidence to become more engaged with the task as a learning activity. This is useful information in terms of a formative assessment as it suggests that, as with Pavel in interaction C:2, G:1, self-confidence seemed to play a major role in Elahe's ability to exploit the affordances of learning English in this collaborative interactive context.

The following two 'R' episodes demonstrate Elahe's subsequent task and language-related engagement. They occurred shortly after the middle of the interaction. The first episode was Sean's forfeit turn:

43) S	how did the tiger roar?	R1
44)	loudly gracefully (WHISPERING)	R6
45) M	angrily	R7
46) E	angry (VERY QUIET)	R7 <i>repeat</i>
47) S	madly	R7

48) E	[madly]	R7 repeat
	↙ ↘	
49) S	[cos he looks] mad	EXT
50) E	mhm	R9+
51) S(to M)	do you think?	R7
52) E	[I think]	R9+
53) M	[let us see]	P
54) E	madly (QUIETER)	R7 repeats
55) M	aye	R9+

This short episode demonstrates Elahe's newfound confidence and the resulting impact on the mediational means she began to use as a tool in exploiting the affordances of learning. Her repetitions of adverbs in lines 46, 48 and 54, a behaviour not enacted before the self-confidence ratchet, were oriented primarily towards herself to practise saying the word aloud and/or to access the meaning of the word (as Tanja did in interactions B:3 and B:4 above). Such information would be a useful guide in understanding the strategies Elahe was already able to employ in her learning of English, and hence could influence the structural design of future learning tasks. In this episode it was Elahe and not Mohammed who demonstrated more engagement with Sean's forfeit turn, making two R9+ moves as well as the repetitions. In fact, Elahe became even more involved in the collaborative effort to solve linguistic problems presented by the game, as demonstrated in the next episode when Mohammed faced a forfeit:

56) M	how did the boy write a story?	
	He wro	R1
57) S	neatly happily (.) gracefully messily	R6
58) M	happily?	R7 suggests
59) S	na!	R9-
60) M	ehm (...) gracefully?	R10 suggests
61) E(to S)	nea nea (VERY QUIETLY)	R10
S	(SHAKES HIS HEAD AT MOHAMMED)	
62) M	[aye]	R9+
63) E	[no] [no] no	R9-
64) M	[neatly?]	R10 suggests
S	(NODS HIS HEAD)	

For the first time in the interaction, Elahe attempted to suggest an adverb for another player on their forfeit turn. Her suggestion is eventually appropriated by Mohammed, though it is unclear if he actually heard her. The adverb Elahe was attempting to suggest, 'neatly', was semantically appropriate and is the adverb most commonly associated with the act of writing, particularly in classrooms where teachers often say, "make sure you write neatly". This would suggest that although Elahe may not yet have appropriated the linguistic form of most adverbs (adjective+'ly'), she did have an understanding of their meaning as associated with an act.

This was also the first time that Elahe had demonstrated disagreement with another player's adverb choice (an R9- move). In fact she was quite adamant that Mohammed was incorrect; her confidence perhaps enhanced by the fact that Sean too disagreed with Mohammed's choice. Nevertheless, given her participation at the beginning of the game, this was a significant development. She was not just disagreeing for the sake of disagreeing, she was concerned that Mohammed should choose a particular adverb, namely the one she had attempted to suggest.

4.36 Reflecting on the Analysis

The first noticeable feature of this interaction is the co-operative and supportive role played by Sean, and his insistence on collaborative inclusion. He was willing to accept advice from Mohammed and therefore did not position himself as the expert at the expense

of collective argumentation. His sensitivity and *contingent responsivity* (Lidz, 1991) towards Elahe's performance had a vital role in encouraging her performance. The group displayed no off-task behaviour during the entire interaction and there were no instances of distracted behaviour, intentional or other. Consequently, this interaction further strengthens my argument in analysis B:4 that mediational and behavioural role assignment within teacher-less peer group interactions remains conjectural as activity construction is not predictable.

The analysis also begs the serious question, particularly pertinent if used as a tool for formative assessment, of why Sean's behaviour in this context was so different to his behaviour in the context of his literacy class. The video clearly showed that the group had no idea they were being recorded and hence his performance could not be attributed to 'acting'. It would appear, therefore, that contrary to all expectations, Sean's behaviour actually improved in the absence of a teacher or other adult. As commented on in chapter 3 and on reflection very regrettably, due to time restrictions, I was not able to discuss this analysis directly with the class teacher. Hence, we were not able to explore the underlying reasons for Sean's behaviour in this context as opposed to his behaviour in literacy lessons, though I suspect it may relate to the manner in which the literacy teacher interacted with the class.

In the very short time I spent in the literacy class, I noticed that the teacher struggled to encourage negotiation and language-related engagement, largely exhibiting that which has been referred to by Lantolf (2000 (b)) as 'monologic mediation', by Anton (1999) as 'teacher-centred' behaviour, and by Hardman *et al* (2003) as 'teacher-led recitation'. The

research by Hardman *et al* (2003: 212) found that teacher-talk such as this was characterised by a predominance of closed questions requiring “convergent factual answers”, and did not engage the pupils interactively. I believe that this is, perhaps, one reason inhibiting Sean’s engagement in his literacy class.

Another revealing aspect of this interaction was the significance of one particular utterance which acted as a behavioural catalyst. Sean’s intention in making this move was to hand control of the adverb choice over to Elahe (i.e. to act *contingently* (Aljaafreh and Lantolf, 1994)). The effect was to afford Elahe the status of an equal (or at least more equal) participant thereby empowering her performance. Such empowerment led to increased engagement and a subsequent change in her construction of the activity as one in which she could learn. Consequently, it would appear that one’s determination and ability to exploit the affordances of learning in an activity, is not solely due to the existence of the scaffolding behaviour of others, but also to one’s self-confidence in actuating such opportunities. In other words, affective factors such as confidence and identity construction are as equally important as contextual knowledge and support (i.e. cognitive factors), in determining a player’s construction of an interactive task as a learning activity.

Such a supposition makes sense not only in terms of our common experience as learners, but also in light of neurological considerations as to what constitutes an individual’s knowledge (see 2.21). As Stevick (1996: 6) writes, “information is rarely, if ever, stored in the human nervous system without ‘affective coding’”. This means that in facing and processing new information, association with previous information, including less positive experiences in how to learn and how to ‘be a learner’, can cause anxiety or a breakdown in

self-confidence resulting in an interference with full attention (Stevick, 1996; Stevick, 1999). Consequently, any reduction in one's anxiety or anything leading to a boost in one's self-confidence and the affirmation of one's identity as a learner in a particular context can have a positive effect on one's attention and, therefore, engagement with a task, thereby increasing one's opportunities for learning. It would appear that for Pavel (C:2, G:1) and Elahe, affect was a major determinant in their ability to attend to and therefore fully engage with the L2 learning tasks during their collaborative interactions.

Finally, I believe it important to reiterate that uncovering the significance of Sean's empowering utterance and the resulting impact on Elahe's performance, was possible only by considering analysis of the interaction as a whole. In this interaction, as in all of this research, each episode was analysed with respect to its historical position (i.e. in consideration of that which had come before it, and that which subsequently followed it). Such a genetic, or more specifically microgenetic approach, is important because as Wells (1999(a): 5) writes, "the present state can be understood only by studying the stages of development that preceded it." In this interaction, as in interaction B:1, G:1, a genetic approach to analysis is particularly revealing in terms of the information yielded and used as a formative assessment. Tracking changes in behaviour, whether they occur gradually over the course of an interaction (as in 4.16) or more suddenly following a particular behavioural event, is vital in appreciating how and what pupils learn: information crucial to any formative assessment.

As in this interaction, players in the next group were also engaged in debates surrounding the most appropriate adverb choice. Unlike this interaction, however, the monolingual

pupil did not provide contingent support. Instead, she positioned herself almost unquestioningly as the group expert at the expense of exploratory talk and collective argumentation.

4.37 Analysis B:6, G:2

This was a mixed language group consisting of Ulla (U), an Arabic speaking pupil from Iraq, Yeu Yang (Y), a Mandarin speaking pupil from China, both of whom had been in the U.K. for a year, and both of whom were placed at English language level 1-2, and Heather (H) a monolingual native speaking pupil.

The first 'R' episode of the game occurred early in the interaction when Heather landed on a forfeit. Although she shared the card physically, her intention was to read independently:

1) H	how did the taxi driver shout [at the man]	R1
2) Y	[at the man]	R2 attempt
3) H	[the taxi driver] <u>shouted</u>	R1
4) Y	[the taxi driver]	R2 attempt
5) H	what is it? (LOOKS FOR COLOUR)	P
6)	shouted (...) (SLOW AND ELONGATED)	R1 repeat
7) Y	[happily angrily]	R6
8) H	[cr (..) cray]	R7 attempt
9) Y	la [loudly] madly noisily	R6 continued
10) U	[noisily]	R7
11) Y	or [crazily]	R6 continued
12) H	[noisily or loudly]	R7
13) H	loudly	R7
14) U	[yeah]	R9+
15) Y	[angrily] look (POINTS TO PICTURE)	R10 / P
16) H	there's it hasn't got angrily	P
17) Y	[angrily] (POINTS TO WORD)	R6

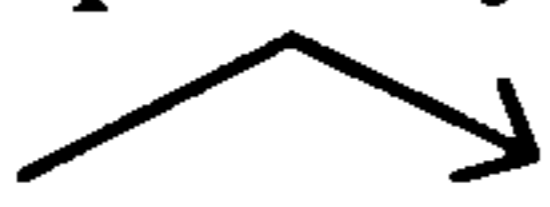
18) H	[<u>angrily</u>] ↘	R7 accepts
19) Y	wait (LOOKS AT PICTURE AGAIN)	Behaviour check
20) H	<u>angrily</u>	R7 repeat
21) Y	oh yes angrily	R9+ / R7 repeat
H	(TAKES WORD OFF BOARD)	

Yeu Yang tried to read the card in unison with Heather even though it was her forfeit turn. When Heather repeated the verb with prolonged enunciation followed by a pause, Yeu Yang interpreted this as a cue to read the adverbs aloud. Whether he believed that Heather was struggling to read and hence needed support, or whether he determined this a necessary feature of the game is unclear. Nevertheless, it was a co-operative move which prompted a sharing of the decision making process. Once Heather had chosen the adverb ‘loudly’, Yeu Yang challenged her by suggesting an alternative and then pointing to the card. This would suggest that he had linked the adverb ‘angrily’ with the visual image of the picture, thereby demonstrating an awareness of the primacy of meaning in using particular adverbs. It is unclear, however, if his subsequent lack of verbal reasoning in this episode related to a difficulty in articulating his argument in English, or the lack of opportunity to do so given Heather’s control in ending the episode. Watching the recording, and given his request for Heather to wait before ending the episode (line 19), however, I got the distinct impression that Yeu Yang wanted to continue the debate.

The next ‘R’ episode occurred shortly afterwards when Ulla landed on a forfeit. Heather picked up the card for her and began to read but Ulla was far from happy, saying “I do that”. Heather and Ulla then read the card together, though it was an uncomfortable collaboration as each tried to ‘out-read’ each other in terms of pace and volume. This is an example of a lack of *psychological differentiation* (Lidz, 1991) by the more experienced

reader, Heather, who perceived her task as performing the reading for Ulla, acting in direct competition with her and at odds with Ulla's needs. Once Heather had realised that Ulla was capable of reading the card independently, she should have acted contingently and handed responsibility for reading to Ulla.

The resulting competition coerced Ulla into making a quick and somewhat unreflective adverb choice. Yeu Yang again questioned this choice by saying "I saw it as sweetly"; an utterance which both Ulla and Heather subsequently ignored. This R10 utterance is at once recognisable as similar to those discussed in previous interactions. It functions both socially and cognitively (Anton and DiCamilla, 1999). The social impact of the utterance is to express acceptance of Ulla's decision, whilst politely intimating that another point of view (i.e. Yeu Yang's own) may also exist, thereby paving the way for a further discussion as to which adverb is the most appropriate in the given context (the cognitive function). Unfortunately such debate was not forthcoming and Yeu Yang had to wait until almost mid-way through the interaction before Heather, on her own forfeit turn offered justification as to her choice of adverb:

22) H	how did the man ride the horse	R1
23)	he ro(:)de (.) he(:) ro(::~)de (..)	R1 / R1 repeat
24)	quickly!	R7
25)	quickly	R7 repeat
26) Y	speedily?	R10 suggests
27) H	quickly	R7 repeats to assert
		
28) Y	oh yeah	R9+
29) H	sounds better	EXT

By this stage in the game, Heather's behaviour had been so dominant that Ulla and Yeu Yang made little effort to intervene. This is noticeably different from the first 'R' episode of the game when Yeu Yang interpreted Heather's pause as a cue to read aloud. This time, even though Heather made several vowel elongations and pauses, Yeu Yang chose not to read the adverbs aloud. Nevertheless, he did suggest an alternative adverb choice, which Heather quickly dismissed. Her repetition with a rise-fall intonation acted to deter Yeu Yang from further debate. She did justify her choice, however, adding "sounds better". This could be interpreted in several ways, for example, she could have meant that the adverb 'quickly' sounded better (or was more common) than the adverb 'speedily', or she could have been indicating that the adverb 'quickly' sounded better in the context of the sentence (i.e. was more commonly associated with the riding of a horse). It is interesting that whilst the earlier episode suggested that Yeu Yang was trying to differentiate adverbs on the basis of their meaning given the pictorial cue, this episode suggests that Heather was using more of a morpho-syntactic approach basing her decisions on commonly 'heard' adverbs or adverb-verb collocations. Certainly, this seems to have been Yeu Yang's interpretation, given his behaviour in the very next 'R' episode when he, himself, landed on a forfeit:

30) Y+U	how did the lady dance?	R2
31)	she danced	R2
32) H	she danced	R1 repeat
33)	neatly happily beautifully	R6
34) Y	beautifully?	R7 suggests
35) H	yeah	R9+
36) Y	ok	R9+
37)	because 'she danced (..) beautifully' (VOICE TRAILING OFF)	EXT

The first interesting feature of this episode is the co-operative reading exhibited by Ulla and Yeu Yang. This time Ulla did not read in competition with her reading partner, racing through the sentence. Rather, she intentionally slowed her reading, sharing the task with Yeu Yang who offered her access to the card. This pattern was replicated throughout the interaction and would suggest some friction between Ulla and Heather's role construction in the context of this interaction. In fact, out of the 13 Cii moves made by Heather in the entire game, all of which were positive and acted to support/congratulate another players' play, only two were directed at Ulla. Heather's dominance in the game, and particularly over Ulla's play, could indicate that she was not as co-operative or sensitive as teachers had originally thought, useful information in considering the future grouping of pupils.

Interestingly, although the teacher had recommended Heather as a supportive and co-operative pupil at the time of recording, on my return to the school several months later, I was told that, much to her teachers' consternation, Heather's behaviour in school had considerably deteriorated and other pupils were expressing difficulties in working with her in class. She was suspected of bullying, and her behaviour was being closely monitored. I am not suggesting that this could have been predicted given the results of this analysis, but that the co-occurrence of the pattern of behaviour exhibited by Heather in this teacher-less context and her subsequent behaviour in school is an interesting confluence.

Returning to the interaction, we can see that although Yeu Yang's adverb choice was accepted, he continued by making an EXT move to justify his choice. His reasoning underlying this choice has some resonance with Heather's previous EXT move. Yeu Yang was trying to justify the morpho-syntactic relevance of placing the adverb 'beautifully'

with the phrase 'the lady danced'. In other words, he seemed to have appropriated Heather's method of reasoning from the previous episode and therefore the linguistic means with which she mediated her thinking. This would concur with the sociocultural view of L2 language learners appropriating 'ways with L2 words' for learning and not just the L2 words themselves during dialogic activity (see 2.2). Such appropriation would allow Yeu Yang to move from participation in an other-regulated activity towards self-regulated activity. Consequently, the analysis would suggest that Yeu Yang would particularly benefit, both in terms of his L2 language development and his learning of other subject knowledge, from working in small groups with peers as he could appropriate not only the new L2 words associated with such subjects, but also the 'regulatory means' (Lantolf, 2000 (a)) employed by others in learning and thinking about those subjects.

Yeu Yang's utterance in line 37 appeared to be primarily social in orientation as he shared his reasoning with the group. It would seem reasonable to suggest, however, that the utterance also acted intramentally, as he listened to his own utterance as a 'product' (Wells, 1999 (a)) and decided if the adverb did indeed 'fit' the sentence. Moreover, given his trailing voice it is also fair to speculate that during the 'act of saying' (Wells, 1999 (a)), Yeu Yang was involved in intramental activity, perhaps in relating the sound of his utterance with the intended meaning of the picture. Once again we are reminded of the truly dialectic relationship between the social (i.e. intermental) and the inner/private (i.e. intramental) functions of speech in social interactive contexts (see 4.47 for a further discussion).

4.38 Summary

The analyses of Game 2 interactions have continued to highlight the process of collective scaffolding and its role in learners' appropriation of L2 language forms, and the use of L1 and L2 as a thinking tool. Synthesising the results of the analyses of Games 1 and 2 shows that, given appropriate scaffolds, the construction of a task by a learner as one in which to exploit the affordances of learning depends not only upon their motives for participating and subsequently, therefore, their construction of one another's participatory roles (as found in Game 1), but also upon their self-confidence in actuating such opportunities within a given context. The results of one particular Game 2 interaction demonstrated how this was made possible by the empowering impact of one utterance made by one individual player (see 4.35). I argued that increasing a player's self-confidence in such a way could empower a change in their learning behaviour. As Stevick (1994, 1999) argues, negative or unpleasant emotions or anxiety aroused by the activation of certain images, including, for example, experience with previous learning environments, can interfere with our ability to fully attend to the information on our 'worktable' (see 2.2). Consequently, by increasing pupils' self-confidence or reducing their anxiety within a learning context, one may promote increased attention and engagement with the language learning and problem solving aspects of their activity.

With regard to the particular strategies used to empower and scaffold language learning, the results continued to highlight those utterances which are "deployed simultaneously for their social, specifically polite, function and for their cognitive, specifically hypothetical function" (Anton and DiCamilla, 1999: 240) (see sections 4.34 and 4.35 for example). In other words, there seems to be a connection between a player's intention in making an

utterance and an awareness of the social impact of their having made it. It is possible that a player's primary intention in speaking is cognitive in orientation, for example, in suggesting an alternative adverb choice. They may also be concerned, however, with the social impact of their utterance, for example, not wanting to completely disregard another player's efforts. This may result in a more careful and polite phraseology, in order that they should not appear to be assuming an authoritative position. In Game 2, pupils used phrases such as, "you could do...", or "if I was you I would've done..." to suggest alternative adverbs. Such careful phraseology seems a natural feature of peer group interaction in both symmetrically actuated interactions and those with a more didactical actuation and, interestingly, occurred in both English and in a player's L1 (Farsi).

Another interesting feature of the Game 2 analyses involved players' reasoning in support of their adverb choice. The analyses revealed that players used two primary mechanisms. Some players chose to justify their choice based on commonly heard morpho-syntactic collocations (i.e. they were arguing "listen, this adverb sounds the best in this sentence, it is the best 'fit'"). This is an interesting strategy which I would not have predicted as a behaviour blueprint of Game 2; further evidence of the difference between a perceived task and an actual activity (Coughlan and Duff, 1994; Donato, 1994). Alternatively, and perhaps more predictably, players justified their adverb choice by referring it to the pictures' perceived meaning, for example, Mohammed's insistence of the adverb dangerously to describe a boy's riding of a bike, given that the picture showed that the boy had crashed (B:5, G:2).

Finally, in terms of the strategies pupils used to exploit the opportunities for learning manifest in Game 2 interactions, the analyses have continued to highlight the role of repetition. In Game 1 we were able to observe the role repetition played in collective scaffolding acting, for example, as a ‘holding platform’ to ‘set up’ a sentence construction or an L2 lexical search. Evidence from the analyses of Game 2 suggests that repetition in collaborative peer interaction can act as both intermental (i.e. social cognitive activity) in, for example, agreeing or disagreeing with another player’s adverb choice, and intramental (i.e. private cognitive activity) in, for example, the activation of memory associations. Close analysis of the data has revealed that ascribing an utterance as functioning solely as either intermental or intramental activity is a difficult task and perhaps somewhat vulnerable to criticism (Wells, 1999(b)). As Wells (1999(b): 250) argues, “dialogic action ... is simultaneously individual and social”. Subsequent analysis of Game 3 interactions, afforded me the opportunity, however, to refine my understanding of this relationship as the following section will attest to.

4.4 GAME THREE- IMAGE CONSTRUCTION

‘COMPOUND WORDS’

The results of this game are very interesting as it was the only game not to include pictures as a cue to meaning. As a consequence of this design, pupils were forced to more clearly articulate their understanding and experience of English words. This provided some enlightening information as to their construction of words as mental images. Hence this section makes a more substantial reference to the neurological perspective described in chapter 2. As suggested above, this section also helps to develop a clearer understanding of the relationship of talk for inter-and-intramental purposes.

The forfeits in this game (fully detailed in Appendix 7) involved the formation of compound words made up from two separate words, resulting from either the throw of two dice or the amalgamation of words on two cards. The problem for players was to decide whether the compound words actually existed in English as, unlike all of the other games, there were no picture cues. Consequently, as suggested above, in recording Game 3 interactions I hoped to observe players debating, arguing and justifying a word's existence.

4.41 Analysis C:3, G:3

This was a mixed language group consisting of two girls, Selina (S) a Nepalese speaking pupil who had been in the school for only four months, and Amira (A), a Malay speaking pupil who had been in the school for only two months at the time of recording. The third member was Vojtech (V), a Czech speaker who had been in the school for approximately one and a half years. Although the two year three classes were ability set for literacy

lessons and Amira was in the lower set, she and Selina were great friends and spent time together in their regular class and at break times. Amira was very shy, particularly when addressed by a teacher, although, even in the short time I spent in the school, I saw her self-confidence beginning to bloom. All members of the group had been assigned a level 1/2 in English development (see Appendix 4), and so there was no natural ‘expert’.

This first ‘R’ episode occurred early in the game when Selina landed on a dice forfeit:

1) V	ahh on the green dice	Cii
2) S	fire	R1
3)	I need ma(:: <i>)n</i>	R1 <i>predict</i>
4)	oh [fireball]	R3
5) A	[fireball]	R3
6) V	fireball	R3 <i>repeat</i>
7) V(to S)	it is right	R5+
8)	fire – ball (SEPARATES WORDS)	R3 <i>repeat</i>
9) S	no!	R5-
10) V	could be (QUIETER)	R5+/EXT
11) S	no I must go back one	R5- / Mi

This episode typifies subsequent behavioural patterns exhibited by both Selina, who tried to control her own and others’ play, and Vojtech, who tried to engage the group in discussions about the validity of the compound words. Unfortunately, Selina appeared to interpret the function of the game as making decisions as to a compound word’s existence without debating such decisions. Consequently, Vojtech’s move in line 10 was ignored and the opportunity to discuss the meaningfulness of the word ‘fireball’ was scuppered.

The pattern of Vojtech’s participation which, as we shall shortly discover, remained largely the same throughout the interaction, is interesting. He made no effort to be involved in the

reading aspect of this forfeit, though admittedly it was Selina's forfeit turn. Instead, he waited until both Selina and Amira had read the words on the dice and formed the compound word before stepping in to repeat it (line 6).

This 'saying' the word aloud carried both an intermental and intramental function.

Intermentally, it acted simultaneously to accept Selina and Amira's reading and word formation whilst also holding it up for public scrutiny (i.e. to ask "ok everyone, the word is 'fireball' – now, does it exist?"). The 'act of saying' (Wells, 1999(a)) the word aloud, however, may also have triggered a key intramental function as it afforded Vojtech the opportunity to hear himself say the word aloud, thereby activating any associations he may have had in his 'memory' regarding this word. In other words, he could ask himself, "have I heard this word before, have I spoken this word aloud before and if so, in which context?"

The conclusion he seemed to reach in this respect was affirmative (i.e. the word fireball did make sense to him). Unfortunately, just as he was about to exteriorise his understanding (lines 8 + 10), Selina cut him short and ended the episode. Although Amira played little part in this episode, she was the next player to land on a forfeit and seemed delighted at the prospect:

12) A+S	man	R1
13) S	post (QUIET)	R1
14)	postman! (SING-SONG)	R3
15)	yes!	R5+
16) V	yeah that's right that's one ↗	R5+
17) S	stay there	Mii

18) V	so you're staying [there]	Cii
19) A(to S)	[snap post] manpost hu-hu	R3 <i>language play</i>
20) S	its my turn	Ti
21) S(to A)	no its my [post]! (LAUGHS QUIELTY)	R3 <i>more ludic play</i>
22) V	[no!] no you're no my turn	T
23) S(to A)	its mypost	R3 <i>still ludic play</i>
S+A	(BOTH LAUGH)	

This episode is interesting because of the ludic language play which Amira initiated and with which Selina became engaged. After both Selina and Vojtech had confirmed the existence of the word 'postman', without reference to meaning, Amira began spontaneously to play with the lexical structure, reversing the order of the words. She began by forming the words 'snap post' (possibly trying to reverse or mix up the letters in the word post) before arriving at the word 'man post': a direct reversal of the compound word, 'postman'. Selina, who understood the significance of this play, joined her by attaching one word from Vojtech's preceding move to the word 'post' forming the made-up word 'mypost'. Both players really enjoyed this morphological and semantic creativity, combining words "in ways which create worlds which do not exist: fictions" (Cook, 1997: 228). This ludic language play exchange enabled Amira to contribute to the episode, whilst Selina's engagement provided positive external affective feedback (Stevick, 1999), thereby lowering both players' anxiety and encouraging Amira's subsequent participation (see 2.64).

Play continued until Selina landed on a card forfeit:

24) S	any(::<)	R1
25)	where	R1
26)	anywhere	R3
27) V	money anywhere	R6/EXT

- 28) [no(:)] **R5-**
 29) A [anywhere] **R3 repeat**
- 30) A [yeah] **R5+**
 31) S [()] (INAUDIBLE)
 S (GETS UP AND COMES TO ASK ME FOR HELP IN
 RESOLVING THE GROUP'S DISAGREEMENT)

Before I joined the discussion, Vojtech had linked the word 'anywhere' with the word money (line 27), possibly having heard the word in discussions at home, although these would probably have been in Czech. His second suggestion, made upon my request having re-entered the room, placed the word 'anywhere' in a common collocation forming the phrase 'anywhere else'. This was almost definitely a recollection of an expression heard in English as he would have been unlikely to use the adverb 'else' in a context other than juxtaposed with, for example, pronouns such as anywhere or anything in the formation of a question. It would, in fact, be quite difficult to explain the meaning of a word such as anywhere without resorting to such common collocations in English.

Play continued in a similar fashion with Vojtech not directly involved in the reading aspect of the forfeits but consistently repeating the compound words formed by Selina and Amira in an attempt to form meaningful associations. His perusal of meaning was also evident in an argument during a CTDP episode when Selina commented on the fact that Amira was almost finished:

- 32) S finish means you won the game! And you first **C**
 go get there you won the game ok?
- 33) V but its not finished **C**
 you me two two now now? **T**
 (POINTS AT HIMSELF AND SELINA)

Vojtech was adamant that just because a player had won did not mean the actual playing of the game was finished. This was the only occasion in all of the recordings that any player felt compelled to comment on the meaning of the word 'FINISH' written on the final square of the board. Perhaps Vojtech was merely concerned that his time spent out of class playing an enjoyable board game should be extended for as long as possible.

Unfortunately, the game did finished shortly after this exchange when Amira landed on the final square of the board.

4.42 Implications for Formative Assessment

Although the group did not venture into any debates surrounding the validity or meaningfulness of any of the compound words formed in this game, the analysis still provided valuable information as to players' learning.

The fact that Vojtech made as many requests for others' help in reading as he made actual attempts to read himself (both three times), suggests a support driven (or other-regulated, (De Guerrero and Villamil, 1994)) attitude to reading English, at least in this context. Such reliance upon peers for support in reading English may, therefore, be indicative of a lack of self-confidence in the construction of his identity as a reader of English, and, therefore, the motivation to become self-regulated. Alternatively, it may just reflect his lack of motivation to read in this context (i.e. in playing this game with these particular playing partners); a conundrum worth pursuing in other contexts.

Another aspect of Vojtech's play which provided an illuminating insight into his appropriation of English concerned the intramental function of his use of spontaneous repetition in this game in order to ascertain a word's meaning. Indeed, meaning seemed a major concern for Vojtech throughout the game. The fact that Vojtech also 'recalled' an L2 word by associating it with a commonly heard collocation would also have been useful information in the teaching of new L2 lexical items and phrases.

The playful nature of Amira's participation throughout the game and, in particular, her spontaneous use of ludic language play, may suggest that she would feel less anxious and more empowered to participate using such play, particularly in whole class sessions. Certainly, her reaction to me during the times I re-entered the room was much more relaxed than prior to playing the game.

Finally, Selina's approach to the game, her self-positioning as group leader and, in some ways, also the group expert, was revealing in appreciating the positive construction of her identity as an L2 learner. The fact that she sought my involvement several times during group disagreements would also suggest, however, that although confident, she remained somewhat teacher-regulated; a reflection, perhaps, of her previous schooling experience in Nepal.

The next group also had one group member who positioned herself as group leader and one member who, like Vojtech, consistently tried to discern the meaning of the compound words.

4.43 Analysis C:4, G:3

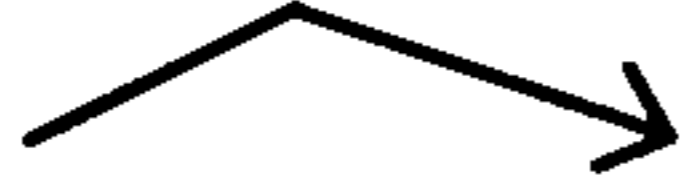
This group consisted of two Bengali speaking boys, Adnan (A) and Maruf (M), a boy who had recently arrived from a school in Leeds following an extended visit to Bangladesh. The third member of the group was Katie (K), a native speaker. The two boys had originally requested to play with another native speaking girl from the class but she was absent from school on the day of recording.

Adnan was the first player to land on a forfeit, throwing the word ‘playtime’. Shortly after, Maruf landed on a dice forfeit:

1) M+K	playroom	R3
2) K	yeah play[room]	R5+ / R3 repeat
3) A	[yeah!]	R5+
4) K	it's a room [with toys in]	EXT justifies-describes
5) M	[I've got a room at home]	EXT justifies-relates to personal experience
6) K	it's a room	R5+/EXT

This episode sets the scene for the ensuing interaction. The intonation contour in line 1 shows that both Maruf and Katie recognised the compound word ‘playroom’ and accepted it as a ‘real’ word. The episode could have ended in line 3 after Adnan too agreed to the word’s existence but both Katie and Maruf chose to extend the episode by justifying their decision. Katie chose to do so by describing the room’s contents, whereas Maruf related the word to his personal experience. This was a spontaneous and naturalistic extension to the episode, both players no doubt keen to impress their reasoning upon the other players, whilst also satisfying their own attentive deliberation.

Play continued and there were two more ‘R’ episodes, during which Maruf repeated the compound words thrown, but made no further comment. The next episode occurred when Maruf landed on a forfeit:

7) A	yeah it’s the first time on the green dice!	C
8) K	ball (QUIET)	R1
9) K+M	fireball	R3
		
10) K	yes stay where you are	R5+ / Mii
A	(LOOKS AT KATIE AS IF CONFUSED BY THE WORD)	
11) M	it’s a fireball (VERY QUIET)	R6
12) A	my go	Ti

This time only Katie seemed sure of the compound word’s existence. Adnan looked confused but did not question Katie’s judgement, whereas Maruf tried to place the word in a simple sentence construction in order, no doubt, to try and make sense of it. It is also possible of course that he was actually recalling a context in which he had previously encountered the word. Whatever his underlying motivation, the move functioned primarily as intramental activity (i.e. private speech). In fact, over the course of the interaction Maruf seemed to be talking aloud to himself more often and in less predictable moments than previously recorded in other groups as the following example monologues attest to. Immediately after the above episode Maruf said “I’m always on green. Red green red” (a Ci move) and a few moves later, “I could just get a black and I never get a white” (an unclassified move). These utterances, seemingly addressed to himself about his own progress through the game, are typical of other private speech moves he made over the course of play. They seemed to function as a sort of self-motivation (i.e. to mediate his intrinsic motivation to progress through the task).

The next 'R' episode occurred when Katie landed on a forfeit:

13) A	tea	R1
14)	time	R1 <i>predict</i>
15) A+K	tearoom	R3
16)	[no(::)]	R5-
17) M	[tearoom]	R3 <i>repeat</i>
18)	you can get it as a room [you can g..]	EXT <i>justifies</i>
19) K	[I have to go back] one space	Mi
M	(PUTS HEAD DOWN WHEN K IGNORES HIM)	

Once again, this episode demonstrates Maruf's eagerness to explore the meaning of the compound words. This time, however, it was in response to and at odds with Adnan and Katie's decision. Unfortunately, Katie cut off his EXT move and hence it is impossible to determine Maruf's reasoning in this instance. It seems likely, however, that he was going to describe the function of the room (i.e. "you can get it as a room, you can go and have tea there").

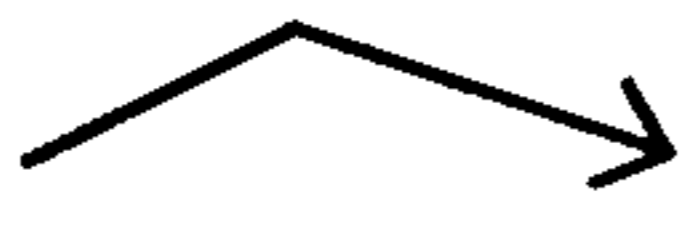
The very next episode began when Adnan landed on a forfeit:

20) K	fire	R1
21) M+K	man	R1
22) A+K	fireman	R3 <i>recognises word</i>
		
23) A	yes!	R5+
24) M	fireman Sam	EXT

Once again, Maruf persisted in ensuring the compound word existed and was meaningful.

And once again it seems as if the purpose for doing so was primarily intramental. This time he associated the word 'fireman' with the book and television character 'Fireman Sam'. In

making this utterance, it is quite possible that Maruf was also visualising the character, recalling visual and possibly also literary images from memory. Indeed the next episode, which occurred several moves later, was more clearly observable as involving such image (re)construction. It was Katie's forfeit:

25) K	net	R1
26) K+M	netball	R3 <i>recognise word</i>
		
27) M	you can go dush (MAKES THROWING ACTION) EXT	
28) K	word	R5+

Immediately after saying the compound word with an intonation contour signalling that he recognised it, Maruf again extended the episode by creating a meaningful association. This time the association was both verbal/aural in his onomatopoeic recollection of the sound a netball makes when flying through the air, and visual in his attempt to replicate the physical action of throwing a netball.

Shortly afterwards, Adnan landed on a forfeit and for the first time in the game there was a serious disagreement:

29) K	police ball=	R3
30)	=no one place	R5- / Mii
31) A	ye(::)s!	R5+
32) M	no it it [isn't]	R5-
33) K	[police ball]	R3 <i>repeat</i>
34)	there is no such thing	R5- <i>more explicit</i>
35) A	it <u>is</u> !=	R5+
36) M	=it isn't=	R5-
37) A	=it is police ball	R5+ / R3 <i>repeat</i>
38) M	well how can you play with the police (..) [with the ball] EXT	
39) A	[ball!]	
40) M	how how can a police turn into a ball like this? EXT	

A (ROLLS HIS BODY INTO A BALL SHAPE)
 (LAUGHS)
 41) A ah man I go one back Mi

This time Maruf's reasoning was given in opposition to Adnan's stance that the compound word 'policeball' existed. The argument initially resembled the 'disputational talk' of "a 'yes it is – no it isn't' exchange", first encountered in interaction B:5, G:2 (Mercer, 2000: 97). Adnan's only tool in arguing his case was to repeat the word (line 37), as if to say, "you see you must have heard this word before". In actual fact, I believe that Adnan knew that the word did not exist and was just 'trying his luck' in order to avoid moving backwards on the board. Maruf, on the other hand, was able to effectively challenge Adnan's assertion by asking how a policeman could possibly turn himself into a ball. In other words, Maruf demonstrated an ability to determine "the meaning of a new expression by breaking it down into parts, using the meanings of various parts to understand the meaning of the whole expression" (Oxford, 1990: 46). Moreover, he accentuated this reasoning with the synchronous physical miming of a human moulding himself into the shape of a ball. The impact of such visual imagery accompanying the linguistic breakdown of the word into two separate lexical items was too strong for Adnan to counteract, and he acceded. This episode is an excellent example of exploratory talk in a game playing context.

4.44 Implications for Formative Assessment

Throughout this interaction Maruf tried to justify the existence of the compound words made by the throw of the dice, even when superfluous to the rules of the game or to the flow of the dialogic activity. The analysis would strongly suggest, therefore, that Maruf's

compulsion to 'make sense' of each word carried an intramental as well as an intermental function. Close analysis of each forfeit episode also suggested that Maruf formed mental associations based on visual, aural/oral and kinetic imagery. It is likely, therefore, that at the time of the original experience on which such image reconstructions and associations were based, Maruf was particularly attuned to how they looked, felt, and sounded (Purpura, 1997). This correlates well with Damasio's conception of our memories consisting of a distribution of multifaceted images (refer to 2.2) In Maruf's case, such imagery was related to his personal experiences (e.g. playroom and perhaps also tearoom), social experiences (e.g. netball), and literary experiences (e.g. Fireman Sam).

From a formative assessment perspective, this information suggests that Maruf would have benefited from teaching practices and communicative tasks in which visual, aural/oral and kinetic elements were enhanced, particularly in the introduction and memorisation of new L2 lexical items or concepts. In other words, tasks which stimulate the production of such elements such as group drama would have been particularly useful in encouraging Maruf's comprehension and his 'memorisation' of English. Teachers may also have benefited from knowledge of Maruf's natural tendency to promote the saliency of meaning in his appropriation of English by relating words to meaningful contexts based on previous experiences. This would have been useful information in encouraging Maruf's participation in whole class discussions as the teacher could have asked Maruf for his understanding or experience of particular words or phrases. It would also imply that Maruf would have particularly benefited from communicative tasks exploring the meanings of words and concepts in English.

Unfortunately Adnan, who was placed at a higher stage of English development, did not exhibit such language-related engagement in this game. Indeed he made no EXT moves, and contributed only 26% of the total number of R moves made in the interaction. His lack of language-related engagement could, however, have been indicative of a reaction to Katie's dominance. Indeed, towards the very end of the interaction when I was present in the room and when Maruf had landed on a sentence forfeit, he turned to Katie who was trying to take over the task and shouted, "no not you!". Consequently, this analysis may indicate that Adnan would benefit from working with less dominant, more co-operative pupils during collaborative activity.

The next group interaction, the last in school C, also involved play in which the meaningfulness of the compound words produced in the game was debated.

4.45 Analysis C:5, G:3

The final group was a mixed language group. Nargis (N), the most experienced English learner, spoke Bengali at home. Sara (S), on the other hand, had only been in the school for four months at the time of recording although she had spent some time at a school in Margate before the family were 'dispersed' to the North-East. Her first language was Czech. Finally there was Kareem (K) who had lived in the U.K. with his English speaking mother before going to live with his father in Dubai, whereupon he learned to speak Arabic and attended an Arabic speaking school. He had only recently returned to this country under somewhat stressful circumstances (about which I am not at liberty to write in this context) and had been in the school for one month.

It is appropriate that this interaction should fall last, as it exemplifies most of the learning behaviour thus far described in this chapter (i.e. negotiated expertise, language-related engagement, collective scaffolding in sentence construction and word recognition, and multifaceted image (re)construction).

Shortly after the game began, Nargis landed on a forfeit:

1) N	man	R1
2) K	police man?	R1 <i>predict</i>
3) K+N	net man	R3
	↗ ↘	
4) N	yeah! that's a one	R5+
5) S	yes netman yes man (QUIET)	R5 / R3 <i>repeat</i>
6) K(to S)	netman	R3 <i>repeat</i>
7)	he knits everything	EXT
8) N	yeah netman (QUICK)	R5 / R3 <i>repeat</i>
9) N+S	five	D(ii) + D(i)
10) All	one, two three, four, five	M(i) + M(ii)

Once Nargis, the group member most experienced in English, had proclaimed the validity of the non-existent compound word 'netman' so assertively, Sara and Kareem had little option but to make sense of it. Sara tried to do so by quietly repeating the word and then shortening it to man (line 5), a word she obviously recognised and evidence, perhaps, that she was trying to associate the new word with information already existing in her memory (Oxford, 1990). Although Sara's utterance was intended primarily as intramental activity, its outward manifestation encouraged Kareem to likewise verbalise his thoughts in an effort to support Sara's understanding. His assertion that a 'netman' was someone who 'knits everything' suggests that either he was making an aural connection between the words net and knit or that he was visualising a net being knitted. Perhaps he had seen a net

being made (or a pictorial image in a book) and thought that the process looked like knitting. Whatever the underlying conceptualisation, all players accepted this definition and the episode ended.

This short episode enhances our understanding of the dialectic relationship between speech as intra-and-intermental activity in social contexts. Although Sara's primary *intention* was to use speech for private purposes, its outward manifestation acted to signal her uncertainties to the other players and therefore encourage a response. In other words, Kareem's *perception* of Sara's utterance was of a social act facilitating intermental activity. He therefore *interpreted* her utterance as one inviting a response. (This argument is extended in 4.47.)

Shortly after this episode, Nargis again landed on a forfeit, this time requiring the construction of a sentence:

11) K	ooh dice time ↗ ↘	C(ii)
12) N	no it isn't	C(i)
13)	look sentence	C(i)
14)	on one space I've got to do it	P
15) N	snowball ↗ ↘	R3 <i>intonation signals recognition</i>
16) K	[snowball]	R3 <i>repeat</i>
17) N	[cool!]	R5+
18) K	cool	R5+
19) N	<u>when it is snow(:)</u>	R6
20) K	ing	R8
21) N	we(:)(.)	R6
22) K	yeah ↘↗	<i>Backchannels to encourage/support</i>
23) N	we we sn <u>throw</u> [snowballs] at each other	R6
24) K	[snowball]	R3 <i>join</i>

25) K	hu hu (NOISE OF THROW) (+THROWING ACTION WITH HANDS)	EXT
26) N	so I go one space	M(i)
27) N(to K)	is it good?	R13?
28) S	yes	R13+

The episode began with Kareem's naming of this forfeit as 'dice-time'. He did this consistently throughout the game suggesting that he had previous experience in playing this type of co-operative/competitive board game. Interestingly, by the end of the interaction, both Sara and Nargis had also appropriated the expression.

Nargis threw the word snowball, which both she and Kareem instantly recognised. When Nargis then began to construct a sentence, her tone of voice changed significantly as each word was more clearly articulated and stressed with an overall intonation contour suggestive of a narrative style as when reading a story. This is exactly what had occurred in the majority of interactions in Game 1 when pupils set about constructing sentences, and seemed to signal that players were marking this aspect of the forfeit task as one requiring literacy, or 'literary' skills. In other words, pupils seemed to be associating the act of forming sentences aloud in English during the forfeit tasks, with the act of reading aloud. They therefore assumed a story 'reading voice' as an adult/parent/teacher would use when reading aloud to a child/pupil.

This was rather surprising and seems to suggest that pupils understood that speaking in this context (i.e. to form sentences in English) served no social or communicative purpose other than to satisfy the rules of the game and could only be linked, therefore, to practising literacy skills. If this assumption is correct, it highlights a very interesting feature of pupils

thinking during the early stages of learning how to write (in a first or second language) as it suggests that a pupil's thinking voice in writing sentences is the same as the reading voice of those who have read to them. In other words, the 'reading voice' is appropriated as a tool in the task of writing and thinking about what to write, at least in the early stages of learning how to write. This would certainly make sense if one acknowledges that a person is always writing for an intended 'reading' audience, even if that audience is oneself.

Returning to the interaction, it appears that by elongating the final phoneme of the words snow and then 'we' and then briefly pausing (lines 19 + 21), Nargis, perhaps inadvertently, signalled the need for support. Acting upon those cues, Kareem supported her construction with a vertical extension (line 20) and then with a backchannel (line 22). Both of these moves signalled Kareem's awareness of Nargis' L2 knowledge and experience, as although they were supportive, they presented a minimal level of guidance and hence could be described as contingent (Aljaafreh and Lantolf, 1994).

Once Sara's construction was complete, Kareem enhanced everyone's (particularly Sara's) understanding of it, by incorporating visual and oral imagery (i.e. miming the throwing of a snowball and emulating the noise such a throw would make). Although supportive, this move was probably oriented primarily intramentally (i.e. it represented his own understanding of Nargis' construction). As McCafferty and Ahmed (2000: 204) write, gestures "tend to reveal a speaker's psychological predicate ... in conjunction with inner speech". In other words, Kareem's gesture or mime represented the 'whole' of the idea conceptualised in Nargis' construction. Consequently, it is likely that in listening to and

comprehending Nargis, Kareem was constructing an internal image incorporating both visual and aural/oral elements of a scene previously experienced. It is also likely, therefore, that in learning the English word ‘snowball’ or the phrase ‘throw a snowball’, Kareem made associations in his memory based on previous experience of how the snow and the act of throwing snow looked, felt and sounded (Purpura, 1997). In other words, in a similar vein to Maruf in the previous interaction, it is possible that Kareem too took an aural/oral, visual and kinetic approach to learning.

The interaction continued until Sara landed on a card forfeit. Unfortunately, the cards did not form a meaningful word and although Nargis read the words slowly to Sara, Sara did not make any verbal contribution to the episode. Shortly afterwards, Kareem landed on a forfeit and purposely cheated:

29) S(to K)	no!	Dii
30) N(to K)	no you changed it	Dii
31) S	cheating cheating lagain lagain lagain	Dii

Sara’s pronunciation of the word ‘again’ as ‘lagain’ and her later use of the expressions, “you must a get one and you ...” (an attempted copy of a move made ten moves previously by Nargis) and “you must a move”, strongly suggests that she employed direct repetition of L2 utterances as a strategy for learning English (Purpura, 1997). Unfortunately, she was not yet able to distinguish individual words or sounds within words in English. It is possible, for example, that she had previously heard the word ‘again’ adjacent to a word ending in the letter ‘l’ in an expression such as, “pull again” but was unable to distinguish when the first word ended and the second word began. It is also likely that the insertion of the ‘a’ sound in the above phrases originates in her having heard examples of the North-

East dialect in pronouncing the word 'have'. For example, the phrase "you must have done it" is often pronounced in Geordie as "you must' a done it".

Eventually, Kareem stopped cheating and picked up two cards to form the compound word 'nobody' which both he and Nargis agreed existed. The recording clearly showed that Sara watched Nargis' formation of the word 'nobody' very closely, moving her lips in synch with Nargis. This supports the previous contention about Sara's learning of English as she would have to listen carefully in order to attempt 'shadowing' (Lantolf, 2000(b)).

Play continued until Sara landed on a dice forfeit:

32) N	net	R1
33)	man	R1
34)	[good!]	R5+
35) K	[netman]	R3
	↘	
36) N	[make a sentence]	P
37) K	[he's knitting (___) man]	R6
38) S(to N)	make (QUIET AND LOOKS TO S)	P <i>partial repeat</i>
39) N	shall I help you?	R7?
S	(NODS)	<i>accepts (non-verbal)</i>
40) S	no(:) man	R3 <i>repeat</i>
N	(PAUSES THEN SHOWS SARA DICE AND POINTS)	
41) N	its netman	R3 <i>repeat</i>
42) S	can you help me?	R7 <i>formulaic expression</i>
43) N	ok (..) can wu(:)	
	something about knitting?	EXT
K	(PUTS HIS HAND UP)	
44)	I know	<i>Responds</i>
45) N	emm no I'll I'll do it for her	P
46) K	knit (..) the	R6
47) N	The em netman knits Sara's jumper	R6
	↘	
N+K	(LAUGH A LITTLE)	
S	(NODS AT N)	R13+ <i>(non-verbal)</i>

After Kareem and Nargis both verified that the word 'netman' did exist (recall its initial appearance in the first 'R' episode of the game), Nargis instructed Sara to make a sentence. At the same time, however, Kareem had already begun to make his own sentence (line 37), probably in order to recall their earlier interpretation of the word. The motive for Sara's utterance in line 38 was unclear and so in order to avoid speculating upon her intended meaning, Nargis politely inquired if Sara would like any help. This was an empowering move as it handed control to Sara who could then decide if and how much support she would need. In other words, it was a co-operative move which facilitated contingent scaffolding (Aljaafreh and Lantolf, 1994). Indeed, immediately after Sara had nodded to agree that she did, in fact, need support, she began to attempt the construction herself (line 40) indicating that she wanted some level of responsibility. Unfortunately, Sara's effort was confusing and Nargis was forced to interpret her meaning. After a short pause, Nargis decided that Sara must have been trying to repeat the compound word but needed help to remember it and so she showed Sara the dice and read the word 'netman' aloud again (line 41).

Eventually, the two players reached the conclusion that Sara did need support in order to construct a sentence in English incorporating the word 'netman'; a difficult undertaking considering that no such word exists in the English language. Nargis approached the task by voicing her thoughts aloud: "ok can we .. something about knitting". One could describe this utterance as having an intermental function as not only was it formed in response to an explicit call for help and it incorporated the word 'we', her pause and final vowel elongation are strategies often used and interpreted as invitations for collaborative support. On the other hand, at the time of making this move, Nargis was looking out of a window and not addressing her utterance directly to another player. Moreover, when

Kareem offered an answer to Nargis' 'question', she brushed his response aside saying, "no I'll do it for her". It was as if she had asked herself the question in order to arrive at a solution. It is also possible, therefore, that Nargis' move functioned more, or perhaps simultaneously, as intramental activity, as she tried to consolidate the task of constructing a meaningful sentence with the group's earlier conceptualisation of the word 'netman'. Indeed Anton and DiCamilla (1999) have identified words such as 'okay' as boundary markers in episodes of private speech. Moreover, utterances such as "can we.." which are not fully syntactic have also been identified as characteristic of externalised inner speech (Lantolf, 2000(a), Anton and DiCamilla, 1999).

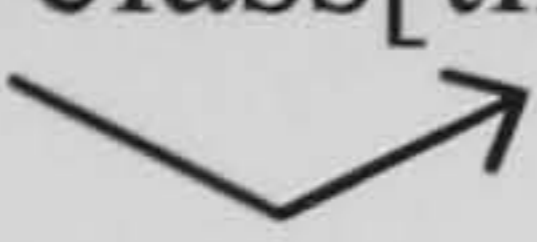

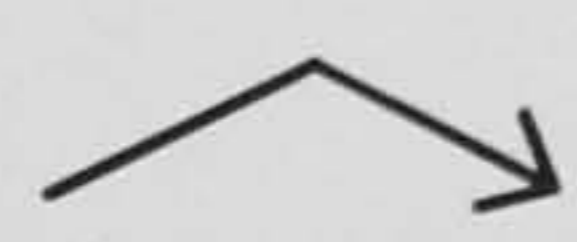
The most interesting aspect of this utterance, however, which I noticed during transcription, was the similarity of Nargis' expression and the type of open question often asked by teachers in encouraging pupils to participate in collaborative writing exercises. If this utterance did function primarily as intramental activity, therefore, it strengthens the sociocultural contention that the way in which activities are organised and regulated by others (i.e. the mediational means employed by others) is eventually appropriated by learners as they come to organise and regulate their own mental activity (Lantolf, 2000(a)). In other words, in this context Nargis had appropriated the linguistic means of intermental activity utilised by teachers to encourage sentence construction, or the teacher's voice as it were, as an intramental tool in mediating her own sentence constructions. It certainly seems as if Kareem recognised her utterance as an eliciting prompt when he responded by putting his hand up and saying "I know" in much the same way as he would do in the presence of a teacher.

The episode ended when Nargis finally constructed a sentence helpfully highlighting the target word with an intonation contour. The inclusion of Sara's name was particularly cooperative as it encouraged Sara to have ownership of the sentence, even though she was not yet capable of forming it herself.

As the game progressed, Sara's confidence seemed to grow, as she continued to repeat others' utterances both gaming (CTDPM) and 'R' moves. At one stage, she turned to Nargis and totally out of context (and the flow of the game) she said, "I got a big family". This probably showed that Sara was relishing the experience of playing this game on this occasion together with Nargis and wanted to share some personal knowledge with her in order to forge a friendship. Pavlenko and Lantolf (2000) postulate that a positive (re)construction of one's identity as a second language learner living and learning in a new and unfamiliar culture often takes place through friendships. I believe that Sara's attempt to share 'a piece of herself' in English with a fellow peer (who was, herself, bilingual) was an attempt (perhaps unconscious) to facilitate the (re)construction of her identity as a pupil living and learning in an English speaking context. It also supports my contention that interactions should be transcribed and analysed as a whole because even seemingly 'off-task' behaviour may have significance (see 3.47).

Sara's developing confidence was also evident in the next 'R' episode when she landed on a dice forfeit:

48) N	class	R1
49) K	[room] (SINGING)	R1 <i>predict</i>
50) N	[time]	R1

51) N	classtime (QUICK)	R3
52) K	[classtime]	R3 <i>repeat</i>
53) N	[no(::)]	R5-
54) K(to N)	yes class[time] 	R5+/R3 <i>repeat</i>
55) S	[time] 	R3 <i>repeat/join</i>
56) N	no classtime is not=	R5-
57) S	=is not=	R5-
58) K	=oh no what time to go inside? "classtime"	EXT
59) N	no that's=	R5-
60) S	=yes when go(.)to us ["classtime"]	EXT
61) N	[you don't say] <u>classtime</u> though 	EXT
62) K	what?	EXT <i>response</i>
63) S	classtime when= (LOOKS AND POINTS OUTSIDE)	EXT
64) N	= "its time to come in" you see that's what	EXT
65)	you go one back (SINGING)	M(ii)
66) S	ok	M(i)

At first, Sara was unsure who was correct: Nargis who sympathetically refuted the word's existence (line 53) or Kareem whose repetition of the word with rising intonation stressed its validity (line 54). Unlike the first 'R' episode, the 'expertise' in this episode had yet to be negotiated. At first, Sara seemed to be in agreement with Nargis (line 57), but then swapped allegiances when Kareem constructed a convincing argument in the word's favour. Kareem used a rhetorical question in order to set up a familiar context in which the word was regularly used (i.e. the school playground). He then repeated the word 'classtime' with an intonation contour suggestive of its use in that context, thereby adding a 'voice' to the word. This acted as a 'cognitive prompt' (Anton and DiCamilla, 1999: 238) to Sara who then pursued Kareem's line of reasoning by rephrasing the argument and then appropriating the teacher's voice in her own repetition of the word (line 60). Even when Nargis attempted to argue against this, Sara persisted by saying "classtime when..." but unfortunately was unable to complete her argument in English and so reverted to pointing

outside as a non-linguistic communication strategy. The argument was finally settled when Nargis herself appropriated the teacher's voice as a means of explaining an alternative phrase used by teachers in calling pupils back into their classrooms after playtime (line 64).

This episode perfectly demonstrates Bakhtin's (1986, cited in Wells 1999(a): 104) contention that:

“Our speech, that is all our utterances (including creative works) is filled with others' words, varying degrees of otherness or varying degrees of 'our-own-ness', varying degrees of awareness and detachment. These words of others carry with them their own expression, their own evaluative tone, which we assimilate, rework and accentuate.”

All players had *assimilated* the words they had heard (or thought they had heard) a teacher utter on ushering pupils back into their classrooms. They then purposely 'reworked' the teacher's voice recalled from a particular situation to argue their case (i.e. for the existence of a word they were sure the teacher had used as an expression in that situation). Such 'ventriloquism' as Bakhtin called it, was, in this case, explicitly employed by the pupils for their own purposes and consequently the degree of otherness and 'their-own-ness' within these utterances was more readily observable.

Furthermore, this episode reinforces my earlier argument that even when there is a clear discrepancy in L2 knowledge between players, the notions of 'expert' and 'novice' in peer group interaction are as unstable as they are unpredictable. It would appear that when false evidence is the catalyst for securing correct knowledge during the process of collective argumentation, pupils negotiate their status and identity as expert or novice in tandem with

their search for meaning. If taken out of context it would be difficult to ascribe the role of 'expert' or 'novice' to any of the players in this particular episode of the interaction.

As Sara's confidence continued to grow, her pattern of participation continued to change as she became more involved in the problem solving process. Analysis of this interaction, therefore, provided some revealing information in terms of a formative assessment.

4.46 Implications for Formative Assessment

Both Sara and Kareem used expressions commonly associated with game playing. Kareem regularly uttered 'card-time' and 'dice-time' and turning to Nargis, Sara said, "you nearly home". This demonstrates that both players had played board games of this nature before and hence games would have been a comfortable context for both players in which to learn. Indeed, the analysis revealed that Sara in particular seemed to grow in confidence over the course of the interaction becoming more engaged in the language learning episodes.

Sara's utterances were filled with formulaic expressions, particularly with regard to behaviour, for example "don't shout" or "wait a minute" or, when asking for help, "can you help me?" (line 42). The analysis also revealed that Sara consistently used repetition and shadowing in a naturalistic practising of English words and expressions. The recording showed how closely Sara watched the other players when they were speaking moving her lips in tune with their words. This would suggest, therefore, that Sara was a particularly good listener who was in the process of becoming attuned to the sounds of English and

who was willing to copy and experiment with those sounds in her appropriation of the language. Group work with peers, particularly those who would be supportive, would therefore have been a favourable context for Sara's developing English. Her teacher may also have made use of the fact that Sara was experiencing some difficulty in distinguishing individual words and phonemes within words at this stage of her development, and any work to support this would also have been beneficial.

The analysis also showed that Sara did not make any R1 moves (reading the words on the dice and cards) or even repeat those words read by others, which seemed rather at odds with her overall motivation to participate. She did, however, repeat the words once they had been placed together as a compound word. This could signal attitudinal problems associated with reading in English: a proposition worthy of further investigation.

Alternatively of course, the results could have revealed her construction of the task as one in which the production of compound words took precedence over the reading aspect of the game. Either way, it would have been worth ensuring that Sara participated in the reading aspects of subsequent collaborative tasks.

In terms of Kareem's reading performance, the analysis revealed a changing pattern of participation. At first, Kareem took responsibility for reading the words on the dice and pictures jointly with Nargis, who supported his reading on his forfeit turns. As the game progressed, however, Kareem made fewer attempts to read independently and slowly began to hand responsibility for the reading aspect of the game to Nargis. Eventually, towards the end of the interaction, Kareem landed on a forfeit and having picked up the cards, rather than sharing them with Nargis or looking at them himself first, he handed

them straight to Nargis to read for him. In other words, over the course of the interaction, and for no obvious reason, Kareem's reading regressed from that of an attempted self-regulated reader to an other-regulated reader (Aljaafreh and Lantolf, 1994). This would certainly signal some concern over Kareem's confidence in reading and his motivation to become a reader of English.

On a more positive note, the analysis revealed some interesting information regarding the way in which Kareem seemed to learn new/unfamiliar words and phrases in English. His reasoning behind the meaning of the word 'netman' suggested mental associations founded on visual and/or aural imagery, possibly based on previous literary or other experience. Similarly, his exposition of the word snowman following Nargis' sentence implied a visual and oral image recollection of actual experience (which must have occurred several years earlier when he lived in the U.K.). Finally, he placed the word 'classtime' in a familiar, everyday and meaningful story context, together with a voice often heard in that context, in order to argue its validity. The evidence would strongly suggest, therefore, that Kareem formed mental associations between L2 words and phrases and their meanings based on memories of previous experiences. Moreover, in a similar vein to Maruf (C:4), Kareem's memories of such experiences (i.e. his image constructions) seemed to relate most strongly to how an experience had looked, felt and sounded (Purpura, 1997) (i.e. a propensity towards a visual, oral/aural and kinetic approach to learning). This would have been invaluable information to a teacher wishing to introduce a new word or concept in English, and could have proffered ideas as to how best to encourage Kareem's recollection of words and phrases in English.

4.47 Summary

As in Game 2, Game 3 interactions have highlighted the dialectic relationship between the use of talk for intramental and intermental functions during social interaction. The analyses have shown that using talk to facilitate intermental activity in, for example, repeating a compound word to hold it up for public scrutiny, can often have intramental consequences, in, for example, the triggering of internal mental associations. Likewise, talk which is primarily internally oriented in, for example, repeating a word to try and recollect its meaning, may have social consequences which facilitate intermental activity, in, for example, the triggering of a debate regarding the meaning of a word. Consequently, as previously intimated, the relationship between the intermental and intramental functions of overt speech in social situations seems to relate to the consequences of intention and perception, as in the following diagram.

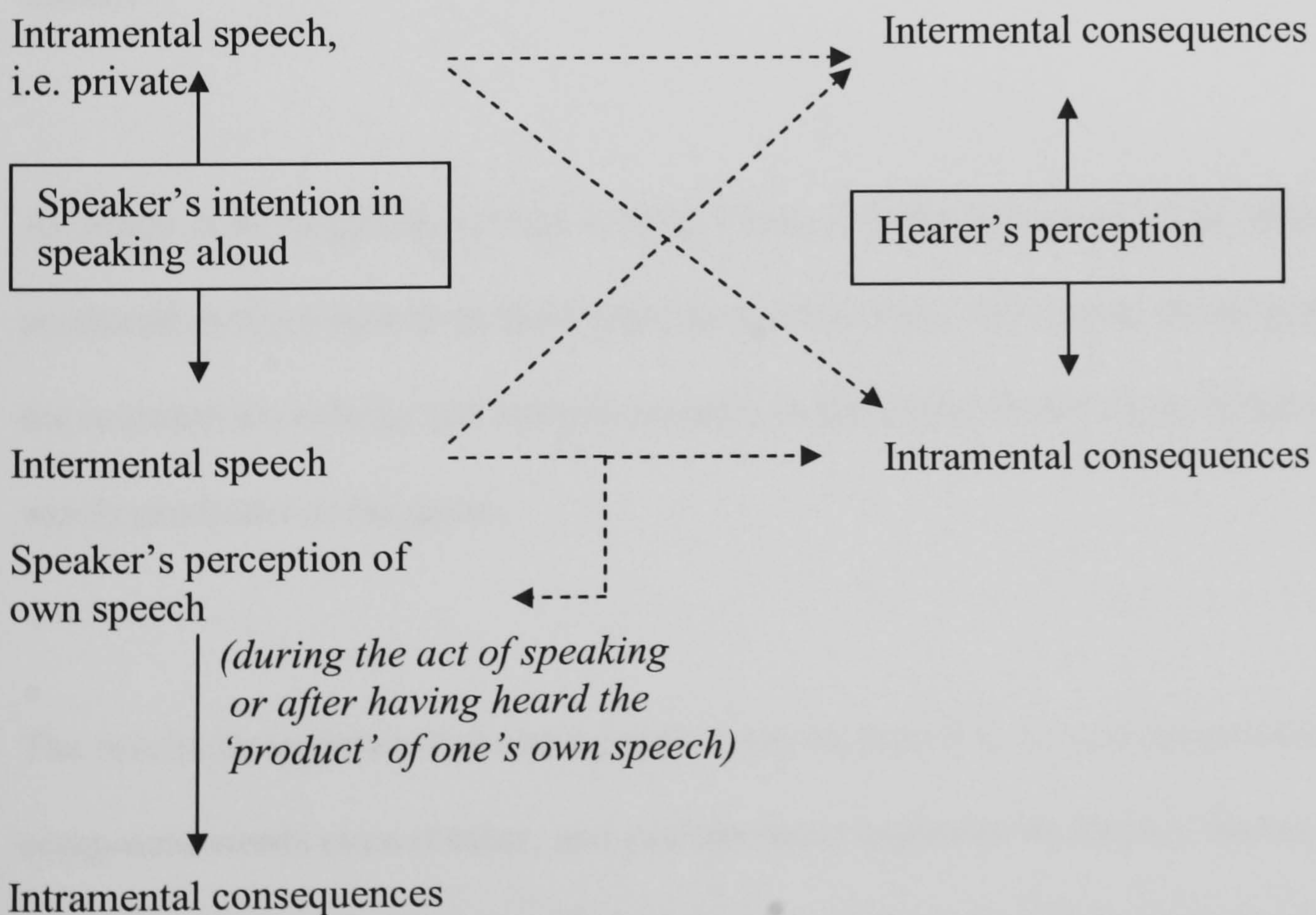


Figure 5 The Dialectic Relationship Between the Inter-and-Intramental Functions of Speech in Contexts of Social Interaction

Interestingly, therefore, even though a speaker's primary intention may be to use speech for intermental activity in, for example, repeating a compound word to agree with its construction, there may be intramental consequences for the speaker him/ herself. This is because, as Wells (1999(b): 251) writes, "all overt speech uttered in a context of social interaction is necessarily speech available to both speaker and hearer(s)." Consequently, it may be that during the act of speaking, or after having heard the product of what was actually uttered, a speaker's own utterance may trigger intramental activity within him/herself. The resulting intramental activity (which could also have been triggered by listening to another's utterance) may then also be externally expressed, as Tanja demonstrated in interaction B:2, G:2 (lines 12-14). It would appear, therefore, that what is particularly illuminating in any analysis is not only whether a speaker intended his/her externalised speech to be primarily social or private in orientation, but also how that speech was perceived and acted upon by both the speaker him/herself and any other listener.

As stated at the beginning of this section, Game 3 differed from all of the other games produced in this research as there were no picture clues. This meant that pupils must create (or recreate) knowledge (as images) in order to determine the meaning of the compound words produced in the game.

The results have shown that some pupils were motivated to try and make sense of the compound words even if other, and perhaps more experienced players, had already signalled their views. These pupils had the self-motivation to become more deeply engaged in the language learning episodes utilising a range of strategies in order to 'recall' and

make sense of the compound words produced. The principal strategies used to create mental associations related to: the formation of common collocations (e.g. Vojtech's 'anywhere else'); placing the word into a sentence or story context, possibly also appropriating a voice commonly associated with that context (e.g. Kareem's 'classtime'); and recalling visual, aural/oral and kinetic imagery (e.g. Maruf's act of throwing a netball whilst making the sound "dush"). All of these mental associations were based upon pupils' previous experiences of contexts in which they had heard, spoken, read or indeed imagined the compound words. In other words, just as proposed in chapter 2, and as also found in analysis C:1, G:1, the lexical items (i.e. the compound words) existed in pupils' memories as multisensory images dependent upon their experiences (real and mental), incorporating verbal and non-verbal elements, together with an idiosyncratic meaning construction founded upon their "expectations of, and involvement with, and purposes related to the image" (Stevick, 1996: 51).

The associations formed during the process of recalling the L2 lexical items from memory, in order, for example, to argue their existence, provide particularly revealing information for a formative assessment of pupils' learning. This is because the behaviour pupils exhibited (both linguistic and non-linguistic) in intermental and intramental activity in recalling those items from memory or in memorising them, reveals the possible form such items may take in memory. For example, the specific mediational means by which Maruf related each compound word to his personal, social and literary experiences in order to recall their meaning or validate their existence, suggests that his L2 knowledge exists primarily as visual, aural/oral and kinetic images based on those experiences. This would be helpful information for a teacher as she would have a means by which to encourage Maruf's recollection of language by saying, for example, "in which context have you heard

this expression before?” She would also be able to encourage Maruf’s memorisation of particular linguistic elements and their meanings by relating them to particular features within particular contexts by saying, for example, “now remember this word, whenever you think of the picture of this character in our story, or the sound of this object”.

Furthermore, she would appreciate the most suitable learning contexts in which to invoke such experiences (i.e. contexts in which visual, oral and kinetic perspectives are enhanced).

In order to validate the use of such information as a formative assessment tool, however, it should be relayed to the class teacher in a time-sensitive fashion. This was the approach taken in the final stage of the fieldwork for this research.

4.5 GAME FOUR– THE ANALYSIS OF GAME PLAYING BEHAVIOUR AS A FORMATIVE ASSESSMENT TOOL

‘PLAYING WITH ADJECTIVES’

Unlike all of the other games, analysis of a Game 4 interaction was relayed to the class teacher quickly enough for the information to be used as material for a formative assessment. I recorded two small group interactions, each incorporating one targeted bilingual pupil. Unfortunately, one week after the recordings were made, one of the targeted pupils returned to China on a permanent basis (see 5.3 for a brief comment on his play). Consequently, this section will report on the findings of the other Game 4 interaction.

As this last stage of the research differed from the preceding stages, the presentation of this final section will also differ. After documenting the analysis and its use as material for a formative assessment, I shall also present an account of the successful feedback session, wherein the teacher and I discussed how such material could be used to enlighten her future teaching of the targeted pupil. As I was able to keep in touch with the teacher, and as she was kind enough to keep a diary of events, I will also illustrate, in the teacher’s own words, the results of the formative assessment in terms of the targeted pupil’s significantly changed and improved learning behaviour. Finally, I shall reflect upon the whole process in light of its effectiveness as a formative assessment tool, commenting on the difficulty of incorporating information of pupils’ learning strategies into one’s regular curriculum.

The final game of the research (fully detailed in Appendix 7) involved thinking of the most appropriate adjective to match a picture (the card forfeit) or thinking of the most appropriate context (or sentence) in which to place an adjective word (the die forfeit). Consequently, the behaviour I hoped this game would encourage related to the formation of associations between adjectives (named and recalled) and their meanings (as portrayed on the picture cards, and as recalled from memory). It may also encourage a comparison between adjectives in terms of their meaning. The competitive element of the game would also facilitate debate and justification of players' adjective choice or perceived meaning.

Prior to introducing the pupils and their interaction, however, it is first important to reflect upon the assumptions made thus far in this thesis regarding the use of the analyses as material for a formative assessment. Before approaching this last stage of the research, I reviewed the results of the analyses for Games 1, 2 and 3. Even though, as expected, each game revealed different types of learning strategies, I found it was possible to generalise how the information could be used as formative assessment material. In general, I found that:

- if certain strategies were already in evidence, e.g. relating words and their meanings to previous contexts of experience, as in the summary above, then this information could be used to support future teaching and learning.
- if, in contrast, however, certain strategies were noticeably absent, e.g. noticing errors in one's own and/or others' constructions, or a lack of language-related engagement, then it would be incumbent to ask:

- i) *if such strategies were not yet developmentally available, and if so whether the learner would need support in appropriating them, e.g. Davor's reading in B:4, G:2, or*
 - ii) *if there was something about the context, e.g. the game itself, or the pupils with whom the learner was playing, which impacted on their motivation or ability to exploit the opportunities for learning in that context, e.g. Pavel in C:2, G:1, and Faiza and Kamran in B:2, G:2, and which would, therefore, need changing in future work, or*
 - iii) *if the learner had an attitudinal problem, i.e. a negative identity construction, with an element of the forfeit task, e.g. Saira's reading in A:1, G:1, which would, therefore, require some focussed attention.*
- if a pupil exhibited good language-related engagement, and/or appropriation of form or learning strategies over the course of the interaction, e.g. Syeda in B:1, G:1, then one should ask which elements of the context promoted such engagement and learning, and replicate these as often as possible in future learning contexts.
 - if, in contrast, however, a pupil exhibited a change in behaviour resulting in a deterioration of an aspect of the forfeit task, e.g. Kareem's reading in C:5, G:3, then one must ask what, in the context of play, precipitated such an effect, and in future try to avoid or overcome such hindrances.

This is a similar approach to assessment as the filter question approach taken by Shaw (1995) in the identification of bilingual pupils with special educational needs in U.K. classrooms. Such an approach is predicated on the view that “there is a considerable range of possible factors that may be playing a part in creating the children’s difficulties” and that, “children from ethnic and linguistic minorities face a wider range of alternative possible sources of stress and difficulty than other children” (Frederickson and Cline, 1996: 4). Consequently, it is not as simple as deducing that a lack of certain strategies automatically implies a developmental need as there may be other contextual factors at a micro level (i.e. within the immediate context) and/or at a macro level (i.e. the ethos of the school, or a child’s personal situation) which have impacted on a pupil’s performance. As Forman and McCormick (1995: 151) argue:

“failures to learn are not individual failures but involve complex interpersonal and social dynamics, such as exclusion from aspects of the community of practice, resistance to authority, and unwillingness to identify with the expert.”

I used these guiding principles to inform my understanding of how the analysis below could be profitably employed as information for a formative assessment of a player’s learning.

4.51 Analysis D:1, G:4

This group consisted of two Bengali speakers Rosie (R) and Abdul (A), both of whom had been in the school for over three years. Rosie had been assessed as having the highest level of English literacy in the group and so could act as the group model. The third group member was Erdim (E), a Turkish speaking pupil who had arrived in the school almost one

and a half years ago. This was the pupil about whose learning of English the teacher was most interested. It was unclear if Erdim had attended school in Turkey, and if so, for how long. It appeared that the family had experienced some difficulties in Turkey, about which I am not at liberty to discuss in this context and so it had taken Erdim some time to settle into school life in the U.K. The teacher also reported that the family's claim for asylum to remain in the U.K. had been recently rejected and this too, had caused considerable upset to Erdim's behaviour in school. He seemed unwilling to talk about Turkey or to acknowledge his first language, making the process of choosing pictures for the game very difficult.

Erdim was a very sociable boy who had made friends with several other boys in the class. I had observed him using formulaic greeting expressions with adults and particularly the class teacher, although he did not engage in longer utterances during whole class sessions. I had also observed him being totally transfixed as the teacher read a story with large pictures to the whole class. The teacher later reported that Erdim seemed to be very engaged during small group reading sessions, although he always struggled to answer subsequent questions about the story. In our feedback session, the teacher reported "you know he never reads a book and has no clue whatsoever. Parts of it he's sort of lost off a bit cos its more abstract, but he's got the general gist of the story. And yet if I read a story in class, and we discuss it thoroughly and we go back over it to write it together and that sort of thing, it's as if you've never spoken to him at all!" (Feedback session, March, 2003).

In other words, it appeared that Erdim was interested in the story the pictures told and perhaps understood one or two key words the teacher had read. Laurens Vandergrift (1997) reports on a study by Rost and Ross (1991) about Japanese learners of English. They found that in listening to a native speaker's presentation of an English narrative, the Japanese learners with a lower proficiency in English "needed to devote precious attention to parsing the stream of sound for words they knew instead of focusing globally on the whole story" (Vandergrift, 1997: 496). It was possible, therefore, that this was the primary direction of Erdim's attention during whole class reading sessions and hence he may not have been understanding as much of the story as the teacher had presumed. Alternatively, Erdim could have been focussing so hard on the picture cues, alongside the one or two words in English that he did understand, in an effort to tell himself his own story, perhaps almost entirely in Turkish. If this were true, he would have been limited in his ability to answer subsequent questions about the story in English.

Whilst working with Erdim's literacy group on some class work about adjectives, I found that he would either offer the adjective 'good' or, if pressed to offer an alternative, would revert to saying "I don't know" even though other pupils in the group offered lots of alternative adjective examples. It seemed as if Erdim's vocabulary had 'fossilized' (Ellis, 1995) to a level with which he felt comfortable and, even in this small unthreatening group context of a structured task in which several other examples of language had been modelled, he was not prepared to be 'stretched'.

The teacher later reported that Erdim preferred structured work in a written format but, "given any verbal interaction he doesn't participate at all. And even if you ask a question

which you know he can probably answer to some degree, he just sits, or he'll say, "I don't know". ... no matter how you rephrase it, how you urge him, how you encourage him, its just, he'll look at you and you think he's trying and you think, oh I'm going to get something here, and then he'll he almost gives up and says, 'I don't know'" (Feedback session, March, 2003). The teacher and I were both interested to discover if Erdim's interactive behaviour would be different in an adult-free context.

Erdim's group found it very difficult to control their behaviour and remain on task in this less familiar environment, and consequently there was lots of off task behaviour and wandering around the room. The game began and Rosie and Abdul took nine forfeit turns before Erdim eventually landed on a forfeit square. This struck me as rather odd and so I replayed the tape only to discover that Erdim had been cheating in order to avoid landing on a forfeit. This seemed to suggest a lack of engagement with the language learning aspect of the game as analysis of the following episodes will verify.

The first 'R' episode of the game occurred when Abdul landed on a card forfeit:

1) R	did you land on a card?	Cii
2) A	yeah flower (HE SHOWS HER THE CARD)	R1
3) R	flowers	R1 repeat
4) A	The(:)	R3 begin
5) R	private	Unclassified
6) A	the flower wa(:)s [pink and] good	R3 continued
	↙ ↘	
7) E(to R)	[I like red flowers]	EXT
8) R	prink	R3 repeat
9)	[pink and smelly] (LOUDER)	R10
10) A	[pink and beautiful]	R10 self
11) R	eh pink and pink and and ehm beautiful yeah	R8 / R9+

Although Erdim was not fully involved in this episode, he did contribute some personal information relating to the picture (line 7) incorporating the adjective ‘red’. It is unclear, however, if his use of an adjective in this context was coincidental or if its inclusion reflected his understanding of the purpose of the game. Both Rosie and Abdul were fully engaged with the task at hand, however, both contributing to a more adequate solution to the problem, concluding that the adjectives pink and beautiful were the more appropriate to describe the picture of the flower. It is worth noting that Rosie used repetition and Abdul verb prolongation as a ‘holding platform’ (DiCamilla and Anton, 1997) for their thinking; strategies which Erdim may have chosen to appropriate at a later stage of the game.

Shortly afterwards, Rosie landed on a card forfeit, picking a picture of a Turkish lady wearing a headscarf. All players looked at the card:

12) A	[Punjabi]	R1
13) E	[ne-ne]	R1 <i>in L1</i>
14)	ne-ne	R1 <i>in L1 repeat</i>
15) A	Punjabi	R1 <i>repeat</i>
16) R	quilchi?	R1 <i>attempt (in L1?)</i>
17) E	ne-ne	R1 <i>repeat</i>
18) R	ne-ne	R1 <i>repeat</i>
19)	what’s ne-ne? what does ne-ne mean?	R2
20) A	quickly	Behaviour check
21) E	ne-ne means that (POINTS TO SCARF)	R1
22) A	scarf	R1
23)	the woman was wearing a scarf	R3 <i>no adjective</i>
24) R	the sc A scarf a n(:)ice scarf	R3

Erdim contributed more to this episode than the previous one, although he was not involved in choosing an adjective. Erdim’s explanation of the meaning of the word ‘ne-ne’ involved using a deictic and pointing which, although not terribly useful, was sufficient as

The pattern of participation was very different this time. After Rosie handed responsibility to Erdim (line 29), he attempted to repeat the adjective immediately following Rosie and Abdul's reading of it. He then began to construct a sentence independently. Rosie demonstrated *contingent responsivity* (Lidz, 1991) in stopping her own construction once she realised that Erdim was going to attempt the task himself and then supporting him by vertically adding to that which he had already produced, thereby accepting Erdim's move as valid. Interestingly, rather than just immediately accepting Rosie's completion, Erdim took responsibility for the construction, demonstrating the most language-related engagement thus far in the game. His recast (line 36) was again supported by Rosie whose extension was finally accepted by Erdim, though I did wonder if he had understood the word 'ghost'. This episode clearly demonstrates that, when engaged, Erdim was able to participate and benefit in the process of collective scaffolding, repeating a part of another player's utterance and recasting it for his own purposes.

Play resumed and before long both Erdim and Abdul were once again off task. Eventually, the players' behaviour forced me to return to the room, just in time for Erdim to land on a forfeit. I remained in the room after Erdim picked up a picture card and he immediately referred to me (H) for support:

- | | | |
|-------------|--|-------------------------|
| 40) E(to H) | miss what's that? | R2 |
| 41) H | it's a ladybird | R1 |
| 42) | but what how would you what would you say? | |
| | Is the ladybird (PUT HANDS OUT WIDE) | R3 support |
| 43) E | the ladybird is (.) bliyenk? | R3 suggests |
| 44) H | hmm, but the ladybird i(:)s (.) | R3 encourages R5 |
| 45) E | flying | R5 |
| 46) R | ehm friendly | R5 |
| 47) E | bad | R5 |
| 48) A | small | R5 |

Unfortunately, this episode followed a fairly predictable pattern of teacher/pupil interaction. The pupil asked a question to which I, acting in the role of teacher, answered and followed with a question of my own which all of the pupils then attempted to answer until I finally accepted the ‘correct’ response. The most interesting aspects of this episode, however, relate to Erdim’s behaviour. Firstly, we can see his immediate reliance upon myself to provide a predictable and structured scaffold. This was the first and only time Erdim explicitly asked for help within the interaction and it supports my supposition of the interference of the so-called ‘didactical contract’ with pupils’ problem solving behaviour in the presence of a teacher (see 2.62). Rather than work out a collaborative solution to the problem (i.e. his lack of L2 lexical knowledge), Erdim immediately referred to my knowledge as ‘expert’.

The second revealing aspect of this episode relates to Erdim’s choice of vocabulary in constructing a sentence in response to my rather rambling request (line 42). The structure of Erdim’s sentence, though simplistic, was consistent with sentences formed heretofore in the game (line 43). His choice of adjective, however, was not. It is unclear if the word ‘bliyenk’ was a result of code-mixing (a Turkish/English lexical blend (Hamers and Blanc, 1993)) or just an incorrect L2 recall of the word black, perhaps. The most interesting information relates less to its production, however, than to Erdim’s lack of reaction to its production and to the visible non-comprehension of his interlocutors. In other words, once uttered aloud, Erdim did not evaluate the effectiveness of his utterance as a product in terms of whether he had said that which he had intended to say, whether he had said it correctly, and whether his audience had comprehended his message as intended (see 2.4

and Figure 5 in 4.47). In other words, the analysis yet again revealed Erdim's lack of attention to L2 oral production, this time his own. I began to wonder if Erdim may have been experiencing hearing difficulties, though his lack of attention seemed somewhat selective.

The game continued and I left the room. Erdim's pattern of inattentive non-engagement persisted when, in the next 'R' episode, Rosie and Abdul collaborated to make a sentence whilst Erdim continued to stare at the board. Finally, as the game was about to end, Erdim landed on a dice forfeit:

50) R+A	angry	R1
51) A	at's angry= (MEANING THAT'S ANGRY)	R1 <i>repeat</i>
52) E	= the boy is angry=	R3
53) A	=[because]	R5
54) R	[becau(:)se]	R5
55) E	because [he is] (.) shouting	R7
56) A	[he wa]	R5
57) R	yeah	R9+

This final 'R' episode of the game once again reinforces the language learning strategies Erdim was able (and perhaps motivated) to employ when attending to the speech of others (and his own). He independently produced a sentence in the form adhered to in all previous 'R' episodes: 'the *noun* is/was *adjective*'. Both Rosie and Abdul expected an extension explaining why the boy should be angry; a form also modelled in previous episodes. This time Erdim was attentive and 'heard' their L2 utterances incorporating them meaningfully into his extension (line 55).

4.52 Implications for Formative Assessment

The information gleaned from analysis of this interaction was, I believed, very useful in understanding Erdim's behaviour and L2 language learning. From a quantitative perspective, the analysis revealed that he made very few 'R' moves (21.25%) and even fewer if one deducts those made in the presence of myself (only $13/80 = 16.25\%$). Out of only 4 R1 moves made by Erdim, two involved reading adjectives on the dice out of synch with the flow of the game. The other two R1 moves were made in response to the Turkish picture on Rosie's forfeit turn. In terms of R3 moves, Erdim only constructed three sentences, one of which was made in response to my own request (lines 42 and 43). The other two were made as he followed the rules of the game on his own forfeit turns. He did not make any R3 repeat moves. In other words, Erdim was minimally involved, if at all, in problem solving activity on other players' forfeit turns. Indeed out of the total number of 'R' episodes in the game (16), Erdim made a verbal contribution to only eight (i.e. he displayed language-related engagement in only half of the total number of language learning episodes). As previously discussed (see 4.5), the next stage in using this analysis as information for a formative assessment was to question the possible reasons as to why Erdim did not exhibit language-related engagement. This required a more qualitative perspective.

If one looks more closely at the data, particularly at Erdim's behaviour when not engaged, the most noticeable and recurring feature of his play was his lack of attention and reaction to the spoken English around him even when the other players made an effort to include his name in their constructions. During these periods of 'switching off' from English, Erdim made minimal eye contact with the other players and focussed almost entirely on the

board itself (a fact which, incidentally, would not have been available had I not video recorded the interaction). It was not that Erdim could not understand the significance of others' utterances in relation to the game, as would be the case if he were 'object-regulated' (De Guerrero and Villamil, 1994). Rather, I believe it signalled a lack of determination in 'interactive listening' which "requires the listener to take a more active role by interacting with an interlocutor, ... providing feedback in order to ensure successful communication" (Vandergrift, 1997: 494). His interest in actively listening and engaging with the spoken English around him, including his own, was, for some reason, hindered, thereby affecting his motivation to ensure 'successful communication' even when encouraged by others to do so. This meant that, just as observed in interaction with a teacher or adult, when interacting with his peers Erdim's motivation to tune into English to 'parse the stream of sounds' and to experiment with and stretch his current understanding and knowledge about English was likewise obstructed. The reasons for such fossilization and non-engagement at this stage of his learning could, I felt, relate to his current 'affective' state and the uncertainties his family were currently facing in terms of their future.

On a more positive note, the strategies Erdim did employ when he partook in collaborative problem solving included appropriating another player's model of language to inform his own production by repetition, recasting and incorporation. This meant that over the course of the interaction Erdim was enabled to progress from producing the more simplistic sentence form 'the *noun* is *adjective*' to the extended form 'the *noun* is *adjective* because...'. This signalled that collaborative problem solving, particularly in the construction of meaningful and syntactically correct sentences in English incurring the type of scaffolding exhibited in Game 1, would be an effective context for the development

of Erdim's English. It also suggested that it was not the context of game playing itself or the particular partners with whom he was playing, which acted to de-motivate and inhibit Erdim on this occasion.

Interestingly, during the very first episode Erdim related a picture to his own sense of taste (i.e. his personal experience). Although this was never repeated, the strategy of relating a word or phrase to his personal experience and his likes/dislikes may be a way of encouraging Erdim's attention and language-related engagement. Furthermore, his motivation to compete with others' suggestions relating to the naming of an item in a Turkish picture suggested that another means of engaging his attention may be to relate L2 information to his social and linguistic experiences in Turkey, although for reasons already articulated, this would necessitate careful consideration. Indeed all of this information would require careful consideration in determining how it could be used to inform the teacher's subsequent teaching of Erdim. In order to discuss this issue a feedback session was held between myself and the class teacher.

4.53 Feedback Session

Our discussion resulted in ideas surrounding general teaching strategies and tasks which could encourage Erdim's aural attention and engagement, as well as those specific to his learning of English as an additional language. Our major concern was Erdim's motivation. If he was not intrinsically motivated to engage in interactive listening on some, perhaps more challenging occasions, then it would seem sensible to promote his motivation extrinsically whilst providing him with appropriate enabling support. In other words, the teacher should 'set up' a task as involving listening prior to embarking on the actual task

itself. So, for example, during literacy sessions before reading a story or narrative piece, she should inform the pupils, identifying a few by name (including Erdim), that she would be asking them a particular question or type of question after having read. This would provide extrinsic motivation for the pupils to construct 'listening' and 'attentiveness' as key goals of the task. At the same time, the teacher would attempt to ensure that the listening and subsequent questioning was achievable by, for example, incorporating more repetition and stress in relation to picture clues in order to encourage access to a more global meaning. In terms of the teacher's questioning, I suggested that she allowed pupils an opportunity to talk to the person next to them prior to feeding their ideas back to the teacher. In that way, Erdim's language could be supported at the level of his peers before going public. The teacher concluded that she should be more patient in waiting for a response from Erdim and perhaps allow for more prompting for, as she put it, "he needs to be shown how to do it."

On a more general level, the teacher questioned her approach to whole class teaching as a possible obstruction to Erdim's participation: "why do we always all sit together on the carpet on carpet time, we don't need to do that! Whole class work doesn't actually have to mean all sitting together doing the same thing. You could perhaps have groups do little things and come back together." She felt that having a smaller, less threatening group context may support Erdim's attention. As I had often observed Erdim's tendency to sit towards the back of the carpet, I suggested that she should also encourage him to sit closer to the front affording him a greater opportunity to observe the teacher and her resources, whilst giving her more opportunity to observe Erdim.

I also suggested the use of circle memory games such as the market game wherein everyone must say “I went to the market and bought ...” incorporating everyone’s previous items. This idea spurred the teacher to recall Erdim’s noticeably positive reaction to a drama activity in which he became so involved that he began prompting others with their lines; clear evidence of interactive listening and an inclination towards drama as a learning activity. The teacher also proposed that in order to give a meaningful context to interactive listening, Erdim should experience contexts in which listening to English in order to make sense was essential. She suggested that he should be regularly sent on verbal errands to other classes relaying information given to him by his teacher. Finally, we both felt that the analysis suggested that Erdim might respond positively to tasks in which he was positioned as an expert. This may increase his confidence and hence his motivation to attend to the verbal utterances of his other, supposedly less expert, partners.

The teacher kept a diary of events for two weeks following the feedback session, after which we met again to discuss Erdim’s progress. The following section will document her experiences and evaluate the use of the analysis as a formative assessment tool.

4.54 Formative Results

Erdim was encouraged to sit near the front of the carpet during whole class sessions. After having stipulated the need for interactive listening, the teacher made a special effort to encourage Erdim’s response to literacy questions by rephrasing questions, prompting him and by giving him several choices from which to choose the most appropriate answer.

After only one week, the teacher noted in her diary:

“I can already see an improvement in Erdim’s concentration in whole class sessions. Knowing that I will ask him something is encouraging him to listen more attentively. Being able to answer questions (with help) is giving him more confidence to try and he says, ‘I don’t know’ less often.”

She also observed how much he enjoyed ‘going on messages’, perceiving the job as a very responsible one towards which he must give his full attention. She also noted that occasionally it was necessary to write down unfamiliar words. I thought this particularly revealing as it signified that Erdim must have acknowledged which words he found unfamiliar and must, therefore, have been attempting to make sense of the message whilst actively listening to it. The fact that the teacher then explained the meaning of such words and made a special note of them in written form would probably have enhanced Erdim’s attention to and memorisation of them.

In terms of the listening games which are relatively high risk and public, the teacher noted Erdim’s initial reluctance to join in. After a week, however, she reported, “he is more confident and listens carefully to the list so he can succeed when its his turn.” After another week and lots of practice and help from the other pupils, the teacher told me that he was starting to show real enjoyment and determination. She recalled a particular occasion when, part way through the game, she was forced to leave the circle and attend to a messenger. Rather than stop and wait for her to return, the class continued spontaneously and when it came to Erdim’s turn he recounted every single item without support. With regard to Erdim’s new role as sometime expert or supporter, the teacher recorded that he “responds very willingly and seems to enjoy his role of helper.”

In line with the results of the analysis, the teacher continued to pursue language scaffolding involving repetition, incorporation and recasting. For example, during guided writing she gave Erdim the task of linking two part sentences together to form one meaningful sentence. After a short while, rather than use the sentence endings provided, Erdim began to make his own sentences appropriating the general style.

Overall, the teacher noted how it was “taking less persuasion” for Erdim to participate interactively in whole class and group sessions and how he seemed generally “more included rather than on the periphery”, as he had hitherto appeared. She felt, however, that she would need to continue applying our strategies until he began to appropriate English as a tool for collaborative problem solving and learning with his peers because, as she noted, “he’s still not really talking with the other children” during collaborative learning tasks.

Information from the original feedback session, the teacher’s diary and our subsequent meeting, afforded me an opportunity to reflect upon the practicability and worth of using this analysis as a formative assessment tool. The following section reports on those reflections.

4.55 Reflecting on the Assessment

The most obvious criticism which could be thrown at this stage of the research concerns the question of cause and effect. Is it questionable if the observed change in Erdim’s behaviour (i.e. the effect) could be directly attributed to the change in his teacher’s behaviour (in terms of teaching strategies and the provision of learning tasks) resulting

from our discussion of the analysis (i.e. the cause). It is arguable that, by focussing the teacher's attention on one particular pupil, she would necessarily become more aware of that pupil and hence more attuned to his needs, and that this in itself could account for any subsequent change in the pupil's behaviour towards, and in the presence of, the teacher.

It has never been my intention, however, to adopt an experimental stance and formulate any such cause/effect relationships in the context of this real-life educational research (see 3.2). It is, after all, impossible to control or keep track of the myriad of influences upon a child's learning. Consequently, in this context, I am not claiming that Erdim's changed behaviour was exclusively caused by the information resulting from this analysis. Rather, I am arguing that the process of sharing the results of the analysis helped focus the teacher's attention on one pupil's learning and this impacted upon the teacher's subsequent understanding of that pupil's needs. Moreover, by discussing the pedagogic implications of such needs, the teacher was enabled to facilitate a desirable and observable change in that pupil's learning behaviour. As the teacher herself declared:

“I think its really, really interesting. Very interesting, yes, because you're seeing something that one, I wouldn't really know how to look at the same way as you do, and two, I wouldn't have the time to focus on one child like that. How to use the information, well it just makes me look at him with new eyes really, it makes me much more aware of perhaps what to look for in that situation... Sometimes it needs somebody else to come and say to you, 'look what about this?'... Another person's eyes on what is happening is very valuable”.

The feedback session was a particularly useful forum for the mutual development of ideas. It allowed myself as researcher to understand some of the results in light of the teacher's previous experience of Erdim's learning and classroom behaviour. At the same time, it afforded us both the opportunity to arrive at a shared understanding of the results and

'bounce ideas' off each other in terms of the most appropriate support the teacher could subsequently offer Erdim. As the teacher commented "well while you're talking to me, I've already got ideas buzzing in my head, ideas for things he could be doing in groups", testament indeed to the power of talk in dialogic interaction. In fact, the teacher also commented on "the knock on effect" of our shared observations, commenting, "I mean we're talking about Erdim, but I can see how this could help a lot more people". She later informed me that Erdim was not the only pupil whose behaviour had changed following the introduction of the new teaching strategies and tasks as she had noted a general improvement in listening skills and attentiveness.

Finally, with respect to the ease with which such learning strategies and tasks could be incorporated into what has become an already overcrowded and proscriptive curriculum, the teacher found that those strategies or tasks which were not immediately or obviously relevant or linked to the curriculum were less easy to accommodate. She found that the extra half an hour a day set aside by the school timetable for extra literacy work was more flexible than the 'Literacy Hour' itself and was therefore more amenable in terms of incorporating the games and strategies. For those teaching strategies which she was able to accommodate into her regular class work, she found that once they had been established and accepted by the pupils, this provided a foundation upon which they could more easily be developed.

In effect, it would appear that a microgenetic analysis of pupils' interactive behaviour during a collaborative L2 language learning task, such as the approach taken in this research, has revealed information conducive to understanding pupils' learning needs. It

would also appear that these needs, once identified, can be acted upon and applied by a teacher in her subsequent planning. Such application is as practicable as the curriculum, a school's planning of that curriculum, and individual teachers' interpretation of that curriculum, is flexible. In short, the analysis used in this research appears a promising tool in the formative assessment of bilingual pupils' learning of English in the context of today's busy classroom life.

This chapter has provided detailed analyses of the interactions of small groups of peers working together to solve the linguistic problems encountered in playing specially designed board games. Although summaries have been provided at the end of each section, it is important to reflect on the results as a whole in order to identify general findings. In order to do so, the following chapter will summarise the findings and identify interesting patterns and significant results within them.

Chapter 5

Summary and Discussion – Unwrapping the Evidence

INTRODUCTION

This chapter will begin by presenting the main findings to emerge from the qualitative analyses in the previous chapter in light of the research questions. These findings will then be discussed in more detail in light of the theoretical paradigm in which the study has been situated. I shall then provide an overview of the results of the analyses taken as a whole, highlighting and analysing the salient and pervasive role played by repetition, the verbal and non-verbal means with which players signalled a need for support, and the strategic use of L1. Finally, I shall examine the overall suitability of the chosen methodology in answering the questions posed in this research.

5.1 FOCUS OF THE STUDY

This study has:

- Investigated whether specially designed board games focussing on different aspects of English facilitate the process of English language learning for bilingual pupils;
- examined whether the processes of this learning (i.e. how and what pupils are learning) are manifest in the interactive behaviour of bilingual pupils playing such board games;

- considered if the information resulting from analysis of bilingual pupils' interactive behaviour (i.e. analysis of their learning) within this context could be used as material for a formative assessment of their English language learning.

5.2 GENERAL FINDINGS TO EMERGE FROM THE STUDY

Following the analysis of 15 group interactions, a number of important findings have emerged from this study:

- The process of L2 language learning is facilitated in the context of peer group interaction during game playing;
- in accord with research into adult L2 language learning, the primary mechanism by which such learning is facilitated amongst primary aged bilingual pupils in U.K. classrooms is the process of collective scaffolding;
- even though groups were arranged to facilitate symmetric interactive activity, some pupils positioned themselves as group 'experts'. In general it was found that these pupils used linguistic scaffolds which were more explicitly instructional, and which were reminiscent of the mediational means employed by teachers;
- in those groups which resulted in a more equal distribution of power, learning was found to result from incidents of micro-intentionality (i.e. the momentary exhibition of appropriate knowledge with instructional intent) and active participation in problem solving episodes;

- unlike most teacher-pupil interaction, the findings revealed that pupils working together negotiate perceptions of expertise, power and status in tandem with the negotiation of the provision and acceptance of support;
- the products and processes of L2 language learning are manifest in the interactive behaviour of bilingual pupils working together to solve the language-based problems incurred during the playing of specially designed board games;
- this learning is revealed in the process of microgenetic analysis, leading to an understanding of bilingual pupils' L2 language knowledge (form/meaning + the use of language as a mediational tool) as previously constructed and as in the process of reconstruction;
- microgenetic analysis also revealed that some players were more engaged with the task as an L2 language learning opportunity, and that this seemed to relate to their overarching motives for participating (given the task and the other pupils in the group) and their self-confidence in actuating those learning opportunities;
- the information provided by a microgenetic analysis of bilingual pupils' interactive behaviour during game playing can be used to identify language learning strategies and processes which were noticeably evident or absent;
- this information can then be used as a basis for dialogic inquiry between researcher, teacher and cultural/linguistic expert to suggest guidelines for future teaching to support bilingual pupils' learning needs.

5.3 DISCUSSING THE FINDINGS

In effect, the analyses clearly demonstrate L2 language learning in microgenetic detail as pupils worked together to solve the L2 language problems invoked during game playing. In particular, the findings support those of Lantolf's (2000(b)) literature review in that the pupils in this study were able to scaffold opportunities for each other's learning in the absence of a commonly perceived authority figure, and that this scaffolding was sensitive to players' ZPDs. The results indicate that such sensitivity occurs because, unlike teacher/pupil interaction, peers negotiate the amount of help/advice to bid for and accept, and to offer or withhold, in tandem with perceptions of power, status and influence. This is an important finding and it suggests that the opportunity to negotiate participatory roles within an interactive learning activity promotes the creation of an *effective* 'activity frame' (Aljaafreh and Lantolf, 1994).

The results also revealed, however, that even though symmetrical power distribution was a major consideration in grouping pupils for this research (see 2.61 and 3.44), some pupils were more inclined to approach their participatory role as that of group expert, whilst simultaneously positioning other pupils as novices. The results suggest that pupils who positioned themselves as expert generally employed linguistic scaffolds which were more explicitly instructional than those erected in the more symmetrically actuated interactions. Close analysis of these explicit mediating strategies has revealed them to be an appropriation of pupils' prior experience as novice learners (see 4.17 for an example). In other words, the findings support the sociocultural contention that pupils appropriate the regulatory means of others as an intramental tool for their own thinking and learning, exteriorised in this context for the purpose of intermental and, more specifically,

instructional activity. In other words, pupils hear the 'teacher's voice' in their own minds telling them what to do next, and how and why they should do it. This helps them to help themselves learn and understand the form and meaning of the English language. This supports the neurological stance adopted in this thesis which posited that alongside words, pupils also learn 'ways with those words' for thinking and learning (see 2.2).

In cases when a pupil refused to devolve control and negotiate their position as expert, the results suggest that less experienced pupils are less empowered to participate, particularly in the process of collective argumentation (e.g. see 4.37). In other words, the findings support my earlier hypothesis that didactic tendencies in interactive behaviour can hinder the active participation of learners in episodes of exploratory talk (see 2.61).

In the less didactically actuated interactions, the results indicated that learning resulted from incidents of micro-intentionality, wherein one group member momentarily found him/herself in a position of expertise, as well as from active participation in the problem solving episodes of a game. Furthermore, the results also demonstrated that during episodes of collective argumentation, less experienced pupils were more likely to be involved in the process of negotiating meaning and/or form, whenever the more experienced pupils were willing to negotiate their identity as experts. In effect, therefore, the findings support my contention that symmetry is an important element in empowering pupils to participate in problem solving activity in, for example, episodes of exploratory talk (see 2.61).

In short, the findings show that opportunities for learning are available, and are made available (though not always) within peer group collaborative interactive activity. The results have also illustrated, however, that should such opportunities exist, pupils do not always construct the playing of a game as an activity in which to exploit them. Close analysis of the interactions has revealed that this is dependent upon pupils' overarching motives for participating, resulting in the construction of roles for their own and others' participatory behaviour. For example, should a pupil's primary motivation be a desire to win, say, or the opportunity to escape the pressures of their regular classroom, then this would be more likely to result in an over-reliance on support from others or a non-engagement in the language-related episodes or with the task as a whole. In contrast, however, should a pupil be motivated by the opportunity to learn or practise an aspect of English in a fun and non-threatening environment, then they would be more likely to be a keen and attentive player, fully engaged in language learning episodes.

This contradistinction was particularly evident in the contrasting behaviour of the two bilingual pupils playing Game 4 (see 4.5). Dave, who had been in the U.K. for only two months (but had left the school shortly after recording), was more attentive and demonstrated much more engagement in the language learning episodes of his group activity, than Erdim, who had been in the school for one and a half years. In an interview with a Mandarin speaker, shortly after having played the game with his group, Dave revealed that he had enjoyed playing, "because you can plan and can also learn English". When pressed, Dave revealed that, more specifically, it had helped him make sentences in English, and learn new words, "because I know other words in the sentence", and so he could infer their meaning. In other words, Dave had perceived the act of playing the game with his peers as an opportunity to plan, practise and learn English, and this had impacted

on his motivation to realize such perceptions by, e.g. repeating words and inferring the meaning of new words, as made possible through participation in the activity.

Erdim, on the other hand, although not interviewed, did not appear to perceive the purpose of the task as one involving opportunities for learning English, and hence was not motivated to exploit such opportunities within his group activity. (See 4.52 for a full discussion of Erdim's participatory behaviour.)

There appears to be another, equally important reason, however, impacting on pupils' participatory behaviour, and this relates to their level of self-confidence in actuating the learning opportunities manifest in collaborative interactions. In other words, even if a pupil's perception of the task is of an activity with opportunities for learning, they may be inhibited from exploiting such opportunities given their lack of self-confidence in that particular context. The results have shown, however, that such exploitation can be empowered gradually over the course of a game or at the behest of one individual player's motivational utterance.

Having established that opportunities for learning are often created and exploited by pupils working together in interactive contexts, the results also support the sociocultural claim that pupils' learning is manifest within their interactive behaviour and can be revealed through a process of microgenetic analysis. The results of the microgenetic analyses in this study revealed examples of:

- Pupils' existing knowledge of the form and meaning of English, and the use of English (or their L1) as a semiotic tool mediating their learning of English given the immediate needs of their problem solving activity (i.e. their learning strategies);
- the intramental form such knowledge took in terms of the construction of mental imagery and associations, and the contexts (both experiential and mental) in which such images were constructed;
- appropriation of the form and meaning of English, and of the use of English as a mediational tool over the course of an interaction;
- engagement with the task as an opportunity to learn (evident in their participatory role construction and dependent upon their motives for participating and/or their confidence to do so in the research context).

In short, therefore, the findings of this research support Swain's (2001: 288) argument that problem solving dialogue between peers, "is not 'enhancing' learning, or leading to learning, it is learning." Consequently, in answer to my research questions, the findings provide compelling evidence that the process of L2 language learning is facilitated in the context of peer interaction during game playing, and that such learning (as previously appropriated and applied to the current situation, and as occurring in the present moment, possibly in contrast to that which occurred earlier) is manifest and therefore open to analysis in the discourse of L2 language learners at play.

The final stage of the research investigated whether (and how) the information revealed in microgenetic analysis could be used for teachers in their subsequent planning of pupils' learning.

5.31 Evaluating The Analyses as Formative Assessment Information

As described in section 4.5, before undertaking the fieldwork in the final school, I revisited all of the analyses and formulated some general guidelines as to how the information could be used to inform subsequent teaching practice. The results indicated that certain behaviour was either already evident in pupils' participation (often revealing their motivation to construct the task as a learning activity, and exploit the learning opportunities as presented by such participation), or was noticeably absent.

I concluded that if certain behaviour was already evident, or was revealed through a genetic approach to analysis, then this information could be used to support future teaching in, for example, the provision of appropriate learning contexts and tasks. If, however, certain behaviour, thought essential or beneficial to a group's joint problem solving efforts and pupils' learning experience, was not employed, then I suggested it would be necessary to explore the possible reasons for this. One such possibility, and that which most assessments automatically assume as reality, was that certain pupils may not yet have appropriated such behaviour and hence may need support in doing so.

On reflection, this assumption is laden with inherent difficulties. Even though certain language learning strategies have been identified and classified within a substantial body of research literature (Oxford, 1990; Scarcella and Oxford, 1992; Ehrman, 1996; Cohen, 1998; Purdie and Oliver, 1999; Hsiao and Oxford, 2002), often reflecting the voices of language learners themselves, this does not necessarily imply that certain strategies and processes would be the most useful to particular pupils in the research context. As Cohen (1998: 69) remarks, "strategies are not inherently 'good' or 'effective', but rather need to

be evaluated in terms of their effectiveness for the individual learner in the completion of the language task at hand.”

Consequently, I was left with the awkward reality that just because an analysis showed that certain learning strategies were noticeably absent within the research context, it did not mean that they were necessarily *always* lacking and ought to be taught. I came to the conclusion that if the results of an analysis revealed that a pupil was not employing certain behaviours which would enhance their learning of English, and that other contextual reasons had been discounted, it would be wise to observe their behaviour in other contexts. If the results were the same, then one should try to mediate a pupil’s appropriation of such behaviour by alerting him/her to the possibilities that exist (i.e. the interactive behaviour which would support their L2 language learning) together with the opportunity to put those behaviours into practice in various contexts. For example, a pupil whom the analysis revealed as not yet implementing repetition could benefit from the knowledge that by repeating unfamiliar English words and phrases he/she could practise and improve their accent at the same time as facilitating memorisation. This seems to be the approach adopted in the ESL Companion produced by the Victoria State Curriculum Standards Framework (CSF) in Australia, wherein strategies are listed as an important sub-strand of curriculum planning and expected learning outcomes. For pupils in the middle/upper primary age range it states “students need guidance in developing, and may need to be explicitly shown strategies to manage the classroom environment” (CSF online document, 2002).

Returning to the use of the analyses in this study, I also had reservations about the hypothetical leap taken from knowledge of the information as presented by an interpretive analysis to the implementation of certain teaching practices as implied by such information. On reflection, I realised that ascertaining ‘what works and why’ in using information from *any* assessment as a basis to inform subsequent teaching practice, is, itself, an interpretive and subjective activity influenced by an interconnected web of one’s personal and cultural values, biases, training experiences, and epistemological beliefs. I concluded, therefore, that if this system was to work as a formative assessment tool, all results of the analyses should be discussed in dialogic activity between the analyser (if he/she is other than the class teacher) and the teacher, preferably together with a bilingual member of staff so that any implicit biases or cultural and pedagogic assumptions could be brought to the fore and addressed. The findings of this study suggest that this is a particularly beneficial and enlightening process.

In conclusion, the findings suggest that microgenetic analysis of interactive behaviour in the context of an L2 language learning task can reveal enlightening information about how and what bilingual pupils learn and, given the provisos discussed in this section, can be used to guide the subsequent teaching of said pupils in order that their learning is promoted.

Having discussed the findings, let us now turn to those patterns of behaviour found to be a pervasive or particularly interesting feature of the interactions taken as a whole and which were not, therefore, available for comment in the previous chapter.

5.4 AN OVERALL PERSPECTIVE OF THE ANALYSES

After completing the analyses of interactions in schools A, B and C, I correlated all of the resulting information (i.e. the tabulated results for each coded interaction *and* the qualitative analyses presented in Chapter 4), searching for global patterns of behaviour which were significant or particularly interesting. I discovered that repetition was a pervasive feature of the interactions and this section will discuss the multifarious functions which I found repetition to play. I also discovered a noticeable lack of explicit requests for help, and the use of L1 amongst peers in the research context, and hence this section will also discuss the implications of these findings.

5.41 The Socio-cognitive Functions of Repetition

During the process of correlating all of the instances of repetition across each of the games, I noticed that they seemed to fall into two major functional categories: repetition as either intermental or intramental activity, although as previously discussed, this may not relate to a player's primary intention in making a repetition (see Figure 6 below). Within the intermental category, I found that some instances of repetition acted as a more explicitly instructional mediational device, and some were primarily social or co-operative in nature. The Table below describes each of these functions and, unless otherwise indicated, charts pupils' repetition (whole or partial) of their own *or* another's utterance.

TABLE 8
The Socio-Cognitive Functions of Repetition in Game Playing

Intermental function	
<i>Cognitive – implicit mediation</i>	<i>Social (co-operative)</i>
<p>1) To stress one's own decision/choice/construction after several other versions/choices.</p> <p>2) To hold collective construction building and thinking in place (intermental holding platform – Anton & DiCamilla, 1997) in order to influence each other's attention (after all forfeit actions have been completed).</p> <p>3) To 'set-up' thinking for sentence or compound word construction (whilst waiting for next forfeit act) or adverb choice (before reading adverb board), i.e. to foster intersubjective goal perception.</p> <p>4) To assemble separate parts of a collaborative construction, in order to satisfy or check validity (for the adverb game this act could also have functioned to argue morpho-syntactic relevance).</p> <p>5) To accept another's recast or repair and also, therefore, to practise (other-repetition).</p> <p>6) To clarify another's meaning (usually with intonation rise), and at the same time give oneself the opportunity to hear it said again, and to say it oneself (other-repetition).</p> <p>7) To seek confirmation or offer a suggestion (self-repetition after intramental activity).</p> <p>8) To question another's intended meaning or accuracy of form (other-repetition)</p> <p>9) To signal that help is required (self-repetition with elongation, pause and/or looking towards someone)</p>	<p>17) to join in another's utterance (repeat part way through) to support the collaborative effort.</p> <p>18) To copy pronunciation for fun.</p> <p>19) To mark that a consensus has been reached, or to check this.</p> <p>20) To accept, confirm and/or congratulate another player's efforts (other-repetition)</p> <p style="text-align: right;"><i>similar to</i></p>
<i>Cognitive – explicit mediation</i>	
<p>10) To correct another's utterance (other-repetition with change, or self-repetition, may be marked by e.g. stress).</p> <p>11) To stress a repair or recast (self-repetition).</p> <p>12) To question the suitability of another's choice/form/ pronunciation (other-repetition with intonation rise).</p> <p>13) To encourage another's participation, i.e. 'join in' (self-repetition with vowel elongation and pause).</p> <p>14) To encourage another's self-correction after they have offered an extension to one's move, i.e. 'no that's not right try again' (self-repetition).</p> <p>15) To elicit another player's repetition, i.e. 'repeat after me' (similar to (13), but this time encouraging direct repetition and not just joining in) (self-repetition).</p> <p>16) To give the learner another opportunity to hear a word/form (self-repetition).</p>	

Intramental function

- 21) To hold one's own thinking in place (and to set up one's own thinking) to encourage extension, alteration, organisation (intramental holding platform, cf. (2+3) above).
- 22) whole or partial repeat to practise and/or to search memory/memorise, not following another player's repair, recast or prompting, i.e. self-regulated.
- 23) To signal that a word (and its meaning) has been found in one's memory, or not (may include pronunciation aligned to meaning, or enunciation signalling sympathy) and may follow a previous utterance giving a choice A or B.
- 24) To elicit a linguistic form, e.g. verb form – 'take, takes, taked, took', indicating intramental mnemonic device.
- 25) To mark to oneself that a discrepancy has been noticed between one's own previous utterance and another player's utterance, or one's intended utterance, not following any prompting or signalling of an error from another player, i.e. self-regulated (other-repetition).

In identifying patterns of occurrence for each function of repetition across Games 1, 2 and 3, I discovered that by far the most commonly occurring functions (printed in blue) were: repetition as a holding platform (inter-and-intramental); to set-up thinking (inter-and-intramental); to accept, agree with, confirm or congratulate (social intermental); to practise saying a word/phrase aloud, or to search for it in memory, or to add it to one's memory (intramental); to signal that an L2 item has been found (or not) in memory (social intermental); and to accept another player's recast or repair (intermental).

I also noticed that there seemed to be a special relationship between these functions of repetition, and that this related to the consequences of outward verbalisation in contexts of social interaction (refer also to Figure 5 in 4.47). For example, the act of repeating one another's verbal contributions in order to facilitate joint problem solving and attention to a particular aspect of a problem (intermental function) may result in the activation of particular associations in one's own mind, triggering possible solutions (intramental consequence). In other words, even though one's primary intention may have been to

repeat something in order to cling to the group's 'collective thoughts' (Anton and DiCamilla, 1997), the consequence of repeating it out loud may result in the subsequent activation of intramental activity (due to the act of speaking itself or due to the opportunity one has to hear the utterance uttered aloud in one's own voice (i.e. speech as a process and product)).

Alternatively, however, the act of repeating an utterance aloud in order to facilitate the activation of intramental activity, for example to ask oneself, "hmm does that word/phrase sound right?/ have I heard that word before?", may result in the attention of other participants who may perceive the repetition as a call for joint problem solving or as a signal that the previous utterance had been accepted.

Consequently, by focussing on the particular role played by repetition as a mediating tool in collaborative problem solving, I was able to broaden my understanding of the relationship between inter-and-intramental speech, (as originally developed in Figure 5, 4.47). It would appear that there is a mutually interacting relationship between the social and cognitive functions of repetitive speech for intermental activity and the cognitive function of repetitive speech for intramental activity in social interactive contexts (see Figure 6 below). One can perform a repetition with the primary intent of fulfilling either one of these functions, but its outward verbalisation in a social context is likely to result in its reception as fulfilling one or both of the other two functions. The key to understanding this relationship is the fact that all speech uttered aloud in the presence of another person has the potential to be perceived as an intermental act, even if one's intention is primarily

private, and that the act of speaking itself, even when uttered in response to joint activity, can result in an instantiation of intramental activity.

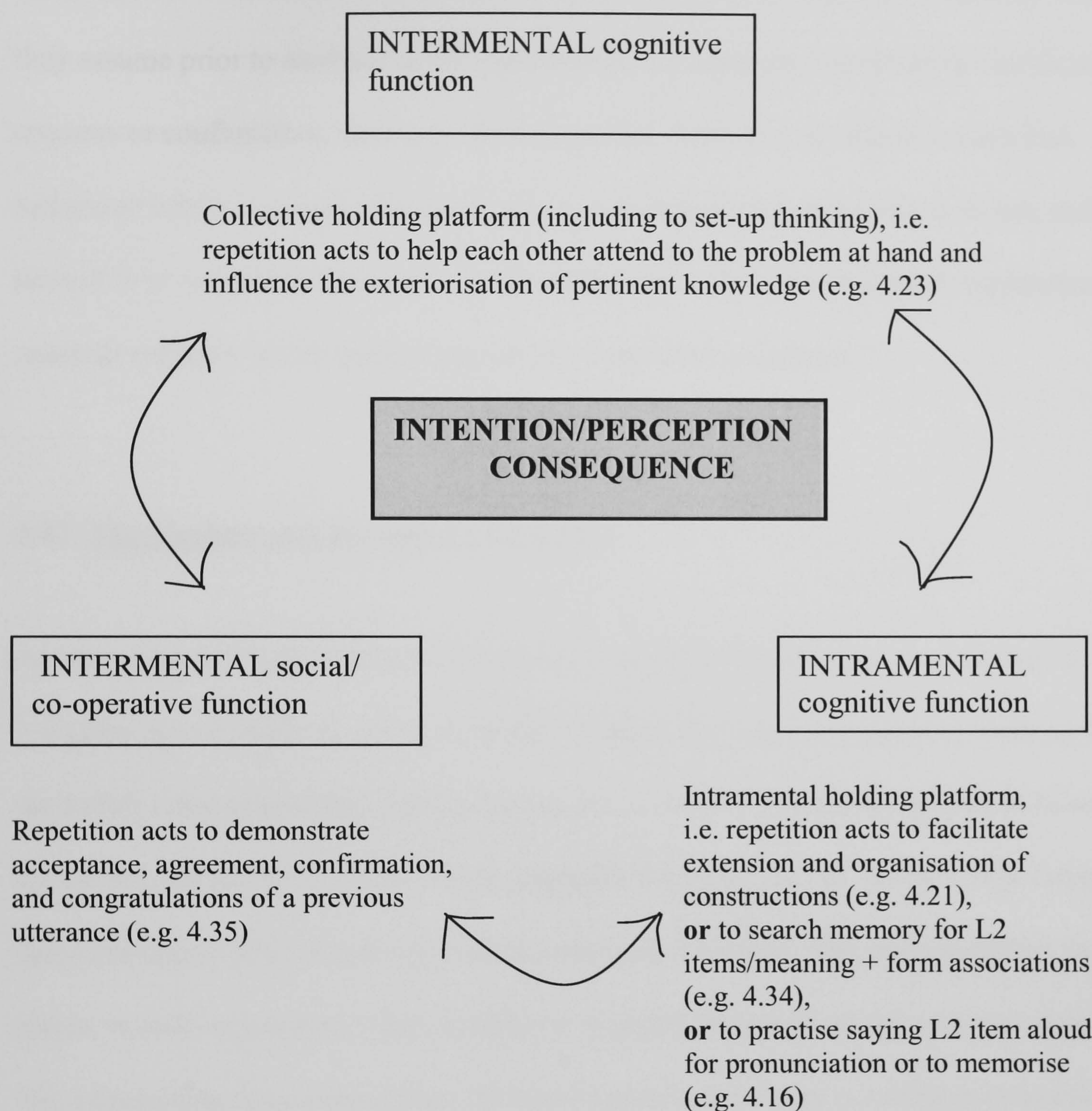


Figure 6 Repetition for Inter-and-Intramental Speech

Another particularly revealing aspect of the incidents of repetition across the analyses, relates to the comparatively low occurrence of repetition acting as clarification requests and confirmation checks (numbers 6,7,8 and 12 in Table 8) between peers during problem solving in this game playing context. As mentioned in Chapter 1, these are the linguistic

mechanisms often used by SLA researchers to identify episodes of meaning negotiation, thought most facilitative of the process of SLA. The findings seem to suggest, therefore, that if a researcher strives only to identify those incidents of linguistic behaviour which they assume prior to analysis as the most salient, for example, repetition as clarification requests or confirmation checks as in SLA studies, then they are likely to miss that behaviour which is actually the most salient and indeed prevalent (which, in this study, proved to be repetition for socio-cognitive functions). This has important implications for research methods which employ the use of observation schedules.

5.42 The Request and Provision of Support

Another feature of play that was examined in terms of its occurrence over Games 1, 2 and 3 was the moves made by players explicitly calling for help and support in order to fulfil the forfeit requirements (i.e. moves R2 and R4 in Game 1, moves R3 and R8 in Game 2, moves R2, R4 and R7 in Game 3 (see Appendix 7 (A7.13, A7.23, and A7.33))). Given that these utterances were already ascribed a particular discourse code, and quantified for each player in each interaction, it was possible to quantify their total occurrence (see Appendix 10). I found that these moves were far less frequently produced in comparison to other discourse moves and than previously predicted. For example, the average percentage of those moves used by pupils to explicitly ask for help in the reading or naming aspect of the games across Games 1 and 2 and 3 was only 1.29%. The average percentage for explicit calls for help in constructing sentences was even smaller at only 0.768%. Most noticeable of all, however, is the fact that there was not one single explicit request for help in choosing an adverb in all of the recordings for Game 2, nor in forming a compound word in all of the recordings for Game 3.

This would suggest that pupils used linguistic and indeed non-linguistic mechanisms other than explicit requests to signal that support was required at any particular stage in an interaction. The results partly concur with Ohta's (2000) findings of the subtle interactional cues used by University level learners of Japanese. She found that learners provided support for each other only when it was clear that the other interlocutor was not continuing, and that the interactive cues to signal non-continuance involved:

- 1) rising 'question' intonation, or
- 2) elongating the final syllable of the last word uttered, with question intonation or a sing-song flat intonation, and/or
- 3) slowed rate of speech.

(Adapted from Ohta, 2000: 63)

The findings of the present study have shown that although primary school aged pupils did not always wait for cues of non-continuance before offering support, they seemed to employ similar subtle markers when they were struggling. Close transcription revealed that pupils exploited one or more (or indeed all) of the above strategies as well as pausing and, most importantly, looking up at another player towards the end or at the end of their marked utterance. This non-linguistic strategy was key to signalling a player's intent in encouraging intermental activity, as without it, other interlocutors could not be sure that support was both required *and* requested.

Interestingly, the results also revealed that the support offered following both subtle cues and explicit requests, was often likewise expressed with rising/questioning intonation. In other words, pupils responded to cues for support with utterances which acted to suggest

possible solutions, rather than assert a preconceived ‘truth’. As revealed, Anton and DiCamilla (1999: 240) discuss utterances with “an illocutionary force akin to that of a question”, as being deployed “simultaneously for their social, specifically polite, function and for their cognitive, specifically hypothetical function.” I suggested that this could have occurred because pupils involved in peer group interactions may be concerned not to appear to be assuming an a priori position of authority. It may also have occurred, however, as a scaffolding strategy to encourage cumulative or exploratory talk in the process of collaborative problem solving.

5.43 The Strategic Use of L1

A rather disappointing feature of the analyses was the overall lack of L1 production. In fact, the use of L1, other than in naming the cultural pictures on the cards and dice, was recorded in only six interactions, and occurred sporadically within each of these. The most common function of L1 used in the game playing context was for ‘task management’ (Swain and Lapkin, 2000) (i.e. to influence the manner and speed of each other’s throwing of the dice, moving of the counters, and picking up of the cards). Swain and Lapkin (2000: 268) found French immersion students also used English (their L1) for interpersonal interaction, including off task talk and disagreements or as they put it, “to establish the tone and nature of their collaboration”. As discussed, I found that pupil’s use of L1 to control and manage the task acted simultaneously as a tool for interpersonal control in attempts to establish a power differential between L1 speakers (see 4.16).

In contrast, the results also revealed L1 used as a tool to support and encourage ‘in-group’ camaraderie when, for example, two Bengali speakers in Group A:2, G:1, started to count

the movement of a counter along the board in Bengali. They then turned to their other playing partner, an English speaking pupil, and translated, encouraging him to join their Bengali counting. This was a nice moment of cultural and linguistic intersubjectivity, or “temporarily shared social reality”, in what turned out to be a decidedly un-collaborative interaction (Wertsch, 1997: 160).

Out of all of the analyses, there was only *one* incident of L1 used as an R/EXT move (i.e. to support an understanding of the aspect of English language which a game practised) (see 4.35). This is similar to the scaffolding function of L1 use identified by Anton and DiCamilla (1999) and the ‘focussing attention’ function identified by Swain and Lapkin (2000). The question remains, therefore, as to why this context should offer so few examples of such L1 usage, especially in comparison to the results of other L2 language learning research.

Firstly, it is important to highlight that the studies mentioned above, as well as Villamil and De Guerrero (1996), each involve contexts in which all learners shared the same L1, and where each language (the L1 and the L2) was afforded a similar social status. The situation is not the same for pupils learning English in the context of U.K. classrooms, wherein learners come to school with a variety of home languages, most of which are not afforded the same status as English, and which are not supported or indeed utilised to the same degree (Bourne, 2001; Gravelle, 2000; Verma *et al*, 1995). Consequently, many pupils, especially in areas like the North-East of England, face a situation in which they cannot use their home language or choose (for reasons of assimilation (see 3.44)) to do so infrequently, in the context of their daily school life. Even in areas with higher bilingual

populations, the problem is sometimes compounded by parental naivety when, for example, they say to their children, “don’t ever speak Panjabi in school, because we want you to learn English” (Verma *et al*, 1995: 96). In such situations, pupils are more likely, I would argue, to form a sharp dichotomy between the environments in which to use their languages (an almost ‘diglossic’ situation (Romaine, 1995; Baker, 1994)), and are more likely, therefore, to conceptualise their learning of English in English classrooms as an activity to be carried out primarily in English.

Interestingly, a study by Broner (cited in Broner and Tarone, 2001) found that when the goal of a learning task focussed on the L2 itself, as in this study, bilingual pupils in a full immersion class used their L2 to much greater extent than in other tasks (cited in Broner and Tarone, 2001). Consequently, the focus of the games in this research could have had a similar impact on pupils’ use of L1.

One may counter these claims by arguing that the manner in which pupils were grouped in this research (i.e. with no more than two same language speakers together in a group) necessarily limited the use of an L1, which a third group member would not have been able to access. This is undeniably true; however, the one grouping with just two members, both of whom shared a home language (B:2, G:2; see 4.31), resulted in an interaction carried out entirely and, rather unsatisfactorily, in English.

This suggests that all of the above judgements may be valid and, given the arguments developed in Chapter 2 in favour of L1 usage as a tool for mediating one’s learning of an L2, would signal that the current emphasis in U.K. policy on learning primarily through the

medium of English may impose a limit on the learning affordances possible in classrooms and, therefore, pupils' opportunity to exploit these (Blackledge, 1994; Rampton *et al*, 2001).

Interestingly, in a recent report to the Education and Skills Committee, when faced with evidence about a very successful project in an inner city London school, where Turkish speaking pupils were being taught science initially through the medium of Turkish, Stephen Twigg (Parliamentary Under Secretary of State for Schools) responded by saying: "where you are talking about recent arrivals arriving with little or no English, engaging the pupils in their mother tongue is important and then moving on into English". He added:

"another London school that I visited recently was Elizabeth Garrett Anderson, which is a girls' school in Islington near to King's Cross with a hugely diverse pupil population. Because of the facilities that they have got they are able to not only allow their Bengali and Turkish girls to continue to be excellent at Turkish and Bengali as well as English" (Oral Evidence to Education and Skills Committee, online transcript, 7th May, 2003).

Perhaps, then, the government is reconsidering their 'bilingual' policy in light of such 'recent' revelations of good practice.

5.5 EVALUATING THE METHODOLOGY

As argued in this chapter, the findings suggest that pupils' L2 language learning *is* facilitated within the research context, and that such learning *is* manifest in pupils' discourse and therefore *is* available for analysis. Moreover, information resulting from the observation and analysis of such discourse, *can* be used as material for a formative assessment of pupils' L2 language learning. Consequently, I would argue that the

theoretically situated methodology adopted in this study was aptly qualified to investigate the research questions.

More specifically, I found that, as hypothesised, board games did facilitate repetition, which, as discussed, fulfils some seemingly influential socio-cognitive functions of L2 language learning. Moreover, and also in line with previous predictions, I found that board games did encourage co-operation and collaboration in most groupings, and did encourage some pupils to provide critical feedback to their peers, which consequently allowed for the observation of pupils' reaction to such feedback. In contrast to another hypothesis, however, I found that the games did not encourage pupils to use their L1 to mediate their learning of English as an L2. As discussed, I suspect this may relate more to macro-factors, such as a school's linguistic climate, than to the micro-context of the research games themselves.

The results also suggest that the situational context (i.e. playing board games together with peers in a teacher-less environment) acted to 'disinhibit' (Donato. 1994) those pupils usually too anxious to talk aloud in English in front of teachers or other native-speaking adults. I feel that the freeing of pupils' voices was a particularly satisfying aspect of this research and allowed teachers a glimpse into pupils' erstwhile concealed personalities and motivations. As Arfah's teacher commented on watching the recordings (as in sections 4.23 and 4.24), "its nice to see her smiling and so involved in an activity ... because in normal class or even in a group in class, she would back peddle, much more serious, not offering to be a leader, or terribly involved."

Of course, this reaction was only made possible by the fact that I had video recorded the interactions. In fact, the recordings not only facilitated feedback to teachers and a dialogic exploration of pupils' behaviour, but also supported an exploration into the reliability of the discourse analysis system adopted in this research (see 3.71). They offered the indispensable opportunity to replay an interaction several times, thereby facilitating an holistic and genetic approach to analysis. The fact that the recordings allowed for a visual as well as audio representation of pupils' participation was vital in appreciating pupils' non-linguistic and paralinguistic behaviour. This was crucial in understanding the multifunctional meaning of pupils' utterances as they related to previous utterances and pupils' verbal and non-verbal reactions to those utterances.

The one aspect of the research procedure which, on reflection and following the fieldwork in School D I would wish to augment, concerns the involvement of pupils post-analysis. Following the opportunity to interview one pupil in their home language shortly after their participation in a game playing interaction, I realised how beneficial such a process could be. It could endorse or strengthen assumptions made in an analysis about a pupil's motivation and goals in playing a game, and support an understanding of the pupil's perceived identity as a learner of English. Nevertheless, I would maintain that the design of this study did have an overall 'fitness of purpose' with regard to the questions posed in this research.

Chapter 6

Conclusion – Analysis as Assessment: A Dynamic Hybrid

INTRODUCTION

To conclude the thesis, this chapter will identify the achievements of this study, and the theoretical, pedagogical, and policy implications resulting from the research findings presented herein. The particular strengths and limitations of the study are also discussed, in light of which, proposals for new directions of research are explored.

6.1 THE PURPOSE AND FOCUS OF THE STUDY REVISITED

In Chapter 1, I argued that the current political emphasis on assessment for the purpose of accountability is unfair to those bilingual and minority ethnic pupils identifiably failing within such assessment arrangements, and hence the government ought now to reconsider the ideological assumptions underlying such arrangements. Or, to paraphrase a famous expression, they should ‘ask not what assessment can do for them (*the government*), but what they can do for the assessed (*the pupils*)’. The purpose of this research was therefore introduced as a means of addressing current inequities and transforming the debate back to a concern for assessment ‘for learning’.

In order to do so, I investigated the use of a microgenetic analysis applied to pupil-pupil talk in the context of game playing as information for a formative assessment of bilingual

pupils' learning. It was hoped that this would create a fair and accessible classroom based formative assessment technique for bilingual and minority ethnic pupils.

6.2 THE STUDY'S ACHIEVEMENTS

In answer to the first research question, the findings of this study revealed that language games designed to elicit interactive behaviour do facilitate L2 language learning. The board games designed for this study promoted an activity in which those bilingual pupils less confident in English were enabled to actively participate in episodes of joint problem solving. This meant they were able to practise using English (and in a few cases their L1) as a tool mediating their learning of English in the solving of language related problems (i.e. they had an opportunity to practise *learning how to learn* in English). As such practice and experimentation is less likely to happen in front of teachers, this study has shown that game playing between peers is an accessible, empowering and supportive context for bilingual pupils in which to learn English and learn how to learn in English. The methods employed in this study to record such game playing meant that I was able to capture this learning 'in flight' in as naturalistic and authentic a manner as possible.

In answer to my second research question, a qualitative microgenetic analysis applied to pupils' interaction during such play was found to be a valuable tool capable of revealing *how* bilingual pupils were learning English, their motivation and confidence in approaching this learning, as well as *what* they had already learnt (as applied to the problem solving situations of a game) or were in the process of learning. In this sense, the system of analysis used in this study captured the dynamic nature of language learning.

Finally, and in answer to the final research question, the information resulting from one such dynamic analysis was used effectively to help guide teaching and learning needs in order to promote a bilingual pupils' learning of English (i.e. as a formative assessment) (Black *et al* 2002). This is an important outcome to the study as there was a real impact on one bilingual pupil's learning and his teacher's understanding of his learning needs. One could argue, therefore, that the study had 'catalytic authenticity' in that it "acted as an impetus [to the teacher] to engage in action to change [a pupil's] circumstances" (Bryman, 2001: 275).

This not only has theoretical and pedagogic implications in broadening our understanding of L2 language learning and assessment of that learning, but also has implications for policy in relation to the teaching and assessment of bilingual pupils in U.K. classrooms. The following sections will explore such implications.

6.3 THEORETICAL IMPLICATIONS

In Chapter 3, I proposed that this research would contribute "to the continuing development of the theory" by extending the scope of its application (Wells, 1999(b): 249). I would strongly argue that the results of this study, as presented in Chapter 4 and as discussed and summarised in Chapter 5, reveal the ways in which this has been achieved. For the purpose of this concluding chapter, however, I will reiterate those aspects of the findings which I believe are the most theoretically significant.

The analyses have revealed that the mediating mechanisms employed by primary age bilingual learners when working and learning together with their peers in the context of U.K. classrooms are largely the same as those employed by adult L2 language learners. For example, pupils participate in episodes of collective scaffolding and collective argumentation, sometimes exploiting more explicitly instructional mediating strategies such as direct elicitation (previously appropriated from pupils' own experiences as novice learners). Consequently, the findings also support the sociocultural contention that learners appropriate not only the language of others, but also the regulatory means by which others use this language as a tool to think and learn in social interactive contexts. This was also shown in the way that some pupils appropriated the mechanisms by which other group members solved the language related problems of a game over the course of an interaction. The findings revealed that repetition was a particularly prevalent and largely natural tool by which pupils mediated their learning of English in peer group interaction.

By investigating the specific socio-cognitive role played by repetition, this research has also strengthened a sociocultural understanding of relationship between speech for inter- and-intramental activity during the social act of learning. It has shown this to be a truly dialectic relationship dependent upon the consequence of speaking as a process and the perception of speech, by both speaker and hearer, as an outwardly verbalised product (see Figure 6, 5.41). Furthermore, it has exemplified in practice, some of the "specifics of the situation" which Wells (1999(b): 250) argued dictates the foregrounding of speech as either private or social in orientation.

In contrast to teacher/pupil interactions, and perhaps some adult learner/learner interactions, the findings reveal that primary age pupils working together with their peers in the absence of a *commonly perceived* authority figure negotiate their own and each other's level and substance of participation simultaneously and in mutual co-dependence with perceptions of power, influence and expertise. This occurs even in groups wherein one player situates him/herself as group expert. Consequently, in symmetrically constructed groups, the provision of *minimal guidance* and *contingent support* (support which is gradually withdrawn and responsibility handed to learner) (Aljaafreh and Lantolf, 1994), identified as key features of successful scaffolding, is of reciprocal concern between players as they negotiate the form and level of support to bid for and accept, and to offer or withhold from each other. Hence, the findings of this study necessitate a reconstruction of what is meant by the terms *graduated* and *contingent* in terms of the operation and enactment of mutual support in contexts of peer group interactive activity.

The fact that players constructed the playing of a game and their participatory roles within that play in different ways, is evidence, I would argue, corroborating the sociocultural contention that a learning task is not the same entity as an activity. This is further strengthened by the findings that interpersonal co-operative behaviour was not predictable prior to play, and that participatory behaviour was not stable over time or grouping arrangement. One could argue, therefore, that this research reinforces the 'situatedness' of learning in light of the findings that who we participate in an activity with (or indeed leave out of an activity), and our social and historical relations with and expectations of them, is instrumental in shaping our participation and exploitation of the learning affordances propagated within that activity.

Finally, I would argue that as well as providing a unified conceptual framework in which to understand learning, sociocultural theory has also proven to be a particularly effectual analytical framework in which to analyse and therefore assess that learning. As Mercer (2002: 152) argues:

“a sociocultural perspective helps avoid any tendency to attribute problems or solutions to the separate actions of teachers or learners, or to account for events without reference to the historical, cultural and institutional frameworks in which they take place.”

Hence, sociocultural theory provides a powerful lens through which to view and understand learning and hence is a constructive tool in assessing that learning. By hybridising the process of sociocultural analysis with the pedagogic process of formative assessment, I believe that this research has contributed a valuable extension to the scope of application of sociocultural theory.

6.4 PEDAGOGICAL IMPLICATIONS

One of the most important findings in terms of pedagogy resulting from this study is that primary age bilingual pupils can and do (although not always) work together in small groups to learn English. Moreover, even (and perhaps in some cases because of working) in the absence of a commonly perceived figure of authority, such as a teacher, pupils are able to remain largely on-task, exhibiting principally positive and co-operative behaviour.

As previously argued, however, pupils' interpersonal and intermental behaviour cannot be predicted prior to activity instantiation. Indeed, the findings support L1 research in revealing that some pupils were unable to participate effectively in collaborative tasks and

may need training in what Mercer (2002: 148) describes as ‘talk lessons’ in order to raise their “awareness of how they talk together and how language can be used in joint activity for reasoning and problem solving.” Of course, the research scenario is an effective context in which such information can be revealed for formative use. The findings imply, therefore, that grouping pupils for collaborative learning is a profitable but challenging exercise. They also suggest that grouping two same language pupils together will not always result in the use of L1 as a tool mediating their learning of English, especially during tasks which focus on an aspect of English language learning.

The findings about how pupils work together to solve language-related problems (i.e. their reciprocal negotiation of power and support) suggest some important criteria for teachers wishing to encourage exploratory talk. Firstly, they suggest that teachers need to be aware of the metalinguistic power of ‘teacher talk’, as this is likely to be appropriated by pupils as an intra-and-intermental tool for their own thinking and learning activity. Furthermore, the findings suggest that, in talking with pupils, teachers should forgo their powerful position as expert and attempt to devolve power to the pupils in order that the pupils (especially those who have less experience of English) have an opportunity to ‘try out’ (Mercer, 2000) the teacher’s talk for their own learning. In effect, this would provide an opportunity for teachers to observe this important process in action, just as I was able to (retrospectively) observe pupils appropriate the mediational means of other pupils within the group interactions. Interestingly, there is some early evidence to suggest that the use of interactive whiteboards within classrooms can change the relationship between pupils and teachers in that the teachers are no longer perceived as the ‘fount of all knowledge’ (a value re-ascribed to the computer and internet), but are perceived more as ‘facilitators’ (Goodison, 2002).

As previously argued, the results also demonstrate that thoughtfully designed board games facilitate engaged L2 language learning and hence the opportunity to observe and analyse that learning. This is very interesting when one considers that “modern society is very keen to portray play as separate from worthwhile activities such as learning” (Cook, 2000: 186). The findings clearly indicate, however, that far from being an impediment to attention and learning, collaborative play, even within the walls of a classroom, is an enhancing and empowering vehicle for learning.

Another important finding resulting from this study is that video recorded evidence of pupil-pupil interaction during the act of learning can be gainfully transcribed and then analysed to reveal insightful information about pupils’ L2 language learning. By adopting a filter approach (see 4.5), this information can subsequently be used as a constructive guide to future teaching. Unfortunately, the processes of transcription (including translation if necessary) and analysis are both demanding and time-consuming and are not, therefore, particularly feasible in today’s busy classrooms. Consequently, I would suggest that this assessment technique would be most profitably employed as a means of assessing the learning and teaching needs of those bilingual pupils about whose progress in English the teacher is most concerned, or who are the most reticent to interact in class and whose learning, therefore, the teacher has little opportunity to evaluate. I would also suggest that EAL specialist teachers, whose time may be more flexible and who have more experience of EAL pupils’ learning needs, would be the most appropriate individuals to undertake such an assessment process within a school.

It is vital to stress that this assessment technique is not to be used in isolation but should form part of an overall record of learning in different social and cultural contexts.

Concomitantly, the results of any analysis must be presented to a class teacher (presuming she did not carry out the analysis herself) and discussed, preferably together with a bilingual specialist (should the teacher or EAL specialist not be bilingual), in light of all their experiences with and knowledge of the pupil. This dialogic activity is key to validating the interpretation of any analysis as a pedagogic guide (refer to 5.31).

6.5 POLICY IMPLICATIONS

As an EAL specialist teacher, I found myself faced with the regular duty of placing bilingual pupils at some stage or level of attainment. The world of EAL teaching, it would seem, has also become fixated with summative forms of assessment in attempts to define a set of homogenous, hierarchical steps ostensibly common to the L2 learning experience of all bilingual pupils. The primary motivation in developing such summative assessments relates to the consistent demands for public accountability placed on local education authorities to ensure that support services are providing 'value for money'. Unfortunately, the National Curriculum levels of achievement were devised to reflect the educational progress of monolingual English speaking pupils. Consequently, the 'space in between' levels is often too large to reflect the actual progress of bilingual pupils and, as Levine (1990: 279) argues, "the assessment procedures make it very difficult for the early stages of progress in developing the use of a second language to be recognised and formally acknowledged as successful learning."

In an attempt to address this concern, QCA (2000) published the now contentious document, 'A Language in Common', which explores developmental stages prior to the English National Curriculum level 1. Another attempt at producing a more appropriate summative assessment was made by NASSEA (Northern Association of Support Services for Equality and Achievement) who developed the 'EAL Assessment' system which charts bilingual pupils' typical language development and how this might relate to National Curriculum English.

Unfortunately, none of these summative assessments can show *how* a pupil is learning English, nor address the issue of how one's teaching of a pupil can be altered to promote such learning. As Gravelle and Sturman (1994: 65) note, "it is far more useful to observe what children do in different contexts and situations in order to make decisions about how to support their language development, than simply to describe their stage."

Although I appreciate the need for some form of accountability, I believe that the current emphasis on summative assessment within the field of EAL has obscured the compelling need for continued formative practice in attending to the day-to-day needs of bilingual pupils and their teachers. Black and Wiliam (1998: 18) argue that reliance upon externally devised summative forms of assessment "runs deep" in U.K. classroom culture: hardly surprising when one considers that "the introduction of the National Curriculum placed far more emphasis on supporting the summative function of assessment" (Black and Wiliam, 2003: 626).

This research suggests that formative assessment carried out in the manner and context described (i.e. a microgenetic analysis of peer group game playing interaction) is an effort worth pursuing especially for those bilingual pupils who are reticent to talk in front of teachers and whose level or path of progression is causing the most concern. This ‘analysis as assessment’ technique is capable of revealing more than the *how* and *what* of learning; it can also reveal motivational factors, pupils’ self-confidence in approaching aspects of their learning, and the construction of their identities as learners of English. In other words, an assessment based on this technique acts ‘prospectively’ (Aljaafreh and Lantolf, 1994), which, as argued in chapter 2, is a necessity as it gives us the tools to appreciate where to go to next in our teaching as well as how to get there. In short, the guiding message for policy makers resulting from this research is rather than making the “easily assessable important”, efforts such as this study should be concentrated on making “the important assessable” (CATS, 1991: 7).

6.6 STRENGTHS AND LIMITATIONS OF THE STUDY

As previously discussed, a limitation of this study is the restricted number of schools in which recordings took place and the fact that all schools were situated in one Borough of England. This may impact on the external validity of the research, although, as discussed, the thesis provides a rich information ‘database’ on which researchers and practitioners could base judgements of transferability (Robson, 2001).

Another limitation of the study, or more precisely an aspect of the research which was limited, concerns the involvement of pupils ‘post-analysis’. I can now appreciate that talking with pupils about a game (and their participation in it) shortly after they have

played it, could enhance the analysis procedure, adding valuable insight into pupils' motivations and expectations. Moreover, it could offer the pupils themselves an opportunity to reflect upon and develop their thinking about a game, or an aspect or problem of language learning raised during the playing of a game. It may also, therefore, raise some interesting ideas for adjusting and creating new games. This would be a valuable extension to the procedures employed in this study.

There were, however, other methods employed in this study to counteract the lack of such respondent-validation (as described in 3.71). In fact, I would argue that one of the strengths of this research was the effort made to ensure the credibility of the interpretive analyses. Firstly, I opened the research methods and analyses to public scrutiny in presenting papers at two research conferences and holding two discussion sessions. Secondly, I situated the research within a theory which provided a conceptual framework in which to understand the role of talk in thinking and learning (which subsequently impacted on all aspects of the research design) and an analytical framework in which to analyse such talk. Consequently, analytic interpretations were substantiated both professionally and theoretically, thereby enhancing the study's credibility (i.e. internal validity). Indeed, I would argue that the richness, depth and authenticity of the interactions and analyses presented in this thesis constitute a major strength of the study.

Another strength of this research, I would argue, has been the capturing of pupils' voices, especially those bilingual pupils whose voices are rarely heard by adults in the school environment. The reaction of some of the teachers who viewed the recordings or were presented with the results (as exemplified in 5.5), demonstrated the power of those voices

and the empowering nature of using such analyses as assessment material. Sociocultural analysis (of game playing behaviour) as a formative assessment is, therefore, both a dynamic and empowering hybrid.

6.7 PROPOSING FUTURE RESEARCH

One of the ideas for extending this research emanated from the first discussion session (see 3.71) when I was asked if I would expect a different ‘outcome’ if the games focussed on the N.L.S. ‘context level’ (i.e. related to stories and the meaning of texts), particularly if these reflected more English or European experiences (see Appendix 9). In fact, I believe that a microgenetic analysis of pupils’ interactive behaviour in playing games made to practise various curriculum areas would provide illuminating evidence as to how bilingual pupils approach the learning of these subjects and, in particular, the role of their first language in mediating this learning. This could provide significant support to teachers wishing to improve their teaching of a subject to particular groups of bilingual pupils. It could also broaden the scope of application of sociocultural theory.

I also suspect that the type of microgenetic analysis used herein could prove useful in tracking pupils’ progress over a longer period of time than allowed for in this study. This would strengthen and extend our understanding of the use of such analysis as a formative assessment tool. Hence, it may be appropriate to devise a more longitudinal case study, involving fewer pupils.

Finally, I believe it would be possible to create games which teach and practise ‘thinking skills’ (i.e. the use of language as a tool mediating particular problem solving and reasoning activities) (McGuinness, 1999). This could be examined in practice by applying a similar sociocultural analysis to peer group interaction during such activities. The weaving of a sociocultural theory of mind into a study of ‘thinking skills’ would, I suspect, be a profitable and enlightening endeavour.

6.8 CONCLUDING REMARKS

I would argue that the principal way in which this study has contributed to the field of educational research is by showing that analysis of talk (when viewed through a sociocultural lens) can contribute valuable information about *what* and *how* bilingual pupils learn English and that this information can be used directly to inform teaching and learning needs. In effect, therefore, this study has prompted a recognition that assessment can include a concern for the *processes* of learning (as well as its products) as it occurs *between individuals* in social interactive contexts such as game playing (as well as in an individual’s solo performance) (see 2.7).

Ultimately, this study has reinforced the sociocultural view that learning is a socially and culturally situated activity in which language, and especially spoken language (both internally and externally oriented), is a key unlocking our potential. Language mediates our thinking, understanding and perception of the world, our own and others’ role within that world, and our sensibilities towards the world and people’s roles within it. Imagine then, learning new subjects alongside a new or unfamiliar language in a new and different cultural and social context, entirely through the medium of this new language. This is the

immense challenge faced by bilingual pupils in schools across the U.K. This thesis contributes to our understanding of how such learning is made possible and supported within peer group interaction in the context of game playing, and how this learning is revealed through the microgenetic analysis of pupils' interactive activity.

If we, as teachers and researchers, are to support bilingual pupils' learning of English, then we must begin to develop assessments of, and for, learning which acknowledge the inescapably powerful role of language and which capture the dynamic process of learning as manifest in social interactive activity. I believe that by enfolding a sociocultural theory of mind within the paradigm of educational assessment, this thesis contributes a significant step towards such an objective.

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Appendix 1

Lidz's (1991) Twelve Component Behaviours of Adult Mediating Instruction

1. *Intentionality*: Consciously attempting to influence the child's actions. This involves making efforts to keep the interaction going, engage the child's attention, inhibit impulsive behaviour, and maintain goal orientation.
2. *Meaning*: Promoting understanding by highlighting for the child what is important to notice, marking relevant differences, elaborating detail, and providing related information.
3. *Transcendence*: Helping the child make associations to related past experiences and project him/herself into the future.
4. *Joint Regard*: Trying to see the activity through the child's eyes
5. *Sharing of experiences*: Telling the child about an experience or thought that the mediator had and about which the child is not aware.
6. *Task regulation*: Manipulating the task to facilitate problem solving: stating a principle of solution or inducing strategic thinking in the child.
7. *Praise/Encouragement*: Communicating to the child, verbally or nonverbally, that he/she has done something good.
8. *Challenge*: Maintaining the activity within the limits of the child's ZPD. This implies challenging the child to reach beyond his or her current level of functioning, but not so much that the child will feel overwhelmed or get discouraged.
9. *Psychological differentiation*: Keeping in mind that the task is the child's and not the mediator's; that the goal is for the child to have a learning experience, not the adult. Avoiding competitiveness with the child.
10. *Contingent responsivity*: The ability to read the child's behaviour and to respond appropriately.
11. *Affective involvement*: Expressing warmth to the child: giving the child a sense of caring and enjoyment in the task.
12. *Change*: Communicating to the child that he/she had made some change or improved in some way.

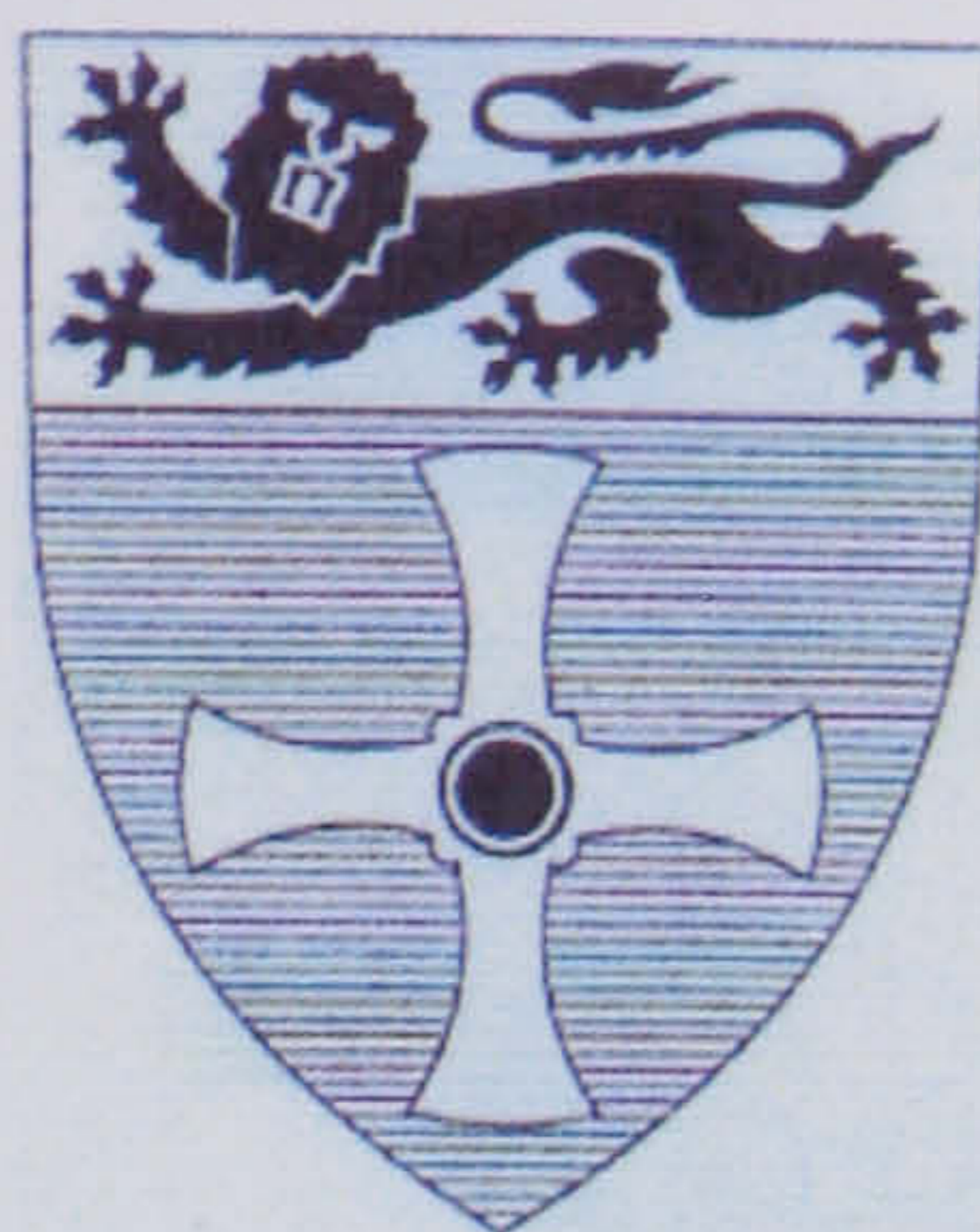
(Slightly modified from the version in [De Guerrero & Villamil, 2000: 52])

Appendix 2

Handout to Teachers

This appendix contains the document handed to teachers in each of the research schools in order to elicit their interest and support prior to agreeing to my presence in their classrooms.

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Overview of Research

I am a second year full time PhD student at Newcastle University in the Education department. My research concerns the assessment of bilingual pupils in UK primary schools. I am attempting to devise a discourse analysis system as a formative assessment tool. As you may have some questions to ask me, I have written this summary of the approach adopted in this study.

What sort of assessment is it?

This is a formative assessment system that does not relate to current National Curriculum, or National Literacy targets. It is not a hierarchical list of attainment. It does not separate the skills of 'listening' and 'speaking'. It takes an holistic and qualitative approach. It acts to assess meaningful and authentic language use in the classroom. The assessment acts as a key to understanding how pupils are learning English as an additional language, e.g. which strategies they are using. This information is invaluable in determining the teaching and learning needs of individual pupils.

It has been devised specifically for bilingual pupils of primary school age (although it may also prove useful for older pupils new to English).

How does the assessment work?

The assessment is based on small groups of pupils playing simple track games, which are adapted to promote L2 language learning. The games are based on National Literacy targets and are to be used as a regular pedagogic tool, i.e. as a normal part of the Literacy Hour.

The focus of the assessment is the actual playing of the game. The groups' interactions will be video recorded with a hidden camera (for which I will have sought and gained prior parental permission), and then transcribed as a written document. A discourse analysis system, i.e. a special coding classification will then be applied to the transcripts, so that each pupil's 'move' (meaningful utterance) is coded according to the system.

Once the entire transcript is coded, a qualitative perspective is then adopted, i.e. questions are asked as to the 'who what, where, when and how' of player's interactive moves. It is during the coding process and subsequent qualitative analysis that certain strategies and

learning processes come to light. It is hoped that these may act as a useful formative assessment.

What is the purpose of the study?

During my work as a primary teacher and as a teacher of bilingual pupils, in UK, Zimbabwe, and New Zealand, I have always believed in the value of games as a teaching tool. I have never been convinced of the value assigned to hierarchical summative statements of achievement, however, and in particular, the method of ‘testing’ knowledge as a means of uncovering a so-called level of achievement; the SATs being a particularly simplistic and yet ‘high-stakes’ example of such an approach.

Recent research statistics clearly demonstrate that some bilingual pupils are ‘failing’ within the current education system [Educational inequalities in mapping race, class and gender: OFSTED, 2000]

This study is an attempt to refocus attention back to the processes of learning and the use of assessment as a guide to future teaching. It is hoped that this system can be developed into a fair assessment tool for bilingual pupils in UK.

What are the tenets underlying this research?

I believe that if one wishes to understand and/or assess a pupil’s learning, then one must observe that pupil during the process of learning and not just the so-called outcome of learning.

I also believe that a fair assessment is one based on tasks that are facilitative of learning.

Finally, I believe that assessment must be about more than hierarchical lists of achievement and the balance between summative and formative assessment must be redressed.

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Appendix 3

Letter to Parents

This appendix contains the basic letter offered to each school requesting permission from parents to video record their child. Each school altered the letter according to their own contextual needs.

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Department of Education
University of Newcastle

Dear Parents,

I am a research student at Newcastle University and will be working in your child's school for about two weeks. I am trying to develop a system for assessing children's talk. This means that I will need to video record some pupils in the school, as they work together in small groups. The videotapes will not be shown to anyone except myself and the classroom teacher. If you do not want your child to be video recorded, please reply to this letter and I will not include your child in the research project.

Yours sincerely,
Heather Smith

I do NOT want my child to be video recorded

Appendix 4

The Research Context – Groups of Pupils

This appendix correlates information about each pupil chosen for recording in each school, and the games they played during recording. The exact nature of each game is described in Appendix 7.

Information is given as to each pupil's first language, the length of time they have been in the school up to the date of recording, and any other relevant information regarding their length of stay in this country. The English level assigned to each pupil in schools A, B and C was the level recorded by EAL specialist teachers according to local education authority protocols. It is a general summative assessment level, reflecting an aggregation of fluency across all aspects of English language learning, i.e. speaking and listening, reading and writing. Stages 1-2 are thought to represent behaviour exhibited by pupils new to English, whereas levels 6/7 are said to be representative of pupils who have reached 'native competency' in English. It is important to stress, however, that the EAL specialist teachers in schools, A, B and C could not testify to the accuracy of such levels. Statistics of this nature were not collected by School D, probably due to the number and arrangement of bilingual pupils and specialist staff in this school.

In order to simplify subsequent referencing, each recording will be abbreviated as follows; recording number 1 in school C, of a group playing game 3, will be abbreviated as (C:1, G3). The pupils whose names are written in bold are those pupils who were specifically targeted for analysis (i.e. those about whose L2 language learning, class teachers wished to learn more).

SCHOOL A (see 3.6)

Recording number 1, year group 3, game 1 (A:1, G1)

Pupils	Sr (girl)	Is (boy)	Sa (boy)
1 st . language	P/U	Bengali	Berber (Algerian)
English level	3	4	6
Time in school	3yrs.	≈2 yrs.	No information
Other information	Extended visit to Pakistan in July 2001		

Recording number 2, year group 3, game 1 (A:2, G1)

Pupils	S (boy)	Sa (boy)	I (boy)
1 st . language	Bengali	English	Bengali
English level	4/5		4
Time in school	3yrs.		≈2 yrs.
Other information	Extended visit to Bangladesh October, 2001	Chosen by S and I	

Recording number 3, year group 5, game 1 (A:3, G1)

Pupils	M (boy)	Ma (girl)	H (girl)
1 st . language	Bengali	English	Bengali
English level	4		5
Time in school	1 yr.		5yrs.
Other information	Went to his 1 st primary school in U.K., then spent 3 years in Bangladesh		

Recording number 4, year group 4, game 1 (A:4, G1)

Pupils	B (boy)	S (girl)
1 st . language	Kurdish	English
English level	3/4	
Time in school	1 yr.	
Other information	Allegedly no previous schooling	

THIS RECORDING IS NOT EXEMPLIFIED IN THE RESULTS CHAPTER TO AVOID REPLICATING ARGUMENTS THUS FAR CONSTRUCTED IN THE TEXT, I.E. THE ANALYSIS WAS VERY SIMILAR TO OTHER GAME ONE INTERACTIONS.

SCHOOL B (see 3.6)

Recording number 1, year group 5, game 1 (B:1, G1)

Pupils	S (girl)	D (girl)	A (girl)
1 st . language	Bengali (Sylheti)	Bengali (Sylheti)	Xhosa (South Africa)
English level	2	6	7
Time in school	1 yr. 1 months	2 yrs. 1 months	3 yrs. 1 months
Other information	Arrived in school from Bangladesh	Previous U.K schooling, born in U.K.	Fluently bilingual

Recording number 2, year group 4, game 2 (B:2, G2)

Pupils	K (boy)	F (girl)
1 st . language	Mirpuri	P/U
English level	3	3
Time in school	4yrs. 3 months	3 yrs. 1 month
Other information		

Recording number 3, year group 4, game 2 (B:4, G2)

Pupils	D (boy)	T (girl)	Sh (girl)
1 st . language	Croatian	Serb-Croat	P/U
English level	2	2	7
Time in school	2yrs. 1 month	2yrs. 3 months	5yrs. 2 months
Other information			

Recording number 4, year group 4, game 2 (B:3, G2)

Pupils	D (boy)	T (girl)	O (boy)
1 st . language	Croatian	Serb-Croat	P/U
English level	2	2	7
Time in school	2yrs. 1 month	2yrs. 3 months	5yrs. 3 months
Other information			

Recording number 5, year group 5, game 2 (B:5, G2)

Pupils	S (boy)	E (girl)	M (boy)
1 st . language	English	Farsi	Farsi
English level		2	3/4
Time in school		1 yr. 3 months	3yr. 3 months
Other information		Had attended the school for a short time before returning to Iran	

Recording number 6, year group 5, game 2 (B:6, G2)

Pupils	U (girl)	Y (boy)	H (girl)
1 st . language	Arabic (Iraq)	Mandarin	English
English level	1/2	1/2	
Time in school	1 yr.	1 yr. 1 month	
Other information			

Recording number 7, year group 5, game 2 (B:7, G2)

Pupils	R (boy)	D (girl)	H (girl)
1 st . language	Serbo-Croat	Serbo-Croat	English
English level	2	1/2	
Time in school	2yrs. 7 months	6 months	
Other information			

EXTRACTS FROM THIS INTERACTION ARE NOT INCLUDED IN THE RESULTS CHAPTER AS THE TAPE RECORDING WAS CUT SHORT AND NOT ENOUGH MATERIAL WAS AVAILABLE.

SCHOOL C (see 3.6)

Recording number 1, year group 5, game 1 (C:1, G1)

Pupils	H (boy)	Ah (boy)	Ar (girl)
1 st . language	Malay	Arabic	Bengali
English level	3/4	2	4
Time in school	6 months	10 months	≈5 ½yrs.
Other information		Short time in 2 other schools in U.K.	

Recording number 2, year group 5, game 1 (C:2, G1)

Pupils	P (boy)	D (boy)	Ar (girl)
1 st . language	Czech	Czech	As above
English level	1	2/3	"
Time in school	1 yr. 6 months	≈2 yrs.	"
Other information			

Recording number 3, year group 3, game 3 (C:3, G3)

Pupils	V (boy)	A (girl)	S (girl)
1 st . language	Czech	Malay	Nepalese
English level	1	1	1/2
Time in school	≈1 ½ yrs.	2 months	4 months
Other information			

Recording number 4, year group 3, game 3 (C:4, G3)

Pupils	A (boy)	M (boy)	K (girl)
1 st . language	Bengali	Bengali	English
English level	3/4	2/3	
Time in school	3yrs. 6 months	4 months	
Other information		Came to school from Leeds, and an extended visit to Bangladesh	

Recording number 5, year group 3, game 3 (C:5, G3)

Pupils	N (girl)	S (girl)	K (boy)
1 st . language	Bengali	Czech	Arabic/English
English level	4	1	*not appropriate at time of recording
Time in school	3yrs. 6 months	4 months	1 month*
Other information		Attended school in Margate	*Lived in U.K. with English speaking Mother then went to Dubai, learnt Arabic and attended Arabic school. Recently returned to U.K. to live with his mother again.

SCHOOL D (see 3.6)

Recording 1, year group 3, game 4 (D:1, G4)

Pupils	R (girl)	A (boy)	E (boy)
1 st . language	Bengali	Bengali	Turkish
Experience in English	N/A*	N/A*	Level 1/2
Time in school	3 yrs. 5 months	3 yrs. 5 months	1yr. 5 months
Other information			Some confusion over schooling in Turkey

Recording number 2, year group 3, game 4 (D:2, G4)

Pupils	D (boy)	S (girl)	T (girl)
1 st . language	Mandarin	Bengali	Bengali
Experience in English	Level 1	N/A*	N/A*
Time in school	2 months	3yrs. 5 months	3 yrs. 5 months
Other information	Returned to China 2 weeks after recording		

EXTRACTS FROM THIS INTERACTION WERE NOT INCLUDED IN THE RESULTS CHAPTER AS THE TARGETTED PUPIL LEFT THE COUNTRY

SHORTLY AFTER RECORDING, AND THUS THE ANALYSIS COULD NOT BE USED AS MATERIAL FOR A FORMATIVE ASSESSMENT.

* I was unable to obtain information concerning pupils' English language levels as they were not recorded in this school in the same manner in which they are recorded in schools elsewhere in Newcastle.

Appendix 5

Example Statistical Tables Quantifying Discourse Analysis Moves

This Table correlates the number of times each player in interaction (C:4, G:3), makes each CTDPM move for Game 3 (see appendix 7, (A7.33) for moves descriptors for Game 3).

<u>moves</u>	C	C(i)	C(ii)	T	T(i)	T(ii)	D	D(i)	D(ii)	P	M	M(i)	M(ii)	totals
<u>A</u>	11	5	4	10	4	2	23	13	8	1	18	11	7	63= 29.7%
<u>M</u>	14	10	4	4	1	1	15	12	3	0	17	9	8	50= 23.6%
<u>K</u>	26	6	18	15	4	7	17	7	10	10	31	8	23	99= 46.7%
totals	51			29			55			11	66			212

This table correlates the number of times each player makes each R (and EXT) move for Game 3.

<u>moves</u>	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	EXT	totals
<u>A</u>	6	0	7	0	8	2	0	0	0	0	1	0	0	0	24= 25.5%
<u>M</u>	3	0	10	0	5	2	0	0	0	1	0	0	0	5	26= 27.7%
<u>K</u>	4	0	20	0	13	3	0	0	0	0	0	1	0	3	44= 46.8%
totals	13	0	37	0	26	7	0	0	0	1	1	1	0	8	94

The numbers written in bold in each table are those which reveal an interesting pattern of participation. It is this information, together with overall patterns of play, which provide 'the leads' for further qualitative investigation. So, for example, it is interesting to note that Maruf (player M) contributed the least number of CTDPM moves overall (23.6%), but made more 'R' moves than Adnan (player A) (27.7% versus 25.5%). This would suggest,

therefore, that he was interested in contributing to the language problem solving aspects of the game, and was not just playing to have fun.

Another example, which resulted in an interesting and revealing line of questioning, is the number of times Maruf made R3 moves (forming a compound word). On closer investigation of the exchanges in which these moves occurred, it was found that half were repetitions of compound word constructions made by other players. The key questions I asked, therefore, were, ‘why did Maruf make so many repetitions?’ and ‘how did he go about doing so?’ (i.e. quietly to himself as private speech, or perhaps with rising intonation addressed to another player acting as a confirmation check or validation request). In order to answer these questions, each interactive episode in which such repetition occurred was temporarily extracted from the main transcript and subjected to closer, and deeper analysis. This analysis revealed that Maruf had used repetition as a mediational tool in attempting to associate each compound word with linguistic and non-linguistic images in memory. As such repetitions were often accompanied by mimes, gestures and sounds, it seemed probable that these links in memory incorporated both visual and oral imagery. Once voiced aloud as private speech, and an internal association formed or not, Maruf then acted to support or challenge another player’s assertion regarding the validity of a word (see 4.43 for an elaborated analysis of this interaction).

Appendix 6

Transcript of Interview with Class Teacher (DM) in School A, following Analysis of Interaction (A:1, G:1) - Recorded 9/11/01

The following transcript is given in two sections. The first section was recorded after having demonstrated the game and explained the associated moves descriptors, but prior to relaying the results of the analysis. The second section was recorded following feedback of the analysis results.

Part 1 - Predicting Participatory Behaviour for Isathiaq, Saira and Samy

HS: Given the game, the pupils, and the moves, what kind of outcome would you predict?

DM: I should think there'd be quite a lot of turn taking ... ehm.. conversation

HS: More so than other moves?

DM: Yeah, yeah. Turn taking I would think would probably come into it quite a lot, cos it often does at this age. Ehm I would think quite a lot of reading the words on the cards or dice and naming the pictures that would certainly get them motivated. Ehm were they asking you or just themselves?

HS: Asking me what?

DM: well for instance with R2 were they asking..

HS: I wasn't present

DM: you weren't present, no, so I don't think there'd be an awful lot of that. They would if there'd been an adult present, there would be that sort of thing I think.

HS: so you don't think they would have seen Samy as someone with more expertise possibly?

DM: well, yes but not, not as much as you might hope, or err that they could make use of.

HS: right

DM: neither of those children perhaps would, I may be quite wrong. Ehm I think there would be quite a lot of discussion about the position of counters on the board. That always seems to get children going, I think there would be from all three of them probably. Ehm the actual throwing of the dice...

HS: I mean obviously you only throw the dice once, so that's it really

DM yeah, yeah

HS: unless they're arguing about it

DM: I think perhaps not as much there. Ehm...

HS: what about individual children in that group? What do you see as being for example, Saira's or Isathiaq's major problems, disadvantages or positives?

DM: Possibly the construction of the sentences, because Isathiaq often misses words out, and Saira often can't think of the correct word, or an appropriate word.

HS: How does she deal with that when she can't think of the word?

DM: she usually just smiles at you

HS: okay. At you.

DM: yeah, yeah

HS: so you're talking about when she talks to you

DM: that's right, but I don't know what she does with other children of course

HS: very interesting. That's a very interesting comment. And what does Isathiaq, does Isathiaq usually face those problems? He can't think of the word?

DM: yes, but if he can't he'll say, he'll say I don't know the word, or or or.. He sometimes can think round it, in fact more so I've noticed this term than last year when I worked with him.

HS: ok and you're talking one to one with him?

DM: yes yes. Ehm but he's gaining in confidence quite a lot. Ehm Samy is quite shy, but he doesn't have the same problems as the others. He occasionally does get the grammar wrong or can't think of the right word, but he's usually got so much ehm background vocabulary or extension vocabulary that he can overcome that without it being a problem really.

HS: There's obviously a lot of talking in his family.

DM: yes yes there is. A lot! His mum and his sister hardly stop!

HS: what about particularly the more difficult R moves like perhaps, reconstruction or disagreement of a construction, extending a construction or reconstructing a sentence? Who do you think would have preformed those best or the most often?

DM: Well funnily enough I would suspect that Isathiaq might do quite a bit of that because he's becoming so much less shy and so much more conscious of what is correct or acceptable. Ehm Saira can be quite argumentative, but whether she would do that about what people actually are meaning and the construction of sentences?

HS: ehm what about ehm co-operative moves? What about helping other each other players and just generally being nice? I mean co-operative moves can be in the CTDM, "OH you're in the lead" You know.

DM: yes... I think both Saira and Isathiaq would probably do quite a bit of that sort of thing.

HS: right they'd be quite positive and co-operative

DM: yes. Samy would know it and recognise it but he might not say it.

HS: right. Do you think there would be any other way Samy may be acting co-operatively in the game?

DM: he'd be passing things on, he would know exactly when to pass things on. Mind you the other two aren't bad at that sort of thing. I mean there are far worse children, but I think, yeah, he would have an eye on the routine of the game

HS: do you think there would be anybody who would be particularly helpful in constructing the sentences in the first place?

DM: well probably Samy is better than the other two. Ehm..

HS: do you think he would take a lead in that?

DM: But he might, no he might not. And you see Isathiaq when an adult isn't there is probably even better... err ... I know he has been shy in the past but he's coming out of it so probably when he's not got the adult to make him feel whatever he feels, insecure or whatever, he might be better. And Saira can be the calling out type! You know, despite the fact that she sometimes feels insecure during whole lesson time, in her little group I know that she can, she's got the measure of those boys

HS: yes yes Okay that's really interesting. I think you'll be really surprised!

DM: (laughs) I've no doubt I will be yes.

Part 2 - Reaction following feedback of results

DM: I'll be able to encourage Saira err.. to use what now I know she's got, this ability ehm instead of just, yeah, just not trying..

HS: and holding on to the teacher's leg all the time

DM: yeah.... Or choosing a partner who she knows will do it all for her.

HS: yes she needs somebody who respects the fact that she does know how to do it, orally

DM: Yeah

HS: I mean her verb tense changes were very good, her attempts were very good.

DM: and particularly that abandoning thing with Isathiaq, I'll, I'll ehm try and home in on that, because as you say that's so poor that it really needs to be addressed. He's got into a way of doing that obviously.

And you see that is possibly because they don't use English at home, ehm and if they're not using English at home then he hasn't got the practice, the modelling just for simple things like that. I mean, err when you make the bed you put your pillow on the top or underneath or whatever, that Saira would hear every day because they do use English at home and she's the youngest of four, and Isathiaq is the oldest of three. Mind you he does have a lot of cousins and uncles and aunts, but I'm not sure I think they probably don't speak English any more than his parents do with him at home.

HS: What is useful for him and Saira, both of them, use the scaffold provided by somebody else.

DM: yeah

HS: he really he did incorporate a lot and that's a good strategy that he's using

DM: so to encourage more group work for him, well like I do for everyone else for one reason or another, is a good thing for him.

HS: yes it is. With a good scaffold, and an opportunity to talk within the task, so that talk is a part of it as opposed to, "well you can if you want to"

DM: Yes.

HS: and make it so that the task requires talk and that talk would be of the kind that would scaffold the language, so he would benefit. And generally, as teachers, if I was continuing to come in I would make sure I listened to the full thing he was saying and then encourage him to use a clarification request, say.

DM: yes

HS: or get him to explain his sentence. Not just through recasts but asking him, "oh and what did they do then?" or ... to finish it, like Samy did!

DM: yes! We'll all have to take a leaf out of Samy's book.

HS: so my final question Dinah is ehm, what do you think of the system, and do you think it would be useful to you as a classroom teacher, if somebody could do this for you?

DM: OH now there you've answered the question right at the end of the sentence! If someone else came and did it, it would be brilliant because then I could have a profile on

each child, particularly the ones I was concerned about in their language acquisition and use, ehm, but I know that I just couldn't do it myself.

HS: no its not for teachers

DM: but it would be wonderful, I'd love to sit back and you know, do all that you've done here, that would be interesting, but not when I'm teaching

HS: yes the only way would be if the school prioritised talk and somebody within the school was given time to do it, otherwise the system would only be devised for specialist teachers like Alison.

and what I'm saying is, are they (*the strategies employed by the pupils*) useful to you?

DM: yes. They are useful because they're getting ehm a lot more out of the children than we as teachers as adults intervening, or even just being there, being there is an intervention that prevents all sorts of things, ehmm they wouldn't be as free with their speech, as you pointed out earlier. And we miss so much don't we? By just being there, let alone by talking and interjecting and cutting them off

HS: and they don't speak to each other they only speak to you

DM: yes

HS: they only address you and then you miss it

DM: yes yes Well that's cos we're always saying, "don't talk while I'm talking"

HS: yes!

Appendix 7

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Appendix 7

The Research Games and Corresponding Coding Systems

INTRODUCTION

This appendix will describe each of the research games produced for this study, outlining the National Literacy Strategy teaching objectives whence each game's learning objectives arose. I shall also list the main learning features, or behaviour blueprints, which were predicted to result from participation in each game.

The discourse analysis moves descriptors particular to each game, will also be detailed. It is important to recall that, although the basic framework remained the same for each game, the 'gaming' moves and the 'R' and 'extension' moves were specific to each game. These moves descriptors are a reflection of both predicted patterns of behaviour and behaviour actually produced in recorded interactions between pupils playing a game (see 3.52). The gaming moves are indicative of the physical acts required to carry out a game, such as the rolling of a die, whilst the 'R' moves directly correspond to the behaviour (linguistic and other) necessary to carry out a game's problem solving forfeits. The 'EXT' moves are moves which extend the 'R' moves of a game's forfeits.

Before introducing each game, it is important to reiterate that each game was designed to facilitate equity amongst participants, resulting in more symmetric style interactions, and to focus simultaneously on language form and meaning.

A7.1 GAME ONE - 'HAVE FUN WITH VERBS'

This game was originally devised for a year three class, but was later adapted to suit years four and five, and the corresponding literacy objectives, which may have included year

three literacy targets backtracked as appropriate for particular bilingual pupils in years four and five.

A7.11 Teaching and Learning Objectives

The National Literacy Strategy Teaching Objectives

Year 3, term 1, sentence level work -

“Pupils should be taught:

to use verb tenses with increasing accuracy in speaking and writing, e.g. catch/caught, see/saw, go/went, etc.”

Year 3, term 3, sentence level work –

“Pupils should be taught:

to ensure grammatical agreement in speech and writing of pronouns and verbs, e.g. I am, we are, in standard English.”

Year 4, term 1, sentence level work –

“Pupils should be taught:

to revise work on verbs from Year 3 term 3 and to investigate verb tenses: (past, present and future)”

Year 5, term 1, sentence level work –

“Pupils should be taught:

to revise and extend work on verbs focusing on:

- Tenses: past, present, future; investigating how different tenses are formed...”

The Game’s Learning Objectives

Given the teaching objectives listed above, the main learning objectives for this task were:

- to practise forming the past tense of irregular verbs in English
- to practise constructing sentences in English incorporating a verb in its past tense form
- to practise constructing sentences in English with pronoun verb agreement.

Consequently the main ‘behaviour blueprints’ I hoped this game to facilitate observation of, concerned pupils’ behaviour in:

- Recalling and experimenting with the past tense form of irregular verbs
- Recalling and experimenting with subject – verb agreement
- Constructing sentences incorporating verbs (as above)
- Supporting and providing one another with critical feedback and jointly negotiating problems (presented by ‘awkward’ throws) in doing all of the above.

The key features of pupils’ learning I hoped analysis of such observations would reveal therefore, were how pupils recalled verb tenses, matched verbs to their sentence subjects,

overcame problems, and supported and critiqued each other's efforts and furthermore how individual players responded to such strategies (i.e. what they did with this information).

A7.12 Playing the Game

The main artefact for this game is a board incorporating a simple track, the basic structure of which was designed by Neil Coghlan (copyright, 2002), downloaded from an EAL internet site (esl-lounge.com).



Photograph 1 – the 'Have Fun With Verbs' Game.

Coloured counters are placed on the board, and each player must move their counter along the track according to the number thrown on the number die. Pictures symbolising certain forfeits are placed intermittently along the track. These forfeits are the 'behaviour blueprints' relating to the NLS objectives. If a player lands on a happy face, then they are allowed to take another turn. Landing on a siren or dice picture, however, incurs the use of the other game artefacts.

If a player lands on a siren, then they must pick up one of the picture cards, lying on the table writing side up (see photograph 2 below). These cards have a verb written on one



side (written in the infinitive form), and a picture on the other. The pupils have to construct a sentence incorporating the verb using the picture as a cue to the meaning of the word, and/or as an encouragement for constructing a meaningful sentence.

Photograph 2 – a card forfeit

In this way pupils who are not yet fluent readers of English, are supported in actuating this forfeit. The pictures on the cards include aspects of life in school. As I was not able to find many good quality pictures appropriate to this task, I used some of the photographs I have collected over my years as a teacher.

If a player lands on a square with a dice picture, then they must throw three dice. The two smaller dice have words written on them, one for the sentence subject, e.g. 'you' or 'she', and one for the sentence verb (all irregular verbs written in the infinitive form).



Photograph 3 – the small dice for the dice forfeit.

The third and largest die corresponds to the sentence object and has pictures on each face.



Some of the pictures are common to all players, such as a can of coke, whilst others, altered depending on group members, contain cultural images, e.g. a picture of mendhi, or a sari for Bengali or Pakistani pupils.

Photograph 4 – large die for the dice forfeit.

These pictures were carefully selected in the manner described in section 3.51. All players were encouraged to use each other's expertise in producing the correct terminology for each picture, which may, if group members so decide, incur the production of a word in another language. Players were also encouraged to support one another in forming and extending sentences, as well as negotiating the most appropriate construction. Although I did not specify that they must correct each other on tense formation and subject verb

agreement, some groups determined this an important feature of the game and hence were critical of each other's grammar.

The structure of these forfeits provided many opportunities for repetition of sentence form, as well as introducing a further element of chance, the benefits of which are argued in 2.64. The dice forfeit was also designed to encourage tricky problem solving when the dice fell unkindly, e.g. throwing the verb sleep together with the object coke would not facilitate simple sentence construction.

As described in 3.51, the cultural and linguistic elements introduced on the large die, and to a lesser extent, on the cards, were an attempt to empower all players, irrespective of L2 language experience. As one English pupil put it when playing this game with a Kurdish speaking player, "I'll help you with the English words, you help me with the Kurdish" (A:4, G:1).

In terms of L2 language learning, the two forfeits offered insights into different aspects of sentence construction in English. The dice forfeit gave players a set structure for sentence form (i.e. they knew which order to throw the dice), and this gave them a natural order with which to construct the sentence (S-V-O). The card forfeit on the other hand, offered no support in terms of sentence structure, but, unlike the dice forfeit, it gave a contextual clue via the picture for the production of a meaningful construction.

It is important to explain that as this game was used across schools and year groups, the rules surrounding the construction of sentences using the dice or cards depended largely

upon group members' age and experience in English (refer to NLS objectives above). The actualisation of such rules, however, would depend upon the manner in which a group mutually negotiated the playing of the game as an activity. For example, even though the decreed rules for a particular group may have been to construct sentences using the verb in its past perfect form, the group may have actuated this differently for different group members depending on each other's experience in learning English. Hence, for less experienced members, the group may have accepted production of a sentence using the verb still in its infinitive form, whereas for more experienced members the stakes may have been raised in the expectation that they would be able to produce more complex and grammatically accurate constructions.

A7.13 Discourse Analysis Moves Descriptors for Game One

The following chart details those behaviour descriptors applied to each transcript of interactions undertaken whilst playing Game 1.

'Gaming' moves – (not essential but expected)

Discourse moves relating to:

- C - the position of the **coloured** counters on the game board
- T - **turn** taking
- D - the throwing of the number **die**
- P - the **picking up** of a card, or the throwing of the word and picture dice
- M - the counting aloud and **moving** of coloured counters along the track

(The bold type indicates the reason for each letter descriptor.)

(Each descriptor may be further indexed, e.g. Ci = a C move about a player's own play, i.e. a player commenting on their own position on the board; or Cii = a C move about or

for the purpose of another player, i.e. a player commenting on the position of another player's counter on the board.)

'R' Moves (mostly essential for the game to function, i.e. the forfeit Rules)

Discourse moves involving:

- R1 - reading the words on the picture cards and on the dice, and naming the pictures on the cards or the large picture die
(R1 repeat = repetition prior to completion)
- R2 - asking for help in doing R1 (explicit)
(R2? = asking if another player needs help in doing R2)
- R3 - constructing (+ attempting or beginning to construct) a sentence (*R3 repeat = repetition of R3 prior to completion; R3join = joining in together with another player in constructing a sentence, i.e. not after another player has paused, hesitated or stopped*)
- R4 - asking for help in doing R3 (explicit)
(R4? = asking if another player needs help in doing R3)
- R5 - extending a construction during collaborative (vertical) construction mostly after another player has stopped, paused etc., i.e. adding to that which has already been produced, during the construction process (i.e. not as an extension to a completed construction)
(R5join = joining in with another player in the process of making an R5 move)
- R6 - extending a completed construction without repetition
- R7 - repeating part or all of a previous 'R' move and extending it during or after completion - (incorporation)
- R8 - repeating part or all of a previous completed construction without extension/alteration
- R9 - expressing explicit agreement/disagreement at any stage of the forfeit, i.e. about reading or naming a picture, or about sentence construction (this may relate to either form or meaning)
R9+ = agreement, R9- = disagreement
- R10 - recasting (rephrase by changing one or more components whilst retaining semantic force) or repairing a construction (i.e. making an explicit correction)

(Moves in italics indicate further sub-categorization)

'EXT' Extension moves (desirable but not essential and not always expected)

Discourse moves relating to:

- pictorial images, names and meaning (in relation to previous experience or opinion)
- players' affect (their feelings about the game)
- metalanguage about verb form, or sentence construction

It is important to notice the subtle difference between C and P moves. The utterances, "oh you've got to throw them dice", and "I get to pick" are both **P** moves as they relate to the forfeit actions. The utterances, "you've got a siren" and "you're always on that one" and "yeah smiley face!" are all **C** moves as they refer to the position of players' counters on the board.

Notice the difference between R3join when a player joins in a (re)construction, and R5 when a player responds to another's support cue, e.g. a short pause, with a vertical move. In other words, R5 is in response to another's move, whereas R3join is an individual player's choice to 'join in the action'. Notice also the difference between R1repeat and R8, which is repetition after a whole sentence has been constructed.

A7.2 GAME TWO – ‘TALK ABOUT ADVERBS’

This game was devised for years four and five. The year five pupils were also working on year four targets backtracked as appropriate.

A7.21 Teaching and Learning Objectives

The National Literacy Strategy Teaching Objectives

Year 4, term 1, sentence level work –

“Pupils should be taught:

to identify adverbs and understand their functions in sentences through:

- Identifying common adverbs with *ly* suffix and discussing their impact on the meaning of sentences;
- Noticing where they occur in sentences and how they are used to qualify the meanings of verbs;
- Collecting and classifying examples of adverbs, e.g. for speed: *swiftly; rapidly; sluggishly*, light: *brilliantly, dimly*;
- Investigating the effects of substituting adverbs in clauses or sentences, e.g. *They left the house ...ly*”

Year 5, term 1, word level work –

“Pupils should be taught:

to use adverbs to qualify verbs in writing dialogue, e.g. *timidly, gruffly, excitedly*”

The Game’s Learning Objectives

Consequently the main learning objectives for this game were:

- to practise investigating the most appropriate adverb (in English) to correspond with a particular meaning (as implied by a picture)
- to practise forming sentences in English incorporating an adverb positioned appropriately within a sentence.

The behaviour blueprints which I hoped this game would facilitate observation of, included pupils’ behaviour in:

- reading the cards and adverbs aloud in front of and together with other group members
- making associations between various adverbs and particular meanings (as portrayed in the pictures)
- supporting, debating (i.e. asking for/providing a justification for each other’s decisions), and negotiating each other’s choice of adverb.

The key features of learning I felt most likely to be manifest in pupils' discourse during this game, therefore, concerned how pupils looked for and provided one another with support in reading aloud in English, and more importantly, if pupils were prepared to argue for their own and against another's choice of adverb, and if so, what were the reasons given to justify their argument, (i.e. what associations did they make between the contextual meaning provided by the picture and the written adverb word).

A7.22 Playing the Game



This game incorporates exactly the same basic track, including the happy faces. The forfeit symbols in this game are small oval shapes coloured either green, blue, red or pink.

Photograph 5 – the 'Talk About Adverbs' Game

If a player lands on one of these coloured ovals, the forfeit is to pick up the top card of the corresponding colour. These cards incorporate a picture, a 'how' question (i.e. questioning the manner in which an act is undertaken) and a partial answer. After reading the card and determining the meaning of the picture, a player must then look at the corresponding board and choose the most appropriate adverb. In the example photograph, the player must complete the sentence, 'the taxi driver shouted' with one of the adverbs, 'loudly, crazily, noisily, angrily, madly, or happily'.



Photograph 6 – the green oval forfeit

This is a decision upon which all players are encouraged to partake. Consequently the forfeits in this game are meant to encourage debate and support in reaching a joint decision as to the most appropriate adverb, given the contextual clue provided by the picture.



The coloured boards, corresponding to the coloured cards, each contain six adverbs, which are an appropriate match to at least one of the picture cards.

Although all adverbs of manner, they are further categorised into sub-groups.

Photograph 7 – the forfeit boards and cards

Adverbs on the green board (and the green cards) relate to feelings and emotions; adverbs on the red board relate to speed and safety; adverbs on the blue board relate to movement and creativity; and adverbs on the pink board relate to sounds and speech.

Such categorisation not only made the game easier to devise, but was also meant to support pupils' thinking in terms of making associations within the various categories of adverbs of manner. So, for example, with the pictures and words on the red board, pupils may perceive a link between driving, riding and travelling in general at certain speeds, with adverbs of safety (i.e. the man crashed his car, so therefore he was probably driving too 'quickly' or 'dangerously'). Such associative thinking, it was hoped, would become explicit during a group's negotiation of the most appropriate adverb.

Once an adverb has been agreed upon, the adverb card is removed from the board and the picture card placed at the bottom of the pile. If, at some stage in the game all adverbs cards have been removed from a board, players must produce their own adverb.

The game was devised so that players were presented with a choice of adverbs, because the teacher and I agreed that the task of forming (or recalling) their own adverbs would be too difficult for many of the pupils and particularly the bilingual pupils in the class. Class work on this aspect of the Literacy Strategy had shown that pupils were not yet familiar enough with adverbs to produce them independently. They were, however, able to recognise adverbs and understand their meaning within a particular context, (i.e. the more appropriate literacy targets were those backtracked to year four). Moreover, I believed that after having played the game for the length of time it would have taken for all adverbs on a board to be removed, players would be in a better position to conceive of their own adverb to match a card.

The pictures on the coloured cards in this game were taken and adapted from 'Corel Draw' clip-art. I tried to include images with which I thought all players would have some degree of familiarity, such as a car, bike, student or dog. The pictures were chosen according to how well they depicted the act being described (i.e. those which most accurately portrayed, e.g. anger, mess, speed, sweetness, or grace). Such pictures acted to support associative links between the multisensory mental images arising from the visual image of a picture, e.g. the sight, sound, smell, and somatic feel of a dolphin jumping in the air, and the range of adverbs available to describe the acts involved in such images, e.g. the dolphin swam 'gracefully' or even 'happily'. Furthermore, the pictures acted to support pupils' understanding of the meaning of the adverbs on the boards. Without the pictorial cues (and concomitant associative mental images), it would have been much more difficult for pupils to construct a meaning for some of the more abstract adverbs, such as 'gracefully'.

I found it very difficult, however, to find images relevant to players' cultural heritage, which would be suitable for the structure of this game. As an alternative, I tried to include

more subtle symbols, which were brought to all players' attention prior to play. An



example is the several versions I made of one pink card showing a teacher talking to a class about information on a white board. I inserted a picture of a map or flag representing the cultural heritage of each the bilingual pupils playing the game.

Photograph 8 – cultural symbols

A7.23 Discourse Analysis Moves Descriptors for Game Two

The following are the descriptors for interactive behaviour whilst playing Game 2.

'Gaming' moves – (not essential but expected)

Discourse moves relating to:

- C - the position of the coloured counters on the game board
- T - turn taking
- D - the throwing of the number die
- P - the picking up of a picture card or of a word from the coloured board
- M - the counting aloud and moving of coloured counters along the track

(Each descriptor may be further indexed with a 'i' or a 'ii', as in Game 1.)

'R' Moves (mostly essential for the game to function, i.e. the Rules)

Discourse moves involving:

- R1 - reading a card (independently without inviting co-operation)
(R1repeat = repetition of part or whole text, may include a slight rephrasing to help make sense for others)
- R2 - reading a card in unison/co-operatively with another player, i.e. sharing the reading
(each word more stressed, and generally more slow than R1)
- R3 - asking for help in doing R1 (or R6)
(R3? = asking a player if they need help in doing R1)

- R4 - Joining in reading with another player (may see a pause as a signal that help is needed, or may take over reading rather than acting to support)
- R5 - Correcting one's own or another's reading
(*R5repeat = repetition of whole or part of correction; R5? = questioning another's reading*)
- R6 - Reading the adverb(s) from the cards
(*R6repeat = repetition of adverbs as read*)
- R7 - Choosing an adverb
(*R7repeat = repetition of adverb; R7? = asking if others agree with choice, or narrowing choice to a shorter list, i.e. is it A or B or C*)
- R8 - Asking for help in doing R7
- R9 - Explicitly agreeing or disagreeing with reading or choice of adverb
(*R9+ = agreement; R9- = disagreement*)
- R10 - Offering an alternative adverb

'EXT' Extension moves (desirable, not essential and not always expected)

Discourse moves relating to:

- a justification for their choice of adverb (relating contextual meaning to word meaning)
- players' affect
- metalanguage about reading or adverb use

A7.3 GAME THREE – ‘COMPOUND WORDS’

This game was made for the year three classes whose literacy class work had included a focus on compound words.

A7.31 Teaching and Learning Objectives

The National Literacy Strategy Teaching Objectives

Year 3, term 2, word level work –

“Pupils should be taught:

to recognise and generate compound words, e.g. *playground, airport, shoelace, underneath*; and to use this knowledge to support their spelling”

The Game’s Learning Objectives

As the literacy target and subsequent class work, included the ‘generation’ of compound words, I designed the game so that the main learning objectives in playing it were:

- to practise and investigate constructing compound words in English by putting together two individual words
- to practise constructing sentences in English incorporating a compound word.

In terms of the behaviour blueprints I hoped this game would facilitate the observation of, I wanted to concentrate particularly on the ‘recognition’ of compound words, and hence pupils’ behaviour in:

- deciding upon a word’s validity (i.e. making a decision as to whether the compound word made, e.g. by the throw of two dice, really existed)
- constructing a meaningful sentence incorporating the compound word
- supporting, arguing and negotiating with each other about each other’s behaviour in doing both of the above.

The key features of learning resulting from analysis of the discourse of pupils playing this game, therefore, concerned whether or not players were prepared to engage in a debate surrounding one another’s compound word constructions, and if they were, how they went about doing so, (i.e. what associations they made between the compound word and their understanding or conceptualisation of it).

A7.32 Playing the Game



The same basic track is again used in this game. This time, however, there are no happy faces, as I had found their inclusion had sometimes greatly reduced the length of time spent playing a game.

Photograph 9 – the ‘Compound Words’ Game

There are two basic forfeits in this game, one requiring the throw of two large dice, either two red or two green, and one requiring the pick of two cards, one green and one blue.

Each large die has words printed on it which when matched to words on the accompanying die forms a compound word. These compound words represent concrete objects and persons, such as ‘football’, or ‘policeman’. Of course a word on one die may not ‘match’ a



word on the other die to form a real compound word, so pupils need to work together to decide if the word thrown actually exists.

Photograph 10 – compound word dice

If a player lands on a square incorporating two dice on a red background, then they must throw the two red dice and similarly if they land on a square with a green background, they must throw the two green dice. Some of these squares also incorporate an arrow and some writing intimating that a player should construct a sentence incorporating the compound word they have just formed. If everyone agrees with the sentence produced, then a player is entitled to move forward the number of spaces indicated on the square.

The other type of forfeit, symbolised on the board as two sets of cards, involves picking one green card and one blue card from the piles on the board. The process is the same as

the previous forfeit, in that a player must read the words on both cards and determine if, by placing those words together, a valid compound word can be formed. The compound words formed by the cards, however, represent more abstract concepts, with words such as 'inside', 'anything', or 'somewhere'. Moreover, some of these words are more difficult to read.



Photograph 11 – the compound word cards

As described in 3.51, I decided not to incorporate pictures in this game as the teacher felt that the majority of pupils in both year three classes were well practised in understanding and forming compound words. Consequently, I hoped that by not including pictures cues in this game, a greater amount of discussion and debate about the validity of certain compound words would be encouraged. Providing a picture cue may, in fact, have obviated that necessity. Moreover, from a practical perspective, it would have been extremely difficult to provide pictures representing words such as 'nothing', or 'anybody'.

A7.33 Discourse Analysis Moves Descriptors for Game Three

The following chart details those behaviour descriptors applied to each transcript of interactions undertaken whilst playing Game 3. As this game requires sentence construction in much the same vein as Game 1, the moves R6 – R13 are equivalent to moves R3 – R10 in Game 1.

'Gaming' moves – (not essential but expected)

Discourse moves relating to:

C - the position of the coloured counters on the board

T - turn taking

- D - the throwing of the number die
- P - the picking up of cards, or the throwing of the word dice
- M - the counting and moving of the coloured counters along the track

(Each descriptor may be further indexed with a 'i' or a 'ii', as in Game 1.)

'R' Moves (mostly essential for the game to function, i.e. the Rules)

Discourse moves involving:

- R1 - reading the words on the word dice or cards
- R2 - asking for help in doing R1 (explicit)
- R3 - forming (or attempting to form) a compound word
- R4 - asking for help in doing R3 (explicit)
- R5 - agree/disagree with the compound word formed
- R6 - constructing (+ attempting/beginning to construct) a sentence (using the compound word) *(R3 in Game 1)*
- R7 - asking for help in doing R6 (explicit) *(R4 in Game 1)*
- R8 - extend construction collaboratively *(R5 in game 1)*
- R9 - extend a completed construction without repetition *(R6 in game 1)*
- R10 - repeat and extend (incorporation) *(R7 in game 1)*
- R11 - repeat construction (or part thereof) without extension/alteration *(R8 in game 1)*
- R12 - recast a construction *(R10 in game 1)*
- R13 - explicit agreement/disagreement with construction *(R9 in game 1)*

(Further sub-categorization of moves R6 – R13 as in game 1)

'EXT' Extension moves (desirable, not essential and not always expected)

Discourse moves relating to:

- arguing/justifying the existence/non-existence of compound words
- players' affect
- metalanguage about sentence construction

A7.4 GAME FOUR – ‘PLAYING WITH ADJECTIVES’

This game was designed for one year three class and their work on adjectives.

A7.41 Teaching and Learning Objectives

The National Literacy Strategy Teaching Objectives

Year 3, term 2, sentence level work –

“Pupils should be taught:

the function of adjectives within sentences, through:

- identifying adjectives in shared reading;
- discussing and defining what they have in common, i.e. words which qualify nouns;
- experimenting with deleting and substituting adjectives and noting effects on meaning
- collecting and classifying adjectives, e.g. for colours, sizes, moods;
- experimenting with the impact of different adjectives through shared writing”

The Game’s Learning Objectives

Consequently the learning I hoped this game would encourage, consisted of:

- practising and experimenting with the production of adjectives in English, corresponding to particular meanings
- practising constructing sentences in English incorporating adjectives

The behaviour blueprints I hoped this game would facilitate the observation of, primarily concerned pupils’ behaviour in:

- making associations between particular meanings (as portrayed in the pictures) and various adjectives
- constructing a meaningful sentence incorporating an adjective
- supporting, debating and negotiating each other’s behaviour in doing both of the above.

The key features of learning resulting from an analysis of such observations were, therefore, whether pupils were prepared to engage in a debate and negotiation of the production of the most appropriate adjective (as implied by a picture), or sentence to represent a given adjective and if so, how they justified their decisions. In other words, what were the reasons given for producing a particular adjective to match a contextual meaning (as implied by the picture), or for producing a meaningful sentence to capture the essence of a given adjective’s meaning (i.e. how did they construe that meaning?)

A7.42 Playing the Game

As with all of the previous games, the same basic track is used as the board for this game.

There are two types of forfeit placed along the track. If players land on a square with the word 'cards' written inside, then they must pick up the top card from a pile on the board, look at the picture and think of the most appropriate adjective to describe that picture. They may, if they wish, think of a sentence using that adjective to describe the picture.

If a player lands on a square with a coloured die picture, however, their forfeit is to throw either the blue or the green die, both of which have adjectives printed on each side. The



blue die has adjectives relating to size whilst the green die has adjectives relating to feelings and emotions.

Having thrown the die, the player must then make an appropriately meaningful sentence incorporating the adjective.

Photograph 12 – the 'Playing With Adjectives' Game

I designed this game by starting with a list of adjectives the class had been investigating as part of their literacy work. I then incorporated antonyms, and sorted the adjectives into descriptive categories, based on e.g. appearance, taste, texture and emotion. I tried to use 'Corel Draw' clip-art pictures which most aptly portrayed a visual image of those adjectives. Hence, e.g. to encourage production of the word 'dirty', I used a picture of a mud splattered dog. Similarly to encourage the production of the adjectives, 'beautiful', or 'lovely', I chose a picture of some flowers. The pictures chosen represented those images with which I felt year three pupils would be the most familiar.

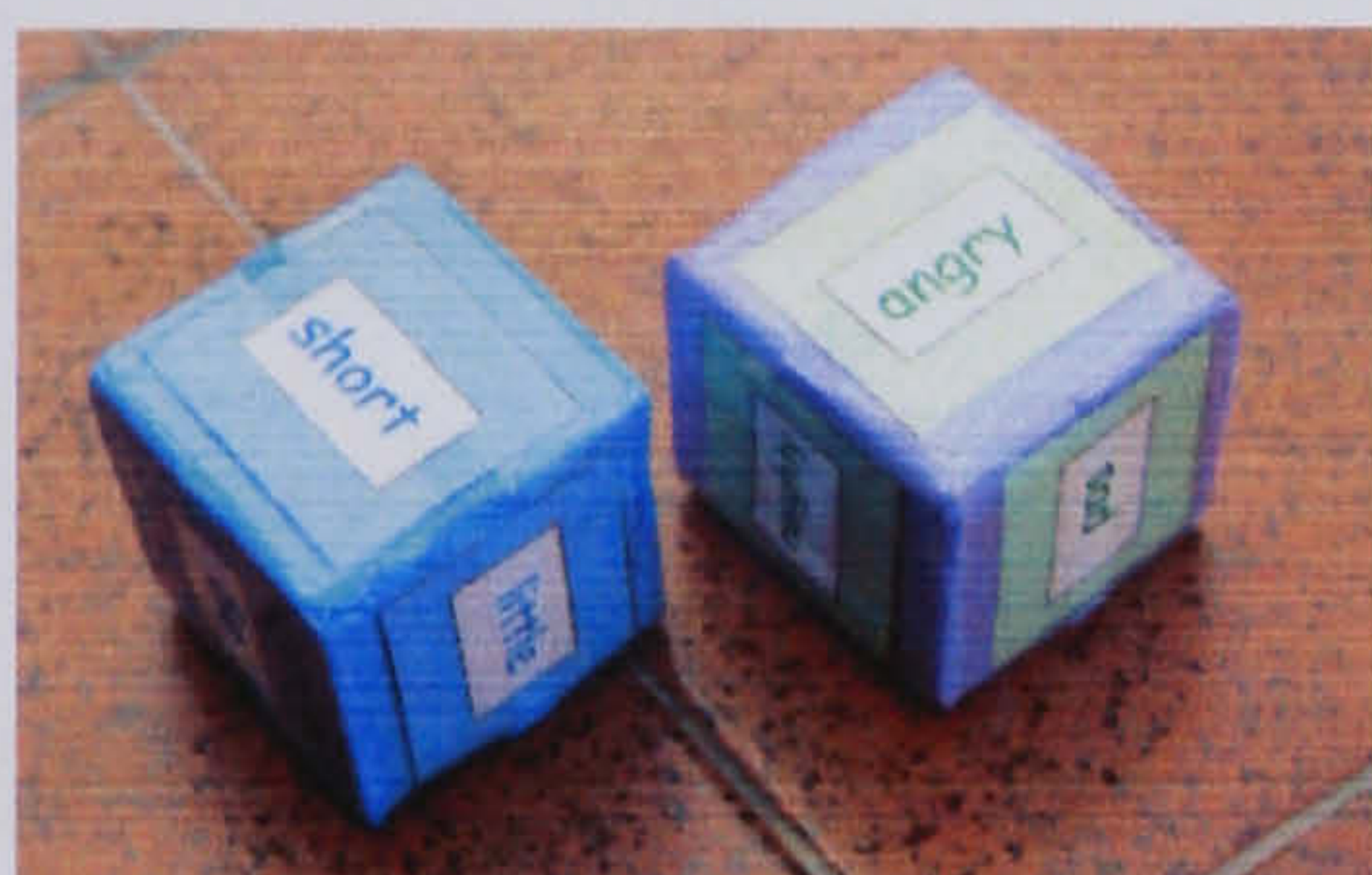
The next design stage involved finding cultural images familiar to the two ‘targeted’ bilingual pupils, to include as picture cards (see 3.51 for details of this process).

Once the most appropriate cultural images had been agreed upon, these were incorporated into the game to represent particular adjectives, replacing some of the clip-art pictures.



Photograph 13 – adjectives pictures

I found that it was much more difficult to find pictures which adequately portrayed human emotion, and so decided to incorporate these adjectives as words on a die. When introducing and practising the game, I encouraged players to support each other in the production of adjectives, and to think about the most appropriate word, so that they did not just opt for the most commonly occurring and simplistic adjective. In order to facilitate this



process and extend players’ vocabulary, I decided to include synonyms for adjectives of size, as printed words on the other coloured die.

Photograph 14 – the adjective dice

This game involved the production of adjectives to match a given visual image, as well as the conception of a multisensory image to match a given adjective. In this sense the game facilitated meaningful association of adjective words with mental imagery, including gustatory (as in the ice-cream picture), olfaction (as in the flower picture), auditory (as in the jet aeroplane picture) and somatic (as in the Turkish carpet picture) sensory images (see 2.2).

A7.43 Discourse Analysis Moves Descriptors for Game Four

The following chart details those behaviour descriptors applied to each transcript of interactions undertaken whilst playing Game 4. As in Game 3, this game also involves sentence construction and hence also includes moves descriptors equivalent to those in Game 1.

'Gaming' moves – (not essential but expected)

Discourse moves relating to:

- C - the position of the coloured counters on the board
- T - turn taking
- D - the throwing of the number die
- P - the picking up of a card, or the throwing of the word dice
- M - the counting and moving of the coloured counters along the track

(Each descriptor may be further indexed with a 'i' or a 'ii', as in Game 1.)

'R' Moves (mostly essential for the game to function, i.e. the Rules)

Discourse moves involving:

- R1 - reading the adjectives or naming/commenting on a picture
- R2 - asking for help in doing R1
- R3 - thinking of an appropriate adjective to match the picture
- R4 - asking for help in doing R3
- R5 - constructing (or attempting/beginning to construct) a sentence incorporating an adjective (*R3 in Game 1*)
- R6 - extending a construction vertically (*R5 in game 1*)
- R7 - extending a completed construction without repetition (*R6 in game 1*)
- R8 - repeating part or whole of previous move and extending it (incorporation) (*R7 in Game 1*)
- R9 - repeating partial or whole sentence construction without extension or alteration (*R8 in game 1*)

- R10 - expressing explicit agreement/disagreement with adjective choice or construction
(R9 in game 1)
- R11 - recasting or repairing construction (R10 in game 1)

(Further sub-categorization of R moves as in game 1)

'EXT' Extension moves (desirable, not essential and not always expected)

Discourse moves relating to:

- arguing/justifying their choice of adjective, or match of noun to adjective
- players' affect
- metalanguage about sentence construction

Appendix 8

Transcription Conventions

The transcription conventions are taken from a variety of sources, but are typical of those used in sociocultural research.

_____	unclear speech
A+B	speakers A and B saying the same thing at the same time
(WRITING IN CAPITALS IN BRACKETS)	comments about the discourse, but not part of it
[]	simultaneous speech
A(to B)	speech directed from A to B

(Adapted from 'Outline of Discourse Transcription' (Du Bois et al) in 'Talking Data – Transcription and Coding in Discourse Research' (Edwards and Lampart, 1993))

we:::ll the immediately prior syllable is prolonged. The number of colons is an attempt to represent the length of prolongation

underscoring heavier emphasis (in speaker's stress) on utterances

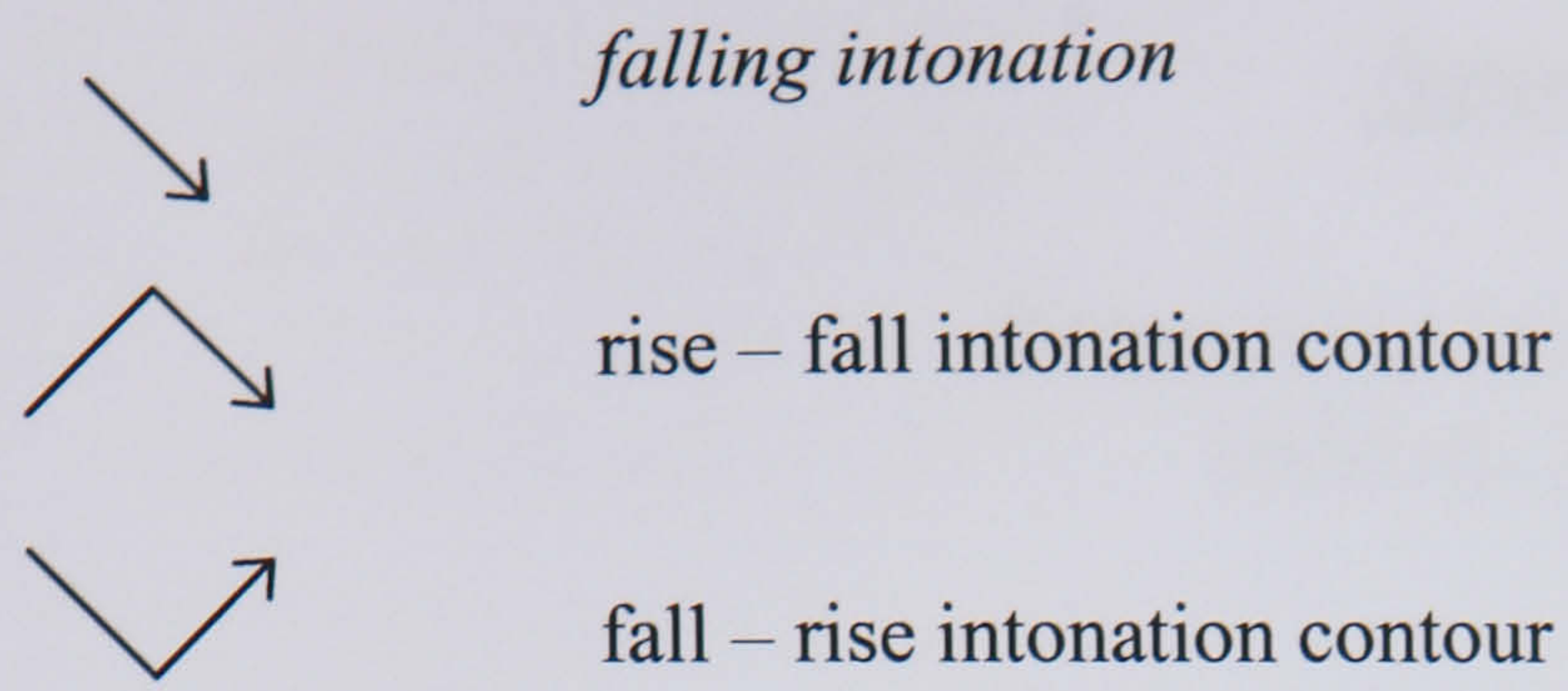
its my turn=
=no its not equal signs indicate that no time elapsed between the objects 'latched' by the marks

? punctuation mark used for intonation, not grammar, with a question mark representing rising intonation

(.) a brief pause (more period marks, the longer the pause)

(Adapted from 'Discourse as Social Interaction' (Van Dijk, 1997))

↗ rising intonation



(Adapted from 'An Introduction to Spoken Interaction' (Stentrom, 1994))

Appendix 9

Notes from Discussion Session 1 Held on 11th Oct 2002

Present in session – Hilary, Helen, Lesley and Alison (EAL specialist teachers); Mei (Mandarin speaker), Abou (Arabic speaker) and John (researchers); Sheba (Punjabi/Urdu speaker) (EAL lecturer).

Questions after ‘Introducing the Research’

- John asked why I didn't use the term 'diagnostic' to describe the assessment system, as well as or instead of 'formative'. I answered that the term diagnostic sometimes implies a certain 'thing' to be diagnosed, often referring to something negative or missing. I also pointed out that this term is historically linked to special education and has medical connotations.
- Someone asked about the make up of groups – monolingual models etc. (John concurred that often this creates two separate running simultaneous discourses)
- John asked why, during my MEd, I found it necessary to make a new coding system, how was it different? My answer was along the lines that it didn't fit with what was happening. John said it was probably also because most DA systems look at product and not process. (I have to think about this.)
- John also asked whether me being presented as 'Heather the teacher' instead of 'Heather the helper' would have induced different results. We began to discuss I-R-F sequences and the impact of a teacher's presence.
- Helen asked if this work was usual for primaries – she didn't know the structure of literacy hour, but in arguing the point lots of other people came in and said the use of games was very usual in primary school work.
- Someone asked whether all the groups behaved themselves when I left the group, and if so why did I think that happened. They also enquired if the pupils asked why they were going to a separate room. I replied that few pupils had asked this question, as they were just following the game, desperate to play, and I suppose on reflection, happy to be getting this special opportunity, a situation which seemed to promote better behaviour than many would have predicted.

Questions after ‘Introducing the Theory’

- Mei made the point that learning is not only mediated by private speech, but also as social speech. I concurred (and had actually said this in explaining the theory), and John also added that there is also 'private writing'.

At this stage it was clear that John and Helen and perhaps one or two others didn't really believe that pupils could mediate each other's learning sufficiently or

successfully. This came out later in discussing the role of competition/collaboration when introducing the games. (Note their views completely altered after having watched the video!)

Questions after ‘Introducing the Games’

- John said he was interested in the games and the concept of ZPD, and whether games help to construct or constrict the ZPD, an idea from Jim Cummins. At this stage I don't think John fully believed that pupils with such differing levels could scaffold language for each other.
- He also asked whether the outcomes in terms of discourse would have been the same if the focus of the games was on content, i.e. about context level, i.e. characters etc., or say about a specific focus such as a topic like castles, where knowledge and differences in cultural experience may have been more acute.
- Questions were also asked about how I had introduced the games. Mei suggested that the introduction could definitely impact on the way each game was played. She suggested that in group work the teacher often assigns specific roles to particular members, such as a reader, writer, organiser etc. I expanded by saying, however, that when the teacher leaves the group these roles and behaviours are negotiated within the group and one is never sure how much influence previous guidance will have had. In other words, the group constructs the activity for themselves.
- After having watched one of the recordings, someone asked if all the groups were this co-operative, and I said that if they weren't or one person in the group wasn't, this was usually an indication that that player had a different playing goal, i.e. to play as opposed to playing to learn.

Discussion After and During ‘Presenting an Analysis’

- John made the comment that my deeper analysis seemed very subjective in terms of why Maruf was using repetition. I argued that all assessment is subjective and that one can only look at the reactions of others and the manner in which the discourse is delivered to determine ‘purpose’ as validly as possible. John suggested I should have asked the pupils why they had done certain things in the recording. I think that's possible in future work, perhaps, but it may still put pupils off from this sort of talk if they think they're being assessed in this way. I think a better option would be to try to observe Maruf doing this in class, and work in a naturalistic way. Or one could use the subjective results and see if they have any impact on his learning, i.e. form a working hypothesis.
- Helen made the point that ‘learning styles’ were innate, and that perhaps you couldn't use the fact that one pupil wasn't using certain strategies as a formative assessment, because they would never be able to do so. I argued the difference between learning styles vs. strategies, and said that I thought one could encourage Adnan to use the strategy of repetition for memory recall etc. John concurred with this and said perhaps you could make another game where this was a necessity. (Later Lesley commented that at this point she was thinking a circle game would have been a very appropriate activity for learning by repetition.) I argued you would also need to discuss with Adnan why using repetition would be useful, i.e. what the purpose was.
- John said that he was unsurprised that teachers thought Adnan to be at a higher level, because he was always agreeing with others and seemed confident in his use

of L2, self assured (faking it I would say). I said that yes he was very compliant in this group. John then asked if what I was suggesting was that Maruf employed better learning strategies in this game and so this may suggest he would go further more quickly than Adnan. I said yes and this is really what Vygotsky argued, that predicting the path ahead was more conducive than viewing the point already reached. John also suggested that perhaps Maruf would have been viewed by teachers watching the video as 'being a pain'. But I said I didn't think so, that most of the repetitions were private speech, and that he was in no way disrupting the flow of the game.

- Later still, Lesley commented that it was only during 'booster groups' that she had observed teachers making use of such detailed observations, trying to understand how pupils were learning certain things and that this was having great results.

Observations and Comments Received During the Act of Coding

- Hilary commented that at first she was frightened by doing the task and thought she wouldn't be able to do it, but after a short while began to 'get the hang of it' and actually said, "now I'm really enjoying doing it".
- Many, including John, Abou, and Alison made the point that it was very difficult to code without watching the video. Perhaps I should have shown the video again half way through? However, this demonstrates that having visual as well as oral evidence is key to valid coding.
- Alison made the suggestion that it could be shortened to something like miscue analysis, an interesting idea.
- There seemed some confusion over the moves CTDPM. Mei asked why I hadn't written that P moves were instructional. I said I had included this function of the move in the chart, but that P moves were not always instructional, and it was impossible to include all options in the basic coding list. She still seemed uncomfortable with this although Hilary seemed to understand it.
- John seemed a lot less comfortable with the task than Abou, who worked very hard to code correctly. I think this task is definitely more suitable to teachers in the field who have everyday contact with children in school. They seemed more able to determine meaning.
- Interestingly most people seemed to understand the EXT for affect move, and apply it appropriately.
- There was confusion over T and other moves. Maybe this would be clearer with video evidence. Or maybe C, and D moves can also imply turn taking? Alison wrote, "similarities between T and D are confusing – especially out of context"

Discussion After Session

- Lesley recalled that Alison, who had had to leave the session early, had said how complex and time consuming this type of coded analysis would be for a teacher and Lesley had argued yes but there must be a point to this. Lesley then said she understood the purpose once the qualitative perspective was shown. She commented that the coding system on its own was not very useful, and its only when you see the overall results that one can see the point of doing it.
- Lesley also commented that she was interested that pupils did not seem to use R2 or R4 moves – i.e. explicit calls for help, and that this was useful to remember when placing two pupils together to work, so you wouldn't have to worry that one

would be asking the other for help all the time. I think this would depend on roles, knowledge, task (convergent vs. divergent), perceived power, and teacher instructions.

Appendix 10

Quantifying Moves Explicitly Requesting Support in Each Game

<i>Function of moves, i.e. ask for help to:</i>	<i>Gaming moves</i>	<i>Number of moves made per interaction (the average percentage of that move made in that interaction)</i>								<i>Overall average percentage per game</i>	<i>Overall average percentage per function</i>
		2(1.85%)	5(4.67%)	2(1.96%)	3(2.3%)	0	4(5.26%)	1(0.62%)	0		
Read or name a picture	Game1 = R2	2(1.85%)	5(4.67%)	2(1.96%)	3(2.3%)	0	4(5.26%)	1(0.62%)	0	2.08%	1.29%
	Game2 = R3	0	1(0.91%)	0	0	0	0	0.15%			
	Game3 = R2	3(2.38%)	0	1(0.72%)	1.03%						
Construct a sentence	Game1 = R4	6(5.5%)	0	0	0	0	0	0	0	0.78%	0.768%
	Game3 = R7	0	0	3(2.18%)	0.72%						
Choose an adverb	Game2 = R8	0	0	0	0	0	0	0	0	0%	0%
Form a compound word	Game3 = R4	0	0	0	0%					0%	0%

This table shows the number of moves explicitly requesting support, in each interaction of each game. The percentage number in brackets is the percentage of that move (in comparison to the other moves) made in each interaction. So, for example, the number of R2 moves made in the first Game 1 interaction was 2, which is equivalent to 1.85%, i.e. out of the total number of moves made in this interaction, R2 moves constituted only 1.85%. The average percentage for each move is then given as a final percentage for each game. Hence the average (mean) percentage of occurrence for R2 moves over all of the Game one interactions is 2.08%. The table also charts the average (mean) percentage of the occurrence of each function. So, for example, the average percentage of the occurrence of moves which explicitly request support in reading or naming a picture in games one, two and three is 1.29%.