

**A SOCIOCULTURAL STUDY OF INTERCULTURAL DISCOURSE.
EMPIRICAL RESEARCH ON ITALIAN ADOLESCENT PUPILS**

A thesis submitted in pursuance of the Ph.D. degree

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2011

Abstract

This research study aims to contribute to an understanding of adolescents' discourse analysed from an intercultural and multidisciplinary perspective in the context of Italian educational setting.

The primary interest of this research is to outline issues on differences in discourse, arising from pupils' different sociocultural backgrounds. In particular, the analysis is oriented to investigate semiotic mediation by means of the modality of language, characterised by a developmental and social analysis of verbal action mediated by psychological tools with respect to the given task(s).

The central focus of the analysis is discourse, written and oral, produced among groups of Italian adolescents pupils, divided in terms of scholastic abilities, gender and sociocultural background. This approach is based on the research assumption that sociocultural differences of pupils engaged in a similar discourse activity would elicit different types of semiotic mediations within their group discussions. Hypothesised existence of semiotic variations among pupils of my sample was the basic research question to which I hoped to find an answer. If so, then, it would be important to highlight how these variations will affect pupils' verbal performances in their production of discourse meanings and educational knowledge.

This aim was achieved by integrating Vygotsky's genetic approach with a discourse analysis of verbal interaction based on Halliday's Systemic Functional Linguistics. This approach provided the opportunity to link both micro and macro levels of sociocultural differences in school and society, since it allowed the exploration of pupils' individual and collective mental development in linguistically mediated social action and interactions.

This perspective is in line with recent theoretical shifts in the fields of communication studies where the focus of interest had moved away from comparisons among cultures to the co-constructive aspects of situated dialogue and discourse.

From an intercultural perspective, it was more relevant to understand how social identities and verbal meanings were co-constructed through the process of interaction between differently constituted subjects, rather than trying to explain why some pupils fail to communicate certain meanings in a given educational discourse.

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I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

The total number of words (exclusive of appendices, list of reference and bibliography) is : 89,783.



Antonella Castelnovo

Acknowledgements

I am very grateful to my supervisor, Dr. Tony Burgees, who encouraged, guided and stimulated me to accomplish the present study. In doing so, he allowed me to link my past to my present and to move forward, with knowledge and infinite patience.

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INTRODUCTION

Any attempt to overview a research study lasting about twenty years is even more difficult when the area of research is interdisciplinary, involving pedagogy, language, psychology and sociology. Fully aware of the risks this involves, I will describe the present study in a subjective narrative manner, with a review of my own professional and academic history throughout all those years. I believe that in order to understand and to explain the great length of time it took me to accomplish this work requires synthetically illustrating my professional and academic progress both in England and in Italy during its various stages. Somehow experiences, especially when taking place in two different countries, can resemble an apple split into two halves; on one hand England represented the 'opening years' of my academic studies by providing new horizons and new possibilities. On the other hand, Italy is my homeland, where I now live, work and put into practice my theoretical knowledge. I needed to bring together the halves of the apple but the process was not always easy as both of my experiences presented different problems and possibilities for solving them. Thus, this need for personal and academic integration implied an assimilation of knowledge and constant empirical testing of concepts and ideas in the appropriate context. Indeed such a process may sometimes take a lifetime and is typical of deep internal and dynamic psychic experiences, such as immigration or scientific creation: In this respect Galileo expressed science's creation in a moving, dynamic sense by referring to it with the gerund form '*provando e riprovando*' (experimenting again and again), thus showing how continuous and complex the process of assimilating knowledge can be. This quote may appear presumptuous if related to my situation, but somehow great thinkers have the gift of describing collective experiences, which justifies my use of Galileo's words.

At present my field of work is related to sociocultural studies with special reference to discourse practices in educational contexts. In our Western tradition teaching and learning are generally a specifically verbal affair. Learning is often an abstract process of a decontextualized education resulting in insulated activities which do not take into account the culture and the context in which they occur (Lave & Wenger 1990). Yet verbal discourse in school contexts cannot be treated as an end in itself but as a means to help pupils to attain broader purposes and educational goals. The main goals in education are achieved through the acquisition of

knowledge, often expressed by the medium of language. However such knowledge is also the result of socialisation patterns which are antecedent to pupils' school experiences, arise from their family structure and are mediated by different cultural experiences.

For these reasons I will look at discourse, i.e. verbal discourse as a learning activity involving socio-cognitive processes. In my study these processes are expected to vary according to the historical and cultural background of the pupils in my empirical sample, differentiated according to social class variation and gender.

The great interest I have always had in speech was the first driving motive for my research.

I first worked as a speech therapist, dealing with language retardation and children with reading difficulties. I realized the deep impact that language had on children's personalities, and on other important aspects of their psychological development. At the time I realized that while language was indeed the central aspect of my work, by helping children to speak I was also helping them with other psychological functions connected with their development. This complex interwoven set of neurological and psychological relationships provided the interest to continue my studies and to obtain an M.Sc. in Human Communication from London University. Eventually, this led to a position in Italy, in Siena's University as a lecturer in intercultural communication, and allowed me to continue my research on multicultural education. These aspects of my career are somehow deeply related to the subject of my present research.

The second strong drive is connected to the great impact that two theories had on my academic formation: The work of Lev S. Vygotsky and that of Basil Bernstein, the latter of which I had the privilege of meeting personally and working with as supervisor of the first draft of my Ph.D. thesis. In this respect, *Si parva licet componere magnus* (if small things to great may be compared) (Virgilio, *Georgiche*) this study pays homage to both their theoretical contributions in an area of research - intercultural education - which was envisaged as a possibility both by Vygotsky and by Bernstein but was not fully explored by either of them. My attempt to compare them in a new field of application is the result of my inner progression and changes in my academic perspective; in this light it is possible somehow to justify the great length of time which my study has required.

When I was an M.Sc. student at Guys' Hospital Medical School, I came across for the first time the work of Basil Bernstein; his theory had a deep impact on me, it was a sort of *déjà vu* especially when he spoke of elaborated and restricted codes (now I can recognise he spoke of experiences I had in my childhood) and I felt I wanted to go on exploring the theory. At that time I had already studied psychology in depth, but somehow I was unsatisfied as I felt that those studies were too individualistic, and what was missing was a broader dimension which I found in the sociological work of Basil Bernstein. Indeed I was not disappointed: During the following years, as one of his Ph.D. students, the seminars and his supervision were stimulating, opening new possibilities of enquiry, and most notably they extended across fields in a truly interdisciplinary nature. As the recently-deceased Norberto Bobbio, one of our greatest Italian philosophers, used to say: '*Gli uomini di cultura devono stimolare dubbi non proclamare certezze*' (Educated individuals must raise doubts, not proclaim certainties).

Indeed Bernstein was opening doubts concerning his concepts, and he often reformulated them for a more explicit understanding. In those days - the early 1980's - this attitude was not much appreciated in Britain; rather it was perceived as a lack of scientific rigour, especially in the field of language studies, which attempted to establish a strong disciplinary identity following the American tradition.

This approach did not disturb me, as being Italian, my tradition sensitised me more towards the humanities than science (1) and I thoroughly enjoyed this broad approach which opened new connections as well as new possibilities of thought and intuitions. It was during those years that I understood the meaning of a quote by Herni Marion, the 19th century French pedagogue: '*Pedagogy is both the science and the art of education*'. Bernstein's pedagogical approach was indeed a mixture of science and art, i.e. an unfolding creative process sustained with theoretical logical support.

However those were not easy moments; the theory of sociolinguistic codes was very much under criticism especially following Labov's experiments (1972) which did not disprove Bernstein's concepts, although they probably were intended to.

In England criticism concerned many aspects of the theory such as the lack of experimental data (Rosen 1972; Edwards 1974; Stubbs 1976); its over-functionalistic approach (more recently Harker and May 1993); its inadequate treatment of class

relations (Huspek 1994); finally the fact that it was more concerned with cultural transmission than highlighting possibilities for social change.

This to me, as a young student, was somehow an incentive to provide a small contribution to the theory, which felt intrinsically pleased me even if I agreed with certain criticisms such as the lack of empirical investigation, especially within families and in classroom situations. In particular I felt the theory was missing the interactional aspect which Bernstein analysed only structurally with his concepts of *personal* and *positional* families.

The collaboration with Halliday offered Bernstein the 'linguistic counterpart' to his sociological theory, and this was an important epistemological step toward clarifying many aspects of his conceptual paradigm. In this respect, he had relied on Halliday's model of discourse in the attempt to explain the role of language and speech according to the context of situations in which it is found. In particular he clarified the issues concerning differences between code, meaning, register and dialects, often confused in many assessments of his theory and used as a criticism against his work.

In the 1980's Bernstein was working on his later formulation of the notion of code (1981), which somehow was a synthesis of his sociosemiotic account of his idea of the transmission/acquisition process mediated by language in its contextualized forms of speech.

Parallel to the code, he was revising his operational concepts of classification and framing which were functional to it. Classification referred to the relationships between subjects' institutional boundaries, while framing was concerned with the description of roles and relationship in the pedagogic exchange. In this way Bernstein had created the basis for a pedagogic model attempting to describe the reproduction of the power and control of meaning across generations and between and within social classes. The theory was ready to analyse how power would affect discursive practices in schooling but also outside schooling, showing the limits of access to certain types of meanings connected to the language of power and to institutionalised forms of symbolic control. Using these new sets of operational tools the theory was somehow ready to operationalize appropriate teaching paradigms and to advocate a pedagogic strategy for change.

A few years later Bernstein would achieve his theory of code by integrating it with the concept of *pedagogic discourse* which gave him scientific ground to state

that the potential for social change is '*intrinsic to the subject*' (Bernstein 1994: 104) but also to systematic strategies and forms of collective actions.

At that time the subject of my thesis - an empirical investigation of the discourse practices of British adolescents (divided according to social class and gender) interviewed in different educational contexts - could provide the opportunity for such investigation.

In particular my empirical design was set up in such a way as to elicit group discussion of a story made up for the purpose, in two different types of evoking contexts (formal and informal) devised within the research design. Different outcomes in terms of social interaction and discursive production were attributed to different rules of interpretation of the context, affecting the pupils' coding production (realization rules) as a result of their general code orientations (restricted versus elaborated). Such a hypothesis (eventually confirmed by the data) raised the question of how speech and knowledge were constructed by different pupils depending on their gender and social class (working class boys/girls versus middle class boys/girls) within the specificity of an artificial educational situation (i.e. the context of the interview). In addition it also highlighted the motives and goals that different pupils attributed to school practices and activities, providing evidence that pupils' code orientations were not changed by informal instruction.

As a matter of fact, the working class samples (both from the school and from the youth club) produced restricted coding irrespective of the change of the type of adult's instruction and the creation of an informal educational situation within the experimental context (formal school versus informal youth club).

For me this was the confirmation that code orientations, as Bernstein always claimed, have a social and psychological aspect as they result from inter-subjective class relations regulated by power and control, internalised by the subjects and visibly manifested at the intra-subjective level also in the context of my research design.

Methodologically the issue of creating an experimental context to analyse children's speech rather than a naturalist environment was one of the controversial issues in Bernstein's methodological approach.

Schools are social institutions implicated at many levels in the process of cultural reproduction (Bowles & Gintis 1976; Bourdieu and Passeron 1977); thus learning is constantly enacted within institutions and, in such a perspective, classrooms are not

naturalistic contexts but highly defined by culture both symbolically and institutionally. Their social semiotics are highly structured (both in space and in time) and the dynamics of the interaction between pupils and teacher/pupils is completely different from that at home, as is the speech production required by those interactions.

Going back to my research data, I realized that they could provide empirical evidence of pupils' resistance to certain forms of schooling and to certain types of pedagogic practices. I also realized that the working class groups interviewed in their youth club premises would not produce elaborated coding in their discussions. The interview paradigm, even if informal, was somehow related to the teaching paradigm and it sensed as problematic for those working class pupils. Power articulated through discursive practices, mostly rooted in language, limited the access to the language of power (elaborated coding) and symbolic control; those pupils acted somehow as passive recipients of knowledge and not as producers of it.

The order of meanings that pupils are predisposed to is code regulated, so that resistance to a change of code when pedagogical practices can be offered in an alternative form (like the one of my experimental devices) seemed to indicate a resistance to change in socio-cognitive structures of school requirements and this seemed to be an important finding in my research.

Bernstein's sociological and pedagogical concerns had serious grounds and provided a linear chain of connection between micro processes and macro forms. Despite the 'pessimism' of the theory, it provided a possibility for change in the reorganisation of the context of education with its dominant forms of power and symbolic control (Bernstein 1996).

I also realized that in his concept of code Bernstein was hinting at cognition even if this was not explicitly acknowledged. Somehow the theory could provide the sociological juncture with mental activity, and this was probably due to the influence that the work of Vygotsky and Luria had on Bernstein.

Although at the time I had read Vygotsky and Luria, I was not much concerned with those authors. I considered somehow in the background, both of Bernstein's work as well as with regards to the problematic of my study. They were somehow too psychological and therefore bypassed by my new sociological perspectives.

My empirical work went as far as collecting and organising my data to obtain results.

I primarily applied classification and framing concepts, stemming from Bernstein's theory of codes, but I still lacked a tool for investigating the deep structure of discourse in its psychological dimension: i.e. thoughts and language merging together.

For reasons which are too complex to explain fully, with the economic factor coming last but not least (meanwhile my grant had expired) I was not able to complete my thesis; before finishing the discussion and the revision of my data, I returned to Italy, where I started to work on school projects and teachers training courses.

The many years spent in London sensitized me to issues which were not quite so applicable to my country of origin. The issue of social class, for instance, which is so fundamental in English society, was not one of the most crucial issues of the Italian context nor within Italian educational policies. The latter were directed to the revitalisation of regional dialects which had been disregarded, being considered for many years minor languages opposed to Standard Italian which was considered the language of social status and of educated speech. The problem of class was however present, a wide economic gap existed within Italian society. However this gap was blurred and hidden behind regional varieties of speech and lifestyles, linked to socio-economic status overlapping with other social factors (rural /urban, urban, suburban).

Moreover, the educational practices within the school system were still based on Giovanni Gentile's fascist ideas, relying on a teacher-centred approach with an authoritarian bent. In this respect, I had to reformulate my ideas on teacher/learning practices according to the new contextual problematic. At the same time a new phenomenon was emerging from the recent waves of immigration in Italy. As these immigrants started to send their first-generation children to school, these new arrivals transformed Italian elementary and secondary schools.

The officially mono-cultural classes which artificially homologated pupils in teachers' perceptions of them (a residual of the Catholic Church's ideology of homogeneity throughout the Italian school system) was faced with the multiplicity and diversity of the new comers. At the time I was living and working in Rome where the class structure was more evident than in other parts of the country and was perceived as socially problematic. In those days I was working on regional

projects for the school integration of different social strata of the population, such as gypsies and children coming from suburban areas felt to be at greater risk.

Back then there was no trace of intercultural education and educational differences were equated with spoken dialects and overlapped with social status, as in the case of gypsies and handicapped children.

In my pedagogical approach, I worked on teachers' communicative styles and the work of Bernstein very much led my return back into the Italian educational scenario.

In my work into schools, I often referred to the concept of code, but I applied it to teachers' speech productions i.e. their *pedagogical code*, somehow re-interpreting Bernstein ideas. In this sense I considered teaching as cultural transmission and the pedagogical code was considered a regulative principle distributing options and choices within the meaning repertoire of the pedagogical practices.

During those years I wrote several papers on this subject (2).

When I moved to the University of Siena I was appointed lecturer in intercultural communication. In that period, (late 80's, early 90's) a new wave of immigration started to shake the foundations of Italian society as well as the educational system.

During those years, I coordinated projects on intercultural education, aiming at successfully integrating immigrant children into the Italian schools. For this purpose I needed a dialogical theory providing for a model of negotiation of meanings and cultural model during in the interactive exchanges within the classroom.

While doing systematic observation in classrooms, I found that ethnically different pupils faced similar problems to those I had observed in my early studies on social class differences.

Their difficulties in schooling were not so much linguistic (as the language barrier could be overcome in a few months especially by young children) but cultural as their models often clashed with the social requirements of the classroom with all its implicit rules and requirements (i.e. space, time, social rituals etc). I found striking similarities with the findings in my old data, which I often consulted as a reference, but I needed a different new paradigm to deal with the social and diversified dynamics of pupils within the classroom.

In those years Vygotsky was being rediscovered thanks to the new Italian translation of his texts, (Mecacci 1990) and a few studies on learning through dialogue appeared (Pontecorvo 1993) (3). Bernstein and Vygotsky appeared

complementary to my work and theoretically compatible. However this comparison raised a number of questions: which one represented my theoretical paradigm? And even more importantly, what was my field of enquiry, sociology or psychology? And again, what were the links between ethnic differences (i.e. cultural differences) and (sub-cultural) differences in social class? Can these two categories be equated and related? And if so to what extent? How does social class overlap with ethnicity? Researchers have investigated the working class in education in many ways but have somehow underestimated how this dimension interacts with cultural and ethnic differences. Most studies on cultural differences, ethnic, gender, class, are based on ethnography. This also means that this approach offers a selective focus on interaction activities and symbolic interaction meanings constructed and negotiated during face-to-face encounters, in dyads or small groups. However they cannot explain *how* the context of culture creates a given social order, as they mainly deal within the context of situations. Variables of power and control over the discursive structure are not made evident by this type of analysis, hence they remain unexplored in the background.

If one examines cultural differences, one must also choose the method of enquiry, i.e. how to observe them and in what context. Moreover, it appeared that the issue of social class as a predictor of school failure remained an unsolved question still very much under investigation (Portes and Vadeboncoer 2000; Panofsky 2003).

With those epistemological problems in mind, I started to analyse my old data, adopting a new theoretical approach, Vygotsky's cultural historical theory, focusing on questions that highlighted the relevance of a sociocultural approach.

Vygotsky believes that intellectual development and knowledge acquisition are to be found in the requirements of schooling which plays a central role in mediating further understanding. For Vygotsky, school is focused on the construction of higher mental functions as a result of peer interaction and teachers' mediation through the Zone of Proximal Development.

Vygotsky's approach to the acquisition of new mental tools is highly psychological, a-contextual and universal, while Bernstein in his sociological view believes that knowledge is contextual, institutional and class-regulated.

These two traditions of child development and educational research were theoretically compatible, but for different reasons neither of them was appropriate for my sociocultural perspective.

In my empirical design I needed a multiple coding system to link macro-structure to micro-levels of linguistic analysis, and Vygotsky's theory of semiotic mediation was only implicitly providing such a possibility.

This approach was represented by Halliday's Systemic Functional Linguistics which provided the theoretical paradigm to link the macro sociocultural dimensions to micro-contextual production and, at the same, to analyse speech in empirical research.

The possibility of analysing the dynamic collective forms of discourse as a result of a common participative interaction between socioculturally diversified subjects was essential to my methodological requirements. Moreover, the multifunctional layering implicated by the analytical model resulting in learning how to use language as a multidimensional process, allowed me to understand speech as social action as well as verbal interaction. From such perspective discourse analysis proceeded along a number of interrelated semiotic dimensions, which could reveal different goal orientations among teachers and pupils, hypothetical mismatched meanings resulting in conflicting agendas, and/or a lack of pupil commitment to the task at hand. This approach was adapted to capture the features of my collected data and to link its interpretation to my new ideas.

Before illustrating an overview of the methodological and theoretical issues concerning this work, I will briefly present the structure of its context.

This study is divided into theoretical and empirical components.

The first part introduces the theoretical framework, i.e. a sociocultural study used as an epistemological framework to investigate socio-semiotic mediation by means of language in a multiplicity of tasks in educational settings. Discourse is conceived as an activity-based cultural tool and analysed with semantic categories stemming from Halliday's Systemic Functional Grammar.

The second part illustrates the empirical chapters with methodology and linguistic data; this is analysed in terms of Halliday's interpersonal and ideational macro-functions representing semiotic mediated actions to allow for understanding of pupils' production of meanings as well as variations in their discourse production.

The first chapter '*Bernstein's theory of codes*' illustrates my theoretical paradigm mainly through Bernstein's work. I focus on a presentation of his main key concepts with reference to current educational debate.

The second chapter '*Vygotsky and his tradition in educational and cultural practices*' discusses Vygotsky's cultural- historical theory and clearly distinguishes between Vygotsky's original work and its later interpretation in post-Vygostkian studies, both within Russian and in the West.

Chapter three, '*Sociocultural theory and discourse: the theoretical background*' illustrates Halliday's Systemic Functional Linguistics, and outlines its compatibility and complementarity with Vygotsky and Bernstein. These approaches are discussed in the light of the theoretical framework applied to my empirical investigation so that similarities and differences between these theories are illustrated and discussed

Chapter four, '*Research study: perspective and methodology*', illustrates the research method, its sampling and procedures, in the light of a sociocultural dimension.

Chapter five, '*The coding of the discourse*' introduces the analytical categories applied to the analysis of discourse, stemming from Systemic Functional Linguistics.

Chapter six, '*Sociocultural mediation and psychological tools in verbal activity settings*' illustrates the empirical results of a classificatory task (classification of social agents) and a sub-task (pupils' value systems) administered in the classroom to the pupils in my sample. The aim was to understand pupils' *a priori* sociocultural knowledge, conceived as a psychological tool produced in oral and written tasks devised by the research study.

Chapter seven, '*Sociocultural interactions*' explores verbal activity characterizing peer interaction in the context of a discussion task. In particular it examines how through language the pupils in a group engage in a discussion to construct situated meanings, identities and strategies through socio-cultural tools that vary across situations or events.

Chapter eight, '*Conclusions*', outlines the main achievements of the research, highlighting limits and suggesting possible directions for future work, both methodologically as well as empirically. Comments on the conclusions are outlined and suggestions are made as to the possible use of a composite theoretical approach featuring the work of Vygotsky, Halliday and Bernstein to offer a fuller understanding of learning and discourse.

Notes

- (1) In those days science and humanities were clear-cut disciplinary fields.
- (2) Castelnovo, A.(1990) *Il codice pedagogico*, Educazione Permanente n. 3 .
- (3) Pontecorvo,C (1993) (ed.) *La condivisione della conoscenza* La Nuova Italia, Firenze.
- (4) Camilletti, E. Castelnovo, A. (1994) *L'identità multicolore*, Milano,Franco Angeli.

Chapter I. BERNSTEIN'S THEORY OF CODES

Introduction

In this section I will briefly review Bernstein's main theoretical concepts to provide a critical assessment of the theory and its changes over the years. This attempt is motivated by a number of issues, deeply interconnected to the present work.

Firstly, because a concise review of the code theory could prove useful in the light of its continuous changes over time, an assessment of its main constructs could be useful in the light of my comparison with Vygotsky, which will follow in the next chapters.

The second reason is that Bernstein's theory of codes had been the guideline for the original version of my empirical research and in this respect represents the theoretical framework to it. Thus such a framework can provide the indispensable path to understand the theory inspiring the research.

Finally, an historical outline of Bernstein's theory can provide useful in the light on the empirical work which has started in the early 1980's, when the theory was moving from its early interest on sociolinguistic codes to its later focus on pedagogic practice and pedagogic discourse. This shift is not marginal with respect to the theory and must be kept in mind also in the light of the present empirical study and the means for its interpretation. Some of the constructs now available in Bernstein's model were not even developed at the time of my research. However, this is not, hopefully, a limiting factor, as on the contrary, contextualizes my findings in a broader, more fully developed sociological field of enquiry related to linguistic, educational and school knowledge dimensions.

The organisation of my sociological overview of Bernstein's work is by no means exhaustive but focused on the development of concepts relevant to the present study.

The first part will introduce Bernstein's theory illustrating its general framing within its development in the context of British sociology of education.

The second part will examine Bernstein's main theoretical constructs, mainly focused on sociolinguistic and semiotic foundation of meanings, and their relation to pedagogic practices with schools and educational institutions.

1.1 General principles of the theory

In this section I shall review some of Bernstein's basic concept, on the basis of their relevance to my study and to a later comparison with Vygotsky.

Bernstein's sociolinguistic's code theory is a complex social theory aiming to analyse the relationships between social class, family and the reproduction of symbolic order through a varieties of communicative systems. In Bernstein's view, code is a sociolinguistic concept which allows us to make the links between social structure and discourse and he acknowledges his theoretical debt to Cassirer, Durkheim, Hymes, Mead, and particularly to Luria and Vygotsky for their interpretation of language as a regulative system (Bernstein 1996:147).

Bernstein believed that there are differences between the middle class and the working class children in their production of verbal meanings, and such differences give rise to different communicative codes, i.e. the restricted code, more likely to occur among the working class and the elaborated code, more likely to be produced by the middle class. The origin of these differences is social, and, in particular, can be adduced to class and power relations in the social division of labour, within families and schools. Thus, Bernstein's theory deals primarily with social variations in the production of relevant meanings in the use of speech. The major factor responsible for such variations is social class as class relations are fundamental for understanding the regulation of the distribution of power and mechanisms of social control. The set of relationships which generate, reproduce and legitimate the principles of power and control between and within social groups produces certain forms of consciousness. During this process the notion of codes is of primary importance as, in Bernstein's view, code acquisition is responsible for the formation of consciousness. Bernstein provided a detailed analysis of these aspects in his work, in particular in Vol. 3 and 4 of *Class, Codes and Control* (Bernstein 1975; 1990).

However, Bernstein's primary interest was not language but the possibility of throwing light on the mechanisms which hold together language, culture and society, and the key concept of this process was 'internalisation'.

He stated:

I was preoccupied theoretically with what was then conceptualised as the outside-inside-outside problematic and empirically, with problems of the class specialisation of the cultures of schools and families which gave rise to differential access and acquisition. (1966: 147)

Indeed the codes' perspective focused upon the contextualisation of groups and individuals into their class positioning, their regulation through the distribution of power and principles of control, their communicative performance principles and their practices of interaction.

Even if the code theory is a multidisciplinary approach to language, Bernstein's main interest remains society and how this enhances, preserves and transforms individual micro differences into class macro inequalities. To quote Bernstein:

My approach is too limited to deal with large questions of culture and symbolic control; rather I have been exploring the processes whereby symbolic control and its modalities are realised, how power relations are transformed into discourse and discourse into power relations. The process whereby this transformation takes place, formally and informally in families and education, is to my mind essentially a pedagogic process and, in more generalised and diffuse forms, by the public media within the context of the arenas of power of state-manage societies. (1996: 12)

The major feature of the theory of sociolinguistic codes is that it deals with meanings expressed primarily through speech in evoking contexts. In fact Bernstein, like Vygotsky, dealt with a 'contextualistic' approach, invoking multiple levels of analysis, and this created some methodological difficulties to provide empirical evidence for the relationship between each level. In his empirical analysis he deals with the micro level, trying to understand how differences in the realisation of specialised meanings are created and legitimised by society and how education reproduces such distribution. In order to resolve this dilemma, he tried to construct valid analytical tools for his research.

Of this effort he stated:

It is possible that a theory which attempts to integrate macro and micro levels of analysis, that is, interactional levels, institutional levels and macro-institutional levels, necessarily constructs a language which integrates those levels or rather attempts such an integration. The forms of description which such a language generates may well create specialised descriptions which do not satisfy the requirements of differently orientated research or interests. (1996: 2)

In fact, one of Bernstein's most difficult tasks was to provide the analytical tools to specify his research object, to provide clear terminology describing the details of his empirical research. Bernstein defines himself as a 'non field person' (Bernstein, 1996: 152) to justify the use of sociolinguistic terminology according to his personal relationship to that discipline. With respect to researchers, as opposed to those who write textbooks he poses these arguments:

How can I make a valid reliable, systematic description of what I wish to describe? How do I relate my description and interpretation, horizontally, to similar studies, and vertically to other levels of sociological analysis? From this, rather different perspective, a different view of the theory may well arise. (1996: 2)

Thus, while Vygotsky was attempting to define general issues responsible for the formation of consciousness through social semiotic mediation, drawing particular attention to the abstract tool of language, Bernstein's effort was directed towards the specification of the sociological phenomenon which creates, as Hasan has stated, 'socially differentiated individual minds' (Hasan 1992; 1995b).

Bernstein's framework also considers language as the most important tool for semiotic mediation but this process is also socially mediated and as such subject to specific features creating different forms of human consciousness. According to Bernstein our social structure, located in specialised contexts lies between language and consciousness, and his code theory tries to envisage the links between these multiple levels in a sociological perspective.

To Bernstein, in this process codes become:

...culturally determined positioning devices as the particular forms of social relation act selectively upon what it is said, when it is said and how it is said...[they] can generate very different speech systems or codes...[which] create for their speakers different orders of relevance and relation. The experience of the speakers may then be transformed by what it is made significant and relevant by different speech systems. (1971: 144)

For Bernstein the social structure translates itself into 'the child's psychological reality through the shaping of his act of speech' (Bernstein 1971: 144); consciousness results from the way of relating generated by the language system (code) realized and grounded in the social context.

Thus, like Vygotsky, Bernstein talks of performance and language use but he introduces a powerful notion between the language system and the individual, i.e. the notion of code which is a social filter integrating macro and micro levels of analysis in given, specific and legitimate texts.

Bernstein's great effort in the theoretical exposition of his concepts represented the struggle to reconcile his early structural approach, featuring Durkheimian roots, with his later development, which lays the emphasis on processes and functions. This latter, more dynamic aspect of his code theory was probably the result of the influence of the western interaction school of thought (i.e. Mead) and of Vygotsky *et al.* with whom Bernstein also shared ideas about the social origins of mental functions and the concept of speech as a means of behavioural control.

During the revisions of his concepts over time, Bernstein redefined his theoretical framework of the notion of code through the concepts of classification and framing. These concepts were crucial for his conceptual definition but also for his operational analysis in the multiple levels of his empirical research. In fact, at many levels, he was able to conceptualise macro-constraints on micro-processes, (Bernstein 1996), conceptually bridging the gap of his initial methodological approach.

As Bernstein specifies, he took his classification from Durkheim and his framework from the early symbolic interactions, thus maintaining structure and process in a sort of equilibrium as a result of this methodological compromise. These new concepts allowed Bernstein to add dynamism to his previous definition of codes

(restricted and elaborated), providing a range of potential in the production of *what* can be communicated in specialized contexts and *how*.

What seems important to clarify is that code theory, despite some methodological weaknesses, attempts to explain how the external social dimension becomes internalised by the individual in the process of cultural transmission. Such processes can be investigated empirically, and related: ‘...[to] problems of the class specialisation of the cultures of schools and families which gave rise to differential access and acquisition,’ as Bernstein explains in defining his early views which resulted in his theory (Bernstein 1996: 147).

At a more general level, Bernstein’s theory is neither linguistic nor sociological or psychological but it can be categorised as a social semiotic one. Bernstein’s real interest is indeed the process of social mediation in human behaviour (interactional, linguistic and cognitive), to explain how society orients individuals towards the production of modes of discourse and modes of thought corresponds to a particular form of social organisation with unequal distribution of power and forms of symbolic control. This leads to the production of ideological forms expressed in a system of values which orient the individual towards specific orders of meanings evoked in specific contexts (Bernstein 1981).

From a semiotic perspective the notion of code can be translated into a cluster of meanings belonging to *the mimetic plane* (Hodge and Kress 1999: 5), that is, a representative function from which meanings derives.

The lack of clarity about the theoretical plane, as well as terminology exposed through a non-orthodox language, were often the causes of criticism and controversy surrounding Bernstein’s theory. We shall discuss these issues in more detail when referring to our reading of Bernstein’s concepts in operational terms.

Despite these shortcomings Bernstein’s effort has offered sociologists, professionals and researchers from other fields, an opportunity to throw some light on meaning variations in different cultural groups, allowing to understand how such differences concern semantic, cognitive, and linguistic dimensions.

In this way his work is in keeping with Vygotsky’s as both authors are very much concerned with the cultural and social level of analysis in their investigation of development and learning. However, there are some basic differences between these two authors which need clarifying for the sake of our present and future thesis.

Vygotsky's work was socio-historical as it stemmed directly from the Marxist tradition and mirrored the Russian intellectual world in which Vygotsky lived.

As the link between history and psychology was important to him, it has both a synchronic and diachronic approach. To Vygotsky higher mental functions result from the internalisation of cultural means regulating human behaviour. As socially organised activities change continuously in time and space, psychological activities also change with respect to different cultures.

On the contrary, Bernstein's understanding of the sociocultural dimension appears to be predominantly synchronic. His social class analysis does not provide an effective framing of the socio- historical, linked to the conditions of Great Britain at the time, where he attempts to describe class relations and their inner contradictions. In this respect any cross-cultural comparison between countries may be difficult without a common ground of shared social conditions.

In describing in more detail the theory of codes we shall analyse five aspects of Bernstein's theory of codes which are more relevant for the empirical application of the present study; these are:

- i. the definition of codes and classification and framing relationships;
- ii. the pedagogic device;
- iii. the role of speech and the development of self regulation;
- iv. modes of semiotic discourse.

1.2 Codes and classification and framing relationships

The notion of codes, or more precisely sociolinguistic codes, as Bernstein defined them in his early papers, represents the major focus of his theoretical research and for this reason it has been widely redefined over the years, both conceptually and methodologically. In the latter sense, Bernstein wanted to develop a concept capable of explaining scholastic success/failure in connection to social class which could be theoretically coherent with his early formulation of restricted and elaborated codes linked to primary socialisation in the family system. In so doing he wanted to make the basic criteria for a well defined social theory, explicitly enabling him to describe different levels of institutionalised contexts such as the family, the school and other social institutions.

Bernstein's later definition of code shifts to a higher level of abstraction as he leaves aside speech but implies the production of different forms of meanings,

referring to a social semiotic process within specialized practices that are relevant to specific contexts. Bernstein states (1990:14):

A code is a regulative principle, tacitly acquired, which selects and Integrates:

- (a) relevant meanings,
- (b) forms of their realization,
- (c) evoking contexts.

Later on Bernstein (1996:194) makes some clarification by specifying that at the micro level the above three elements translates as such:

context translates as interactional practices,
meanings translates as orientation to meanings,
realization translates as textual productions.

Besides, as the analysis of codes can be applied to different institutional contexts, Bernstein states that at the macro–institutional level the formulation can be applied as such:

relevant meanings: discursive practices,
forms of realisation: transmission practices,
evoking contexts: organisational practices.

We shall now turn our attention to a few points of the definition.

First of all, Bernstein's notion of code is not identifiable with the concept of *langue* in Saussurian terminology because Bernstein deals with a potential system, i.e. code, which acts as a 'culturally determined positioning device,' to quote Hasan's interpretation in light of the functional systemic theory (Hasan 1999: 23).

This implies some culturally oriented restraints which relate dialectically with performances (both productive and interpretative) and takes shape through the speakers' use of words in social contexts. This predisposes the subject/speaker semantically to his speech *habitus* (Hasan 1999:24) which is code regulated. The level of the definition is on a different plane than *la langue* of Saussure, as this latter deals with the infinite number of linguistic possibilities, i.e. competence which any one speaker has, which it is not the main object of Bernstein' interest.

In this respect he says:

Cultures are always specialized but competences are not specialised to any one culture. Thus competences are beyond the reach and the restraints of power relations and their differential unequal positioning. Competences are intrinsically creative, informally, tacitly acquired, in non formal interactions. (1996: 149)

At this point, Bernstein's notion of code clearly appears to be influenced by culture and society, as it is a specialised concept subject to social constraints which becomes active in semiotic relations within social contexts. More precisely Bernstein's codes are comparable to 'ideology', i.e. an internal socio-cognitive process constituted by the social position of the subject in relation to the language system above and below the constraints of his sociocultural devices. In this respect Bernstein's '[i]deology is not so much a content as a mode of relation for the realising of contents' (Bernstein 1990: 14).

Thus, sociocultural regulation is embedded in the code which deals with macro-systemic values and perspective, translated dialectically into the micro-systems of social practices (speech, behaviour, and so on). The difference, therefore, between this concept and Saussure's structuralism is substantial because Bernstein's analysis deals with communicative performances produced within the many levels of contextualized practices in children's social development.

From a developmental point of view this implies that from the very beginning the child is a cultural one, subject to constraints and limits of his/her own cultural group, and within his/her culture the child acquires language tacitly by means of exposure to his context(s).

This view places Bernstein's approach among the theoretical framework of the contextualizes who do not see the dichotomy between biological factors and cultural ones but have an integrated vision of human development operating within social contexts.

In particular, the subject and his surrounding are not separate entities but they form a unit where they practice acts as a mediating factor between them. From this point of view Bernstein can be seen as Vygotsky's Western counter- part because the notion of code shapes the child's mind, forming a primary social unit between modes of social relationship mediating meanings and verbal performances in context.

But what is 'context' for Bernstein? From the early versions of his theory he specified four primary socialising contexts responsible for cultural transmission in shaping the meaning orientation of a child: the *regulative context*, with moral order rules; the *instructional context*, with learning about the nature of objects and people; the *imaginative context*, where the child is encouraged to recreate his world in his own terms and finally, the *interpersonal context* where the child is made aware of his affective states and those of others.

In some ways such definitions parallel Halliday's conceptualisation of linguistic functions (Halliday 1973) where the meaning potential of the child is described in terms of a network of choices provided by the social context .

In more recent times, the unit of his analysis of code becomes systematised in the concepts of *classification* and *framing* which are key operational features, as they allow horizontal as well as vertical relations between and within contexts. Theoretically, they permit to systematize the notion of code across micro and macro levels of the theory.

According to Bernstein, the term *classification* refers to the relationship between categories, (i.e. agencies, agents, discourse, practices) and it is a translator of power relations; *framing* refers to the principle of communication in local, interactional or pedagogic relations and it is a translator of principles of control.

Both classification and framing are rule regulated and the variations of these rules, in terms of strength, give rise to different forms of meanings and interactional practices.

Bernstein presented those relations in the following formula:

O ± Cie Fie

O refers to orientation to meanings elaborated/restricted; C refers to the principle of classification; F refers to the principle of framing; ± refers to the values of C and F with respect to strength, strong or weak; I refers to internal relations; e to external relations. (Bernstein 1990: 108)

The combination of different values in 'classification' and 'framing' gives rise to code orientations with elaborated or restricted codings in different contexts. For a more detailed explanation, readers can refer to Bernstein (1990).

The first step in our discussion must be to expand upon the concepts of classification and framing relationships, and elaborated and restricted coding.

Bernstein states that:

Classification refers to the degree of insulation between categories of discourse, agents practices, contexts, and provides recognition rules for both transmitters and acquirers for the degree of specialization of their text.

Framing refers to the controls on selection, sequencing, pacing and criteria rules of the...pedagogic communicative relationship between transmitter/acquirer(s) and provides the realization rules for the production of their texts. (1990: 24) (original emphasis)

Coding orientations result from specific modes of classification and framing and they represent the elaborated or restricted variant of the code. One main point to clarify is that in Bernstein's definition of code, the relevant meanings and the forms of their realisation are not interdependent because one orients the subject towards semantic relevance and the other towards the forms of its contextual realisation. This means that many times the coding of a specific context, relying mainly on external situation variables and on an interactional relationship of a reduced distance between participants, may not be an indication of a restricted code.

In Bernstein's view this must be tested across all situation contexts of the theory. Furthermore, context dependent meanings are not only realized implicitly but can be realized also explicitly, as has been shown by Bernstein and his colleagues (Adlam, 1977:15). However, the explicitness of a code and its specific context leads to an elaborated coding. This orientation is often responsible for great accuracy in producing utterances which are shorter and sharper and bear relevant meanings. Bernstein often remarked that the verbosity of Larry's speech, in the famous interview by Labov (1972), is indicative of restricted coding because the difference between this and an elaborated coding 'lies not in the content, but in the form of the argument offered by the two speakers' (Bernstein 1996: 153). A lengthy discussion of Larry's speech can be found in chapter 7 of *Pedagogy, Symbolic control and Identity* (Bernstein 1996).

This is a crucial point in code theory as the use of different speech coding, in Bernstein's view, indicates the interpretation of social relations that are characterized by an increased distance between speaker/setting for universalistic meaning and explicit speech, i.e. elaborated coding. On the other hand, restricted coding is

characterised by particularistic meanings and implicit speech that creates a social situation of reduced distance between the speaker and the setting.

It is quite clear from Bernstein's writing and from that of his colleagues (Adlam 1977) how the interpretation of the context by means of ground rules (recognition rules, intrapersonal) and the external constraints of the situation (realization rules, interpersonal) influence each other in a dialectical way and reverberate on the act of speech. From this point of view there are systemic relations of meanings which are hierarchically related to coding production: syntactic and lexical choices are the most delicate semantic options and this semantic organisation regulates the grammatical form.

The semiotic relationship between contextual features, the speaker and his/her coding(s) reveal the code modality of a given subject with elaboration or a restricted variants indicating the range of possibilities (i.e. meaning potential) in taking advantage of social choices provided by the context. Indeed speakers' experience, or more specifically, social positioning in Bernstein's view, legitimises his/her range of choices which translate into symbolic control in the realisation of meanings in context.

The theoretical description of coding orientation as social phenomena, embedded in social context, parallel Vygotsky's sociogenetic view on the origins of higher mental processes when he states:

Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first between people (inter-psychologically), and then inside the child (intra-psychologically).
(1978: 57)

We can now acknowledge the role of semiotic mediation in both theories as the Russian psychologist emphasises sociogenesis of the human mind and the British sociologist cultural transmission in cultural context(s).

1.3 The pedagogic device

The pedagogic device model arose from the need to create a social grammar to understand how a particular form of pedagogic discourse can become 'a symbolic ruler of consciousness' (Bernstein 1990:180). This allowed for the construction of the sociological nature of pedagogical knowledge (official or local).

In the case of language, grammar functions according to three sets of rules; these rules make pedagogic communications possible but they are not ideologically free as:

...[they] reflect emphases on the meaning potential created by dominant groups. Thus, from this point of view, the relative stability of the rules may well have their origin in the concerns of dominant groups. Language and speech should be considered as a system of dialectically interrelated systems'. (1996:41)

The three sets of rules are respectively distributive, re-contextualising and evaluative, and each of them have different functions in the regulation of pedagogic communication and its meaning potential, i.e. the potential discourse available to be pedagogized.

Distributive rules are indicated as esoteric and mundane forms of knowledge or in Bernstein's terms, the thinkable and the unthinkable (Bernstein 1996:43) .

He states:

Power relations distribute the unthinkable and the thinkable, and differentiate and stratify groups accomplished by the distributive rules... Sociologically speaking the distributive rules create a specialized field of production of discourse, with specialised rules of access and specialised power controls. This field is controlled more and more today by the state itself. (1996: 45)

The re-contextualizing rules create a particular pedagogic discourse which in turn 'selects and creates specialised pedagogic subjects through its contexts and contents.' (Bernstein 1996: 46).

Bernstein believed that two types of discourse are embedded: the 'instructional', referring to skills of various kinds with their relationships, and the 'regulative' which is a discourse of moral order. The former is embedded in the latter which is the dominant one.

The regulative discourse takes discourses outside the school and relocates them as instructional discourses to fulfil pedagogically specialized school practices. Bernstein states:

As the discourse moves from its original site to its new positioning as pedagogic discourse, a transformation takes place... As this discourse moves, it is ideologically transformed, it is not the same discourse any

longer. As pedagogic discourse appropriates various discourses, unmediated discourses are transformed into mediated, virtual or imaginary discourses. From this point of view, pedagogic discourse selectively created imaginary subjects'. (1996: 47)

According to Bernstein, this process is ruled by a re-contextualising principle, creating agents whose function is to re-contextualize, namely, school teachers. Bernstein felt that the pedagogic subject position in the pedagogic discourse is imaginary because it is:

...[a]n activity unmediated by anything other than itself in its practice and an activity where mediation is intrinsic to practice... When a discourse moves, through recontextualizing, from its original site to a pedagogic site the original discourse is abstracted from its social base, position and power relations. (1996: 53)

Finally, rules for evaluation transform pedagogic discourse into practice by creating the field of reproduction of knowledge as well as the process of acquisition. Bernstein states:

Evaluation condenses the meaning of the whole device. We are now in the position where we can derive the whole purpose of the device. The purpose of the device is to provide a symbolic ruler for consciousness. (1996: 50)

Like other scholars of code theory who dealt with the discourse of education, Bernstein emphasized the relations of power and control upon every instance of the process which he believed to be a hierarchically mediated activity, both horizontally and vertically and considered to be 'symbolic rules of consciousness' (Bernstein, 1990:191).

So far Bernstein has maintained his theoretical cohesion by presenting a very articulate structural-functionalist view of how the educational system works, produces and reproduces itself, and how the acquirer is subject to rules of power and control in the re- contextualising of discourse into educational discourse.

These ideas are founded on the concept of domination by the ruling class whose domineering principles regulate production, distribution and reproduction of symbolic knowledge, even if this can create potential conflicts, resistance and inertia between the primary context of socialisation of the acquirer when introduced into the re-contextualisation of his meaning through school practices.

Despite Bernstein's lengthy description explaining his educational views, there are some basic questions which remain unanswered: How does the teacher transmit his knowledge to the pupil's mind and how do these acquire the pedagogic code specific to the requirements? How does this process take place at the interpersonal level? Bernstein says that this process takes place within the re-contextualizing fields constituted by the:

... 'what' and the 'how' of pedagogic discourse. The 'what' refers to the categories, contents, and relationships to be transmitted, that is their classification, and the 'how' refers to the manner of their transmission, essentially to their framing. The 'what' entails recontextualizing from intellectual fields (physics, English, history, etc.), expressive fields (the arts), manual fields (crafts), whereas the 'how' refers to the recontextualizing of theories from social science, usually psychology. The recontextualizing brings together discourses from fields which are usually strongly classified, but rarely brings together the agents. On the whole, although there are exceptions, those who produce the original discourse, the effectors of the discourse to be recontextualized, are not agents of its recontextualization. It is important to study those cases where the producers or effectors of the discourse are also its recontextualisers.' (1990:196-198)

Bernstein's explanation of 'what' and 'how' refers to classification and framing concepts. The 'how' can be inferred from the possible combination of framing values and rules; indeed his theory is an open one which develops horizontally by means of interdisciplinary fields and connections.

Interesting as it is, he inevitably neglects the basic empirical micro-level unit of analysis, often creating gaps which are fertile ground for ambiguous individual interpretations. In fact these are the primary socialisation processes and the sociolinguistic codes which Bernstein refers to when dealing with positional and personal relationships in the family but without having ever tested or observed them empirically.

In the same way within the educational system is not clear what the basic unit of the transmission/acquisition process is. Is it that the dyad teacher/pupil (hierarchical relations), the pupil/pupil (horizontal relations), the teacher/pupils, or a combination of them all? Besides, how does Bernstein define the acquisition process? In the review of his system there seems to be little room for individual creativity and negotiation of meanings between transmitter and acquirer and there is no way of

testing the quality of the acquisition process as we know that this can often be masked by pure and simple imitative behaviour.

Indeed Bernstein provides a conceptual syntax of meaningful relations which often needs to be voiced together with lexical and grammatical items. His view of the social construction of pedagogical practices which at the same time focuses on local and official knowledge, problematizes Vygotsky's concept of higher mental processes since the semiotic mediation is 'sociologically sensitive to social phenomena and creates socially differentiated individual minds.' (Hasan1992a; 1995b).

However, in our view, Vygotsky can integrate some of Bernstein's approach to social knowledge because he also describes *how* a cultural transmission takes place at the interpersonal and intrapersonal level.

In describing the process of primary contextualization within the family in the early stages of the formulation of his theory, he explains the surface feature of the transmission process (through personal or positional meanings) but he never reaches the internal mechanism whereby these meanings are internalised. The same criticism can be forwarded about the educational context in the teacher/pupil relationship. We are still far from understanding exactly how the process of internalisation occurs. According to Chang and Wells this implies at least three fundamental conditions, such as the real construction of knowledge rather than a mere copying of it, the mastery of the sociocultural system and its symbolic representation which all occur through social interaction. Besides implying a simple transmission of knowledge, these processes also imply continuous transactions, negotiations and transformations on the part of both speakers (Chang/Wells 1993:60).

Thus, during conversational interactions, knowledge results in constant modifications of speakers' points of views and many different types of meanings are involved in the process, as knowledge itself is of different kinds (procedural and or propositional) and so are the linguistic functions involved in it (ideational, heuristic, interpersonal and so on). It appears that even teaching and learning in the Zone of Proximal Development are not as easy as it may seem.

In Wells' interpretation and extension of Vygotsky's view (1999), he points out how in a classroom situation group learning involves a continuous changing of meaning according to the participants' understanding during the unfolding of the conversation. This is due to the cultural heterogeneity within the group which results

in varieties of interpretations and of the learning requirements, different learning strategies and so on.

Thus, in the Vygotskian point of view, meaning constantly changes like the practices of control over it. This seems to be the fundamental difference between Bernstein's and Vygotsky's conception of the educational process and these arguments can be of some interest for the examination of the empirical data of the present research as well as its underlying theoretical assumptions.

1.4 The role of speech and the development of self-regulation

Bernstein's early discovery on working class speech variations, when compared to middle class speech was based on the empirical recognition of differences in the grammatical features of restricted and elaborated codes (Bernstein 1971).

These modes of speech were characterised by differences in structural features, working class speech being particularistic and context dependent versus the universalistic, context-independent speech of the middle class. In addition he noticed sociological variables, marking different types of social relationships which arise during interaction. These are known as the 'sympathetic circularity features' (Bernstein 1973: 149), which mark a special type of social relationship, mechanic solidarity of shared ideas and assumptions. We often associate these with the use of the narrative and descriptive mode by the working class groups, where there is, for instance, less use of the verb phrase '*I think*' and of pronouns, in contrast to the speech of middle class performances groups (Bernstein 1973: 128-129).

Bernstein explains his ideas by stating that:

The use of 'they' is not simply the result of the tension between in-group and out-group...The non specificity implied by 'they' is a function of a lack of differentiation and the subsequent concretizing of experience which characterizes a restricted code as a whole. On the one hand, too high a level of abstraction is used (they) yet on the other, speakers are often involved in the consideration of a series of individual concrete cases. What appears to be lacking is the intervening series of successive levels of abstraction. The lack of specification also implies that there is possibly some implicit agreement about the referent such that elaboration is redundant. In this sense 'they' is based upon 'we'. How much is redundant will depend upon the community of interests generated by the 'we'. (1973:128)

Furthermore Bernstein interprets the sociocentric sequences (S.C.) as part of the speech system generated by the different codes:

It is thought that these sequences will occur more frequently whenever a restricted code is used. The meanings signalled in this code tend to be implicit and so condensed, with the result that there is less redundancy. A greater strain is placed upon the listener which is relieved by the range of identification which the speakers share. The S.C. sequences may be transmitted as a response of the speaker to the condensation of his own meanings. The speaker requires assurance that the message has been received and the listener requires an opportunity to indicate the contrary. It as if the speaker is saying: 'Check-are we together in this?' On the whole the speaker expects affirmation. At the same time, by inviting agreement, the S.C. sequences test the range of identifications which the speakers have in common. The agreement reinforces the form of the social relationship which lends its objective authority to the significance of what is it is said...In as much as a restricted code is generated by the sense of 'we-ness' than at the point where a speaker is giving reasons or making suggestions the form of the social relationship undergoes a subtle change. (1971:130)

A shift from narrative or descriptions to reflection-from the simple ordering of experiences to abstracting from experience-also may signal a shift from we-centred to individuated experience. If this is so, then this shift introduces a measure of social isolation of the speaker which differentiates the speaker from his group in a way similar to figure-ground relation. Inasmuch as the group is based upon a closely-shared self consciously-held identification the change in the role relationships of the members is clearly indicated. The unspoken affirmation which the S.C. signal may receive reduces the sociological strain upon the speaker. In a discussion situation which invites the verbal signalling of individuated experience, the 'we-ness' of the group is modified in direct relation to such individuated signalling. The S.C. sequences may then function as feelers towards a new equilibrium for the group; that is, towards a new balance in the role relationship of the members. (Bernstein 1973:130-131).

This aspect of Bernstein's theory, that is, the tendency of working class children to orient themselves towards a type of relationship which is based on social consensus (mechanic solidarity), has been often interpreted on a psychological level, implying that there is a minor degree of ego differentiation within working class groups as compared to middle class ones. Their individual identity has been

considered somehow weaker and dependent on context, dependent on the group of origin, and this is also reflected by the use of lexical and grammatical forms in their discourse production.

Bernstein's initial observations and social intuitions seem to be better understood if one considers recent studies concerning the development of social identity with *out-group* and *in-group* relationships (Taijfel 1978a; Taijfel and Turner 1979; Brown 1989). Those authors point out that the development of self-identity is defined in terms of belonging to a group and that generally, the in-group is considered to have positive values.

Taijfel and Turner (1979) expanded upon Festinger's (1957) theory of social conflict by suggesting that the value of the in-group depends on a comparison with other groups; from this comparison we create our self esteem only indirectly.

The theory of social identity can be tested through Bernstein's concept of the self-identity of the working class members' groups (in-group) in comparison with the middle class members' ones (out-group). In social terms, the need to achieve social consensus may derive from the low self esteem of the working class because they feel they are members of a sub-cultural in-group that has less power and less material resources when compared to the dominant middle class. The theory of social identity seems to provide some evidence for the close relationship between members of the working class because close social ties demonstrate the need to elicit social consensus among the inner members while opposing the outer group members. Brown (1984b) and Taijfel (1982a) conducted some experiments in natural settings and demonstrated how groups of workers and their need to differ from other workers was due to social differences between them rather than to differences in their salaries.

Brown also quotes examples of linguistic use, such as national dialects, as a means of social distinction and differentiation from other dominant groups (Brown 1988). He defines language as the principal method of intra-group communication since through it we can communicate with out-groups trying to integrate or exclude ourselves.

Somehow Bernstein's interpretations have failed to be theoretically defined through a proper methodological framework, namely in the field of social psychology wherein it is also possible to reinterpret his early papers on sociological determinants of perception. (Bernstein 1973). His work has been widely criticised by

cognitive psychologists mainly, as well as by educationalists (Edwards 1976), because it has been interpreted within the realm of cultural deprivation. What is needed nowadays,

...is a framework that begins to reconceptualise and reframe these issue of difference, discourse, and identity in relation to an analysis of schools and classrooms as institutional systems. Such an analysis must begin to connect issues of the face to face social construction of knowledge with issues of institutional location and structure, it must connect issues of discourse with a broader sociological analysis of the state, economy and social change. (Singh and Luke 1995:xii)

A new interpretative approach could also help to reconceptualise Bernstein's early work on perception. He wrote:

An attempt has been made to show the social origins and some implications of two different orders of perception, characterised by sensitivity to structure or sensitivity to content. It must be emphasised that this is a distinction of general orientation. It has been stated that the middle class child is aware of content through a structure of a different order from the working-class child and responds to qualitatively different perceptual cues. Cues which are meaningful to the middle class child are not available to the working-class child. The way the receptivity of the working-class child has been structured is such that his available perception is determined by implications of the language-use of his class environment. (Bernstein 1973:59)

Indeed with a different theoretical interpretation of such statements, it could be said that Bernstein was referring to social representations of the contextual requirements of a task, i.e. the context of a situation as defined by Hymes which is socially mediated and produces social differences in the realisation of the task. This can be classified within the theory of social identity which is socioculturally oriented (Moscovici 1981a).

The result of this approach is that different cultural groups of children (and adults) would interpret the perceptual cues of the situation and of the task in a different way because their social representation of it is different. This is visible at a many levels of meaning production as it implies not only difference in linguistic uses (sociolinguistic) but also differences in the communicative nets within the group. Thus, given the same task to different sociocultural groups, the social perception and mental representation will orient them differently in creating intra-group

relationships. So the structure of the interaction among the group members, interpreted as unity of distance within the members and the pattern of leadership or integration between the individuals, is deeply affected by cultural styles and social value systems.

The argument seems to confirm the socio-semiotic approach which had been thoroughly discussed by Halliday and Hasan; the latter states: 'We not only use language to shape reality, but we use it also to defend that reality, against anyone whose alternative values might threaten us' (Hasan 1996:34).

It could be said that this is true for everyone but clearly, such a process increases in degree when the threat seems to be legitimised by different forms of social exclusion from the dominant values and resources.

What has just been said must not be confused with Vygotsky's notion of egocentric speech which features socio-centric sequences as described by Bernstein. While both concepts refer to the formation of the child's identity, the former process is a developmental phase in the child's development of his speech and thought. On the other hand, the latter is linked to sociocultural habits which are not developmental in nature as they can occur both in children as well as in adults and are subject to change according to sociocultural and economic variations of role and status.

It is readily apparent that the origin of both phenomena is as varied as their destiny and outcome. This said, both Vygotsky and Bernstein focused respectively on the psychological and social aspects of speech behaviour without developing a relationship to the mediational mechanism of socio-cognitive factors of group activities in context. Future research may shed further light on these issues.

1.5 Language and modes of social semiotic discourse

Bernstein's main interests lies in the relationships between class and the process of its cultural reproduction, and his notion of the origin of codes concerns the field of symbolic control which is class regulated into forms of social relationships and the distribution of activities. He believed that the historical origin of codes lies in kinship and religious systems rather than in the field of production, whereas the location of codes lies in the class regulation of forms of social relationships and distribution of activities (1996:183). This view derives from the Durkheimian social anthropological

schools of thought (i.e. Mary Douglas) as Bernstein himself has pointed out time and again. In particular he remarks:

...[c]ode theory attempts to understand how the distribution of power and principles of control generates, distributes, reproduces and legitimates dominant and dominated principles regulating communication within and between social groups. (1981:327)

If one considers his recent perspective, it is clear that his theory has shifted from an early concern with lexical and grammatical features of speech in context, to wider and more extensive forms of social regulations within institutional settings. Thus, Bernstein has replaced the earlier primary context of transmission (i.e. the family) with the later notion of the transmission of educational knowledge through pedagogic discourses. This theoretical shift entailed a change of operational concepts. So earlier terminology like '*positional*' and '*personal*' would be evolve into the concepts of classification and framing which act at a more general level of symbolic power and control. These notions resembles Halliday's notion of systemic grammar because 'classification' refers to paradigmatic relations specifying meaning potential, while 'framing' refers to the syntagmatic relationships, i.e. the actual realisation of meanings. The act of communication is realized between these two dimensions which both belong to the total meaning potential of language which is obviously never realised to the fullest. Bernstein never entirely explained these processes and this has been a point of criticism made by Halliday (1995).

On the other hand, Bernstein's notion of code can be described as an inner device, biologically transmitted and socially constructed, which relates internally to its own biological resources to create meanings and also externally to the extra-linguistic features of reality to construct contexts. The internal structures of language, i.e. lexical, grammatical and semantic features, are dialectically related in a functional way as the lexis is the most delicate expression of the grammar and can be analysed through the systemic network of semantic choices which are internally cohesive and externally congruent. This is to say that the environment provides the possibilities of choices and these are actualised in terms of meanings by the speakers realised into what they actually do with their speech. For Bernstein the external context is critical to those choices and it is realized by means of control which is social and specific.

To Bernstein code theory is involved in the formation of consciousness but this does not imply that language solely can have such function, like in the case of Vygotsky's approach. Bernstein has a wider perspective as he is interested in symbolic forms and the practices they give rise to in contexts, and his notion of semiotic exchange refers to all social practices and not only to linguistic ones. Despite the early investigations into speech productions, paradoxically Bernstein's interest in speech is not a priority in his theory of codes:

The issue is not the linguistic form but the relationships between power, social positioning, privileging practices, and meanings. Codes are carried by linguistic forms but they have their origin outside such forms.
(1990:122)

Thus, if language and speech are not fundamental, what counts for the formation of the child's consciousness and his thoughts lies in the classification and framing relationships and their rules for production and recognition of specific contexts. Despite the fact that Bernstein always claimed to be interested in performance as competence, he is concerned with universal innate abilities belonging to any individual. The theory shifts at another level with respect to his early interests, i.e. from speech to communication, and from micro interactional communicative practices to macro institutional structures. Indeed such a shift is also a theoretical one as it places code theory at a more abstract level of description, i.e. the semiotic plane and not the sociolinguistic one as the early configuration of Bernstein's work.

Quoting him:

Basically, there has been a movement from the giving of definitions in terms of general linguistic indices (which proved impossible to operationalise and robbed the thesis of any contextual specificity) to the giving of definitions in terms of a *generating contextually specific semantic*. However, in all definitions the underlying semantic was considered to be the regulator of linguistic realisations. (1990:101)
(original emphasis)

To Bernstein, the unit of analysis of meanings is not a single utterance but the relationships between contexts, which are code regulated. The method of analysis of speech and meanings was translated through his use of the network consisting in a set of sub-systems of choices in such a way that:

The choices at the left of the network represent the most likely choices within a sub-system, whereas proceeding towards the extreme right of the network reveals dependent, more idiosyncratic choices. In this way, in principle, the speech meaning can be transformed into data relevant to the exploration of the theory... Thus the network becomes the instrument for translating the social relations and their specific practices into a set of contrastive semantic choices and their realisations. The instrument for the exploration of the theory condenses in itself the sociological, semantic, and linguistic levels. (1990:98)

Bernstein has become very close to Halliday's systemic grammar as his orientations to meanings is equated to the concept of meaning potential in Halliday's approach. It is legitimate at this point to reconsider the role of language and meaning with respect to this new positioning of the theory of codes. It is well known that Bernstein's early version of the theory put a great emphasis on speech as regulative of behaviour as well as a vehicle of perception and somehow, implicitly to cognition. Bernstein's early descriptive language has been sometimes misunderstood as it gave rise to a great deal of criticism equating the theory to linguistic and cognitive deficits. Bernstein explained at length what his position was in this respect, and I believe it is not necessary to reconsider his points. However, within the framework of meaning potential (Halliday) or coding orientation (Bernstein) it is necessary to postulate the relationships between meanings, language and some forms of reasoning which, in the old language, could be equated in the relationship between language, society and thoughts. Bernstein's later experiment in this respect was carried out in 1981, published by Holland within the SRU. The experiment involved two groups of children aged 7, divided according to class, invited to classify pictures of different kinds of food. Results have shown differences with respect to the two groups; the lower working class children gave principles which had a direct relation to the local context, producing meanings specific to their local situations (i.e. *it's what we have for breakfast, it's what mummy makes*), to Bernstein these responses were coherent with predictions. Middle class children produced principles with an indirect relation to a specific material base such as: *'They're vegetables. They come from the sea,'* whereas working class children's responses were directly related to the material base. Furthermore, the middle class group was able to group pictures also in a way similar to the working class, when asked to categorise them in a different way. To Bernstein this means that:

The crucial difference between the two groups of children lay in the relation of the grouping principle selected to a material base, in one case the relation is direct and specific, and in the other the relation is more indirect and less specific. (1990:103)

Thus, from the point of view of meaning potential, it seems clear that middle class children have a wider choice in their semiotic selection in a specific context of a sorting task, and these are due to different readings of the classification and framing values of the experimental context. In Bernstein's language, the experimental interaction was read as being highly pertinent and specific by the middle class children (i.e. regulated by +C+F rules), while the working class read the context as an unspecialized and unspecific situation (i.e. -C-F). Bernstein's interpretation is that the difference between the children is not a difference in cognitive/facility power but a difference in recognition and realisations rules in the children's recognition of the context (Bernstein 1990: 104).

Despite the fact that to Bernstein different orientation to meanings are not due to cognitive differences in origin, it is also quite obvious that he points to social differences resulting in difficulty in the creation of taxonomic principles on the part of the working class children. Their limits or restricted choices do result in the end in smaller possibilities of semantic choices provided by the task at hand. This finding obviously has great educational implication within learning in schools. Bernstein stresses the lack of sociolinguistic studies of classrooms of the underlying coding rules given by the classification and framing of the elaborated code in schools. To him classroom talk, even if at the surface level it may present features of the restricted coding, in reality is always elaborated. In particular, in classroom's talk the child is always embedded in rules of social order, more specifically regulative and instructional discourses embedded in the pedagogic discourse.

It follows that the notion of discourse could also be referred to in any situation entailing the recognition of a task, the production of meanings and its speech realisation, involving at the same time linguistic, social and cognitive dimensions. In this sense discourse is semiotic discourse.

1.6 Final remarks

Bernstein's theory of code is a very complex approach to cultural transmission. However, in the light of the present study, it will be useful to illustrate it in terms of its future possibilities in new fields of application, with the strength and weaknesses that any theory always entails.

In this connection it will be useful to clarify a few points, also in the light of the aims of the present study, i.e., the presentation of the empirical research and the comparison with Vygotsky.

The first point I want to make is that Bernstein is interested in modes of language use, that means not the language system but speech as process in the production of meaning in evoking contexts. This means that the level of his descriptions of speech is not language as a system or meaning potential but that of performance i.e. speech, *parole* and not of competence, language, *langue*. To Bernstein the potentiality of actualisation, at the next level of abstraction, lies in the strength of classification and framing relationships. These relationships underlie different and specific forms of communications which in turn are related to the creation and change of specific forms of consciousness.

At the most abstract level the social division of labour (in society and within family and schools) are expressed in the distribution of power and principles of control, regulating the relationship within and between social groups. For Bernstein language has a critical role, but speech is the process by which a child comes to acquire a specific social identity. As it is 'a constellation of shared learned meanings through which he enters into interaction with others' (Bernstein 1971:123-124).

In this complex sociological model of cultural transmission which entails semantic, linguistic and sociological perspectives, Bernstein (1996: 134) recognises the importance of specifying theoretically the relationship between different types of social phenomena, described at different levels of abstractions.

I shall critically analyse these models on three basic aspects which the code theory pretends to fulfil making specific reference to language as considered to be the most important mean of cultural transmission: i) the linguistic, ii) the semiotic, iii) the cognitive.

Bernstein's model is based on a structuralist view, both of society and of codes and it relates to Halliday and Hasan to locate the theory of codes within the framework of a general theory of language. However, Halliday's model is a

functionalist approach which proposes to think in terms of a lexico-grammar, implying that it does not make clear cut differences between grammar and lexis and vocabulary. This approach is clearly different from structuralist studies of language, and it entails that choices in the grammar (including lexis and vocabulary) lead to textual productions considered as meaningful pieces of language and treated as units of linguistic analysis. Choices in the language system realising meanings in texts have been demonstrated to be systematic (Halliday 1976) and sets of linguistic choices were recognised to make particular kinds of meanings. All these theoretical observations led to the classifications of three metafunctions in language: the ideational, the interpersonal and the textual (Halliday and Hasan 1985). Basic to the evolution of the semantic system is its relationship with the context of situation in which language was used. The choices concerning the production of the three metafunctions were thought to be realised simultaneously, and all together they were believed to parallel the three aspects of register in the context of a situation.

With respect to Halliday's theory, Bernstein clearly said he referred 'to modes of language use'; further, he dismissed his early definition of codes in terms of grammatical and syntactical levels by replacing it in terms of 'meanings', suggesting regular and systematic variations in the way meaning is constructed in given social contexts. But to which meanings does he refer? Meaning potential and thus to language as a system (therefore competence) or to language in use (i.e. performance), the level at which he says he operates? And again, elaborated and restricted codes/codings, refer to texts or to meaning potentials?

Halliday has expressed the difficulties that may arise from Bernstein's definitions.

He states:

... the codes are different patterns of habits of speech (in one place Bernstein had used the formulation speech systems) (1971: 131) adopted by speakers of the same *language* as a result of subcultural variation... But the real problem lies in the nature of the dichotomy itself, no matter what it is called. We are talking here about a general property of all semiotic systems, with language being the prototype: language (or 'competence') is the *potential* of the system, as a resource for making meaning; speech (or 'performance') is its *instantiation* in the text. But system and text, however we may reify them with terminological oppositions such as *langue/parole* or language and speech, are not two different orders of phenomena. They are the same thing, seen from different ends. There is only one phenomenon here, the social activity of

making meaning, through language; but this phenomenon can be *viewed* from opposite perspectives- either as potential, or as (sets of) instances. What we call language and speech represent different standpoints of the observer.

The difficulty we have with the concept of code in Bernstein's model....is that ... we need to position ourselves at some midpoint along the scale. In order to be able to do this, we have to view code simultaneously from both perspectives, seeing it both as *variation in the system* (or meaning potential) and as *different patterns in the text* (the way this potential is instantiated). The regularities that Bernstein is observing and accounting for lie just at this intermediate depth.

(Halliday 1995: 132) (original emphasis)

Thus, Bernstein does not in fact define his codes solely in terms of performance, but he implicitly acknowledges a deeper level of analysis, very close to the level of competence (Halliday 1995).

However it still remains unclear whether Bernstein's codes is concerned with language potentialities or linguistic varieties, of which the elaborated one is the Standard language (Ponzio 1978). In his paper: *Sociolinguistics: A Personal View*, Bernstein advocated for a sociological model of 'potential semantic' (Bernstein 1996: 152), even better semiotic, to understand and interpret interaction in the micro context of symbolic control (parent/child, teacher/student, social work/client, doctor/patient, prison warden/inmate) involving linguistic subsystems such as grammar, lexis and paralinguistics. This concern sounds somehow like an indirect recognition of same lack of empirical evidence of his own theorisation, which have been partially provided only much later by Hasan and her colleagues (Hasan 1986; 1988; 1989; 1991; 1992a; 1992b; Hasan & Cloran 1990).

The second point I wish to make is about the concept of social semiotic. Bernstein stresses that 'social relations acted selectively on principles and focuses of communication and these in turn created rules of interpretation, relation, and identity for the speakers' (Bernstein 1990: 95). He also stressed that between language and speech is social structure and, in individual terms, this is represented by family with roles, meaning and communication codes. Thus for the child the mediation from social structure to language is represented by his/her positioning within his/her family, and the way in which this is modelled in terms of procedures of social control (personal or positional). In this respect, to Bernstein, semiotic mediation is not a neutral process. Rather, to Hasan, 'it is socio-logically sensitive to social phenomena and creates socially differentiated individual minds' (Hasan 1992a; 1995b). But if

this is the case it means that social structure, expressed in specialised interactive practices within each family type described by Bernstein, is internalised through social and verbal mediation, thus generating very different speech systems or codes, but also the child's psychological reality, and different forms of consciousness. The multilevels of the theory, in this process of transmission-internalisation, i.e. social verbal and psychological, are synthesised in the act of speech as a linguistic form. It is a strong conditioner to orient the individual towards certain directions, modifying cognitive, affective and social experiences (Bernstein 1971).

However, from Bernstein's writing, we can only infer the process mentioned above as he does not empirically describe in naturalistic observations the steps which lead to the formation of consciousness from social structure and interaction. In his description it seems that children are only passive acquirers, and have no means of negotiating or changing the meanings produced by their parents or teachers. In Bernstein's view, which is the view of the transmitter, a child can only accept his/her social structure and adjust to it, with no control over its modalities and no power to change its principles. Bernstein's description of the types of families provides a deterministic view of child development which is unrealistic, as people working with children are deeply aware of the challenge that kids often provide to their family patterns and routines which have often to be modified and constantly readjusted in order to tune in with their constant requirements. The lack of the synchronic dimension in Bernstein's analysis is the key to his description of fixed and stereotyped attitudes often linked to social class attitudes and behaviour. There is a further point in connection to the psychological level, with reference to formation of consciousness of different code modalities. Bernstein has told us that the elaborated code celebrates the I over the we, while for the restricted code users the we is over the I, thus implying different types of social identities. If Bernstein agreed with Vygotsky's essential law of sociogenesis in the formation of higher mental functions, as he surely did, implying a developmental sequence in the child's cultural development being firstly social and only later individual (Vygotsky 1978: 57), it follows that the elaborated code users are more advanced developmentally as they have reached the intra-psychological level, while the restricted code users have remained anchored at the inter-psychological one, thus being more limited in the development of higher mental concepts. Besides, this also implied different types of

ego strength, one more dependent on others and collectivistic and one more independent and individualistic.

Is that what Bernstein implied in describing different types of consciousness in code users? This is a difficult question to answer, but surely, in his experiments on sorting pictures of different kinds of food with 7 year old middle class and lower working class children, carried out by Holland in the Sociological Research Unit (1981) Bernstein claimed the presence of different types of classificatory principles used by the two groups, i.e. the middle class have a taxonomic organisation within general principles of generality (i.e. *they are vegetables*) and the lower social class employed a script organisation (i.e. *it's what we have for breakfast*).

Besides, middle class children were able to grasp grouping principles, when asked to arrange the objects in a different way. Bernstein's conclusion on this experiment is as follows:

The difference between the children is not a difference in cognitive facility/power but a difference in recognition and realization rules used by the children to read the context, select their interactional practices, and create their texts (1990:104).

This is a very indirect way to speak of cognition, and to acknowledge indirectly the greater ability of middle class children to deal with mental functions.

Thus, to conclude, despite the many modification of the theory of codes, some ambiguities remain which would benefit from further investigations and clarifications. These can be summarised as follows.

Firstly, at the level of language as a system, are elaborated and restricted codes different speech systems, as Bernstein explicitly said, or do they represent a *continuum* of meanings to be found in different degrees within the same speech system?

Are restricted and elaborated codes different 'meanings potentials' resulting respectively in quantitative/qualitative speech varieties in contexts of use? This implies that a limited set of choices of meanings could be realised within specific contexts in the case of a restricted code and a multiple set of choices of meanings in the case of the elaborated code.

Finally, are elaborated and restricted codes directly related to cognitive mental abilities, thus expressing a dialectical relation between thought and language?

If Bernstein's theory of codes can still provide the symbolic space to tackle these questions, it means that it is open enough to allow a meta-dialogue with other disciplines providing, perhaps, the refinements required. In this potential effort, to use Bernstein's words referring to his theory 'this perspective may not be entirely irrelevant' (Bernstein 1996:152) .

The relevancy of his theory has been already proved; at present and in future a link is necessary between Bernstein's theory and insights and different interdisciplinary fields. This is as challenge difficult but fruitful for future research.

Chapter II. VYGOTSKY AND HIS TRADITION IN EDUCATIONAL AND CULTURAL PRACTICES

In this chapter I shall refer to Vygotsky's main constructs, analysed according to his theoretical paradigm and discussed in light of Western cultural studies.

I will present the current theoretical debate through the discussion of Vygotsky's main theoretical issues since the heart of the debate often focuses on understanding concepts such as education and cognition, the Zone of Proximal Development, mediation and internalisation, sociocultural theory, methodology, social class and multiculturalism.

2.1 The background

Although Vygotsky's contribution has been of fundamental importance in psychology and in education, and in consideration of recent sociocultural studies, his theory has often been considered a 'puzzling phenomenon' (Kozulin 2003) which touches upon many fields of enquiry, often providing 'open questions' with a multiplicity of answers. This can be partly attributed to the fact that his writings have been recently translated from Russian and thus only accessible since the late fifties in the West and circulated with their original meanings even later in Western literature. The recognition of Vygotsky's original writings has sometimes reoriented the deep meanings of many of his concepts, which threw a completely new light on his thinking and his own work (Mecacci 1990; Van der Veer, 1991).

Nowadays we acknowledge the multiple aspects of Vygotsky's life as thinker (an educator, a humanist, a psychologist) by interest in his work and this attitude continues to exist even today given the great variety of interpretations of his writings.

In contemporary literature, one continuously finds elaborations and variations of Vygotsky's work in a various and diversified manner. The authors Kozulin, Gindis, Ageyev and Miller in the introduction to their volume *'Vygotsky's educational theory in cultural context'* (2003), explain this phenomenon as follows:

Each of us has 'discovered' Vygotsky's theory in his or her own way. Some of the authors studied in Russia and acquired Vygotsky's theory directly from the people who knew Vygotsky and worked with him. Other authors became initiated by reading translations of Vygotsky's works and applying his ideas in socio-cultural contexts very different from those in which these ideas were originally conceived. As a result, the theme of cultural diversity in understanding and applying Vygotsky's theory becomes a strong leitmotif of the entire volume. (2003: 2)

The heterogeneous readings of Vygotsky are recognisable in Western psychology as well as in the recent Soviet psychological tradition. There are a number of historical reasons for this; both traditions recognised Vygotsky's theory with great delay, but the reasons for the lack of this recognition were different.

In Russia, Vygotsky's theory was blacklisted from 1930 to 1950, mainly by Stalin who was very critical towards 'pedology', i.e. educational and psychological test assessments (Kozulin, 1984; Van der Veer and Valsiner 1991).

In the West, Vygotsky's original work started to circulate around the same time; when it was being interpreted correctly his psychological terminology was often at odds with the English translation as some terms could not be literally translated from their original Russian version.

Despite this slow start, nowadays he has been re-discovered and his work has been applied in a number of different fields of educational research .

To understand Vygotsky's work one must first try to understand how scientific ideas migrate between countries, and at the same time one must reflect on how the Western tradition has the tendency to analyse psychology from its own theoretical perspective. As a matter of fact, nowadays the diverse perspectives of Vygotsky's theory are somehow rooted in the Anglo-American psychological and educational traditions, and although they have created a fruitful field of research enquiry, they are not necessarily a faithful interpretation of Vygotsky's methods and ideas.

Alongside several historical biographical investigations of the man and his work (Kozulin 1990; A. Leontiev 1990, 1996; Newman & Holsman 1993; Van der Veer and Valsiner 1991; Yaroshevsky 1989), there appeared several studies focusing on different aspects of Vygotsky's theory like the idea of psychological tools (Kozulin, 1998); the Zone of Proximal Development (Bruner 1984; Wertsch 1991; Hedegaard 1999); the concept of internalisation and cultural development of human behaviour (Santamaria 2001; Zinchenko 2001); the idea of the unit of analysis (Van der Veer,

2001) as well as many concrete application of those theoretical concepts (Daniels 1994; Dixon-Krauss 1995; Minick 1985; Moll 1990; Ratner 1991; Rogoff & Wertsch 1984; Scribner & Cole 1981; Van der Veer 1994; Wertsch *et al.* 1995).

While interest in his theory is a testimony to the historical attempts to overcome the Cold War divisions in scientific and research fields, there could be a danger of reinterpreting Vygotsky's concepts, which in themselves can be sometimes blurred or ambiguous, using a Western psychological bias in the attempt to decontextualize his writing or to create a unified socio-cultural science, capable of meeting 'universal' educational needs across cultures and countries.

A true scientific bridging should begin with rigorous comparative analyses of theoretical approaches that stem from Vygotsky's original work as father of Soviet psychology and an inspiration for many cultural studies in the West.

Methodologically, one must say that contemporary comparative analysis of cultural historical theory with more traditional and recent psychological schools have been already attempted (Asmolov 1986; Bozhovich 1968; Radzikovskii 1990; Zinchenko, 1985).

However, I believe that it is not possible to understand Vygotsky's theoretical views without trying to contextualize historically the development of his scientific ideas, and of the meanings he tried to give to his approach when confronted with the psychological theory of his own time. The definition of such scientific progression may throw further light on Vygotsky's task and can provide understanding of new theoretical models within his tradition, adding further relevancy for today's psychological problems.

In the present review of Vygotsky's work, I will firstly analyse the theory according to his own development resulting in the description of his fundamental ideas, explanatory principles and systems of notions in relation to themselves as well as with the ones of other theories of Vygotsky's time. In the evolution of his views, I shall look at his main theoretical concepts, the explanatory principles and systematic categories of his work.

Secondly, I shall review Vygotsky's conceptual theory by briefly analysing the issues and concepts which are considered most relevant in light of current sociocultural debates. In doing so, I shall not illustrate his concepts separately since they are often systemically connected and have reciprocal influence on Vygotsky's cultural-historical approach.

In this effort I shall proceed by describing Vygotsky's main 'questions' in the fields of psychology and education, which are mainly relevant in the light of recent theoretical debates. For this purpose, I shall refer to his work as cultural-historical (Smirnov 1975) because Vygotsky never used the term sociocultural. The use of this terminology is an issue of current debate and it has been recognised that cultural-historical or socio-historical are more appropriate terms when referring to Vygotsky's school of thought and that of his followers Leont'ev and Luria. Instead, the term sociocultural 'is a better term when it comes to dealing with how this heritage has been appropriated in contemporary debates in the human sciences, at least in the West' (Wertsch, del Rio, Alvarez, 1995: 6).

The relationship between thought and language will be fully discussed in the next chapter through a comparison to Bernstein's theory of codes. As this will be done in a systematic way, it will not appear in this section.

I shall describe the basic themes of Vygotsky's theory by relying on his original writings and those of his collaborators and scholars.

2.2 Basic principles of the theory

Vygotsky's theory is a cognitive approach towards human development which is considered to be essentially social, cultural and historical, taking place in cultural contexts, mediated by language and other symbolic systems.

The focus of this idea lies in the explanation of the dynamic interdependence of social and individual processes in shaping human consciousness; the latter is the end result of the constructive dialectical principle between psychological tools (cultural tools) and interpersonal relations.

In contrast with the predominant schools of psychology of his time, which focused principally on the internal, subjective experience, or external with a behaviourist approach, Vygotsky's theoretical interest was directed towards development conceived as the transformation of socially shared activities into internalised processes. His attention was to study the transition from socially shared activities to internalised processes of individual development.

More precisely, human development, which starts with the child's dependence on caregivers, requires intermediaries such as interpersonal communication and material and symbolic tools, both encountered in the external social environment. Vygotsky's genetic law of development emphasises the priority of social interaction in human

development; thus, in any activity learners have to rely on more experienced people (adults or peers) and through this process they will be able later on to carry out that activity by themselves. In this respect Vygotsky, following Janet (1928), stated that:

Every function in the child's cultural development appears twice: first, on the social, and later, on the individual level, first between people (inter psychological), and then inside the child (intra psychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relations between human individuals. (1978:57)

Wertsch (1991) has described the three major themes of Vygotsky's theory, summarising them in three broad categories to be analysed as the interdependence between individual and social processes. These are:

1) individual development, including higher mental functioning, has its origins in social sources; 2) human action, on both the social and individual planes, is mediated by tools and signs; 3) these two themes are best examined through developmental analysis.

Vygotsky conducted research on development in three main directions:

a) instrumental b) developmental c) cultural - historical.

The instrumental aspect of the theory regards the changes of psychological functions through the use of mediators, symbolic, material or interactive. In this respect Vygotsky made the famous distinction between lower mental functions and higher mental functions (Vygotsky 1987). It is important to stress the fact that Vygotsky considered these two psychological functions as systemically and functionally related even if the nature of this relationship is not strictly determined by his theory.

In some cases, the lower or natural functions such as perception, memory or attention change little in themselves, while the relationships between them do. In other situations, like in learning writing and reading skills, higher mental functions exist in inter- subjective form and are learned through education and in collective activities. Vygotsky also referred to reasoning in young children which is often subordinated to memory, but during the period of adolescence this process is reversed- i.e. reasoning and the logical construction of events come first, and only later memory is used to recall the item. Furthermore, lower mental functions serve as

a basis for the building of higher mental ones, such as scientific tools. Vygotsky states that:

It was shown and proved experimentally that mental development does not coincide with the development of separate psychological functions, but rather depends on changing relations between them. The development of each function, in turn, depends upon the progress in the development of the inter functional system. (1981:167)

In Vygotsky's thinking, the development of mental functions is considered to be the transition from original lower mental functions to higher mental functions. The differences between them lie on four main criteria, divided in terms of origins, structure, mode of functioning and the relationships to other mental functions.

In this respect lower mental functions are inherited genetically, they are not mediated structurally, they have an involuntary function and they are not related to other mental functions as they are individual mental units.

By contrast, higher mental functions are socially acquired, mediated by social meanings, are controlled voluntarily and are related beyond individual units within a broad system of other functions.

Broadly speaking, the notion of development, to be considered the basic concept around which the whole theory rotates, did not imply a linear progression or the idea of maturation; rather, it is conceived as a series of crises and structural changes in the individual and in society which can be observed both from micro and macro genetic perspectives.

At the micro genetic level, one can observe the child's psychological development and its structural changes through the use of psychological tools and signs; clear examples of such changes have been fully described by Vygotsky in the relationship between thought and language. With respect to the difference between tool and signs Vygotsky stated:

A most essential difference between sign and tool, and the basis for the real divergence of the two lines, is the different ways that they orient human behaviour. The tool's function is to serve as the conductor of human influence on the object of activity; it is externally oriented; it must lead to changes in objects. It is a means by which human external activity is aimed at mastering, and triumphing over, nature. The sign, on the other hand, changes nothing in the object of a psychological operation. It is a

means of internal activity aimed at mastering oneself; the sign is internally oriented. (1978:55)

Thus signs have the property of 'reverse action' (1978: 40) and alter the subject's operation on the external environment without altering the objective aspects of this latter. This means, to Vygotsky, that humans are able to master themselves through external symbolic cultural systems. Because this auxiliary stimulus possesses the specific function of reverse action, it transfers the psychological operation to higher and qualitatively new forms and permits humans, by the aid of extrinsic stimuli, to control their behaviour from the outside (Vygotsky 1978: 40).

At the cultural historical level, development is manifested through the influence of a long term process of formation of psychological functions which eventually correspond to the general system of symbolic means of a given culture. From this point of view, the process of education is conceived to be an expression of this macro genetic process (Kozulin 1998).

The cultural historical origin of human psychological functions implies that each society, in different historical moments, possesses various forms of psychological tools. This can be explored diachronically and synchronically, that is by studying historical records in order to reconstruct different forms of intelligence and psychological forms of life, and by comparing different contemporary cultures by means of cross cultural studies.

The diversity of these means and their respective psychological tools are very relevant in multicultural educational settings and with respect to the special education of handicapped children. In this latter field Vygotsky pointed out a set of different means, such as sign language, the Braille system, lip reading, etc., to help those children mediate their process of acculturation into society.

One last word on Vygotsky's methodology: In its first stages he adopted the genetic method of research. Subsequently, functional genetic and functional structural analysis complemented the genetic method. To Vygotsky genetic analysis was geared to the examination of the origins of historical phenomena and the way in which they are interconnected:

To study something historically means to study it in the process of change; that is the dialectical method's basic demand. To encompass in research the process of a given thing's development in all its phases and

changes – from birth to death – fundamentally means to discover its nature, its essence, for ‘it is only in movement that a body shows what it is’. Thus, the historical (that is in the broadest sense of history) study of behaviour is not an auxiliary aspect of theoretical study, but rather forms its very base. (1978:64-65)

Vygotsky’s method of cultural historical development is a multilevel model as in his conception there are many factors in human development interconnected at different levels of analysis which are hierarchically organised. These factors deal with the development of our species at the phylogenetic level, and cultural symbols, values, beliefs and institutions at the cultural historical level of analysis. Age and personality characteristics are factors which develop over the lifespan of an individual and as such are represented at the ontogenetic level. Factors concerning one or more people are represented the micro genetic level.

At any one level development is always connected to the structured activity people or individuals are involved in; therefore, Vygotsky’s analysis of development is totally insufficient if it deals with only one of those levels.

Vygotsky’s approach is very complex, and raises several questions concerning the dichotomy of the individual dimensions of learning versus the socio collective aspects; it is not clear how these dimensions can influence the individual, and to what extent this can occur.

Vygotsky was probably aware of this problem as he tried to overcome the dichotomy by proposing a dialectical worldview whereby he posited a form of relationship between the social dimension of human development and the individual one. By trying to interpret his thought, some scholars stated that there cannot be a direct relation between these two dimensions but only a kind of mediation between the two (Daniel 2001).

Cole (1996) argues that if individuals shape and are shaped through culture, they ‘inhabit intentional (constituted) worlds’ (1996:103) and this means that subjects and objects cannot be separated.

The same concepts are posited by Van der Veer and Valsiner (1991), who mention Vygotsky’s dialectical approach as opposed to the non-dialectical perspective of Western psychology. In the same vein, Bidell (1992) goes even further by comparing Piaget’s individual model to Vygotsky’s dialectical method.

One possible solution to this debate is to suggest that Vygotsky's notion of cultural and historical factors influences individual development, as thinking and learning are bound to the social context in which individuals exist (Daniels 2001).

Matusov (1998) insightfully defines two possible models stemming from Vygotsky's approach: the interpretation model and the participation model. He describes them respectively as follows:

The internalisation model of cultural development, emphasising transformation of social functions into individual skills, leads to a chain of mutually related dualism between oppositional abstractions such as the social and the individual, the external and the internal, and the environment and the organism. Attempts to bridge these dualistic gaps seem problematic because these dual abstractions mutually constitute each other and are, thus inseparable from the beginning.

The participation model considers individual cultural development as a validated process of transformation of individual participation in a socio cultural activity. Transformation of participation involves assuming responsibility for the activity, redefining membership in a community of practice, and changing the socio cultural practice itself.

(Matusov 1998: 326)

These two diverse world views, internalisation and participation, opened a vast discussion among scholars who were more inclined towards the latter or the former theoretical view (Rogoff 1992, 1994; Lave and Wenger, 1991).

Vygotsky put more emphasis on the internalisation model and he used it in his study of primitive societies or handicapped children to find a way to help them achieve progress in their sociocultural development (Rogoff 1990; Wertsch 1991).

Vygotsky's paradigm appears to provide very powerful instruments to tackle contemporary educational problems, such as multicultural education, school learning and instructional processes. While his theory can be applied and modified on the basis of new educational needs, it is also important that his thinking should somehow remain autonomous to be recognised in its original forms. In this attempt, a discussion of Vygotsky's main theoretical concepts follows. This will be presented in connection to their relevance to education and to their applicability to school and classroom dynamics, and discussed in the view of possible renovations and improvements without radical alterations of Vygotsky's theoretical structure.

2.3 Learning, development and cognition

Vygotsky believed that education was essential for human development, and that development cannot be divorced from instructional process. Being himself a teacher before becoming a psychologist, Vygotsky conceived schools as 'cultural laboratories' to study thinking (Riviere 1984). In his view, development, that is cognitive development, is 'maturation plus instruction'. However he argues that a complex relationship exists between the two:

Instruction...is not development, although properly organized instruction of the child pulls mental development behind it and arouses to life a whole series of development processes that outside instruction is an internally necessary and universal moment in the process of a child's development. (Vygotsky 1956: 450)

To Vygotsky learning, like any other of his constructs, is a holistic phenomenon which should be analysed as a whole system constituted by different units

(Vygotsky 1978) rather than in isolated atomistic elements. This implies, besides other things, that emotions and cognitions are also related in a unitary manner and affect one another.

Vygotsky's interdisciplinary approach to human development is coherent with his overall cultural-historical approach, which aims at shedding light on social relations, culture production and reproduction as well as its different modes of acquisition. Although the relationship between these levels is often unclear (Bernstein 1993; Wertsch 1999), Vygotsky focuses primarily on what is 'social' in his study of human development (Daniels 2001) as his concept of 'social' extended beyond social interaction to include sociocultural and socio-institutional aspects of human actions. Thus, Vygotsky regarded education not only as central to cognitive development but as the quintessential sociocultural activity (Moll 1990).

In Vygotsky's paradigm cognition is not predetermined but a cultural historical process resulting from the inter mental to the intra mental functions between a child and the adult/more capable peer. In this process he/she acquires a set of psychological tools which help him/her to achieve higher mental functions. To Vygotsky, child development differs consistently between pre-school years conceived to age 8, (Bodrova and Leong 2003), and during schooling.

The former process is characterised by systemic changes taking place in the child's mind, resulting from his growth in a unique 'social situation of development' (Vygotsky 1984).

To Vygotsky, this implies that psychological tools are differentiated between cultures but also within a culture. In this respect Vygotsky has made a long list of words, musical notes, drums and scientific diagrams to be used in a multicultural setting and with children with special disabilities.

In particular, during pre-school years, two important changes occur in the development of the child's mental abilities.

The first is related to the function of inner speech which accompanies the child's practical activities and later becomes a self regulated activity in the organisation of children's behaviour. This, to Vygotsky, represents the origin of verbal thinking and also the beginning of self regulation of mental and bodily actions. This is an important step as by virtue of this function children learn to plan their actions before making them. During this period children are also able to integrate emotions and cognition (Vygotsky 1998).

When children are very young their emotions follow their own actions, while in their growing process emotions anticipate their behaviour and provide a kind of anticipatory scheme including the consequences for their own actions. In this way children's cognitive functions such as perception, imagination, thinking acquire an emotional component and emotions become thoughtful thanks to their planning and anticipatory functions. Children thus become aware of their emotions and this developmental change allows them to cope with the social organisation within the classroom in the following years of their school life.

Another important concept of Vygotsky's approach to mental functioning as a kind of action conceived between people (dyad or groups) is that a cognitive product is not inherent in individuals but is produced inter psychologically between people.

Vygotsky conceived learning as a process preceding development as the challenges it presents and the assistance provided by adults in overcoming them induces the development of new abilities in children.

In this respect one of the most important aspects of Vygotsky's psychology is the concept of mediated learning, as opposed to direct learning, i.e., children interacting with their environment as described mainly by Piaget.

Since Vygotsky wanted to study the formation of processes by analysing subjects in activity, he used mediated action as socially mediated activity describing the Zone of Proximal Development, and so analysing the individual within the social context of learning and development. In this way Vygotsky's conception shifted the focus from sign mediation to socially mediated action, which he described in his early work as social practice and development and presented in his later works. The 'zone' concept defines a symbolic space where learning takes place and the process of learning itself can occur through the process of internalisation.

This new shift in Vygotsky's work, which occurred fairly late in his theoretical production (Chap.6,1934) brings the issue of how mental action emerges in particular settings of sociocultural activity to the fore; in particular, different cultures or different institutional contexts provide several frameworks for developing conceptual thinking which are strictly connected to a variety of models of instruction in their activity settings and associated mediational meanings. This aspect of the theory has been reconsidered only recently by post-Vygotskian approaches which will also be discussed in the next section about mediation.

2.4 Mediation, internalisation and culture

Mediation is the central concept in cultural-historical theory. Vygotsky believed that human activity is socially mediated because humans have access to reality only indirectly or immediately and this process concerns both actions upon reality as well as information about it. In Vygotsky's concepts cultural tools are mediational means providing links between individual actions, carried out by the individual or groups of individuals, and their cultural and historical contexts. In particular he made a distinction between technical tools and psychological tools or signs (tools and artefacts) as I explained the previous section.

In Vygotsky's view there are two aspects of mediation: The human mediator and the symbolic mediator. The concept of human mediation is well summarised in Vygotsky's famous concept inspired by Janet, i.e. that every psychological function appears twice in the child's development, firstly, in the interaction with people and then as an internalised form of this function.

There are many forms of human mediation: Developmentally this starts in the interaction between the child and the mother, then in school there is mediation by the teacher, under many possible forms (modelling, instruction, praise, etc).

Many post-Vygotskian studies and research have investigated human mediation. Wersch and Stone (1985) studied the role of mothers in joint activities with their children; Tharp and Gallimore (1988), Palincsar and Brown (1984) on teacher mediation; Rogoff's (1995) attempt to create new categories of mediation and many others along similar lines.

However, the proliferation of research about these arguments makes it difficult to carry out a proper comparison between them because they refer to many social contexts and to diverse situations. In the majority of home-based studies, mediation is not properly structured, whereas at school, teachers very rarely use mediation in a spontaneous way. In an attempt at creating a possible classification, Kozulin (2003) proposes a distinction between the *type* of mediation and the *specific technique* of mediation. This differentiation appears useful especially with respect to multicultural and cross-cultural studies where one can distinguish between the quality of mediation (type) from the relevant use of it in specific contexts (techniques); in this way it would be possible to study the role of human mediation in several contexts of learning, avoiding the risk of describing them in a vague or episodic manner.

Vygotsky believed that the symbolic mediator is represented by psychological tools which shape human experience through interaction mediated by them. These are: language, various counting systems, mnemonic techniques, algebra symbol systems, works of art, writing, schemes, diagrams, maps, mechanical drawings and all sorts of conventional signs (Vygotsky 1981:137).

The role of psychological tools in mental functioning is central to Vygotsky's genetic approach to mental processes; in fact the relationship between an individual's action and cultural tools goes both ways as the tool itself deeply effects the individual's action and transforms it. Thus, according to Vygotsky :

[t]he psychological tool alters the entire flow and structure of mental functions. It does this by determining the structure of a new instrumental act, just as a technical tool alters the process of a natural adaptation by determining the form of labour operations. (Vygotsky 1981:137)

In this formulation the emergence of new cultural tools does not imply that action is determined or caused by them, rather they shape the action through the process of use by individuals who carry out the action. In this way mediation refers to a process

involving: 'the potential of cultural tools to shape action on the one hand and the unique use of these tools, on the other.' (Wertsch 1995).

In Vygotsky's view, development is seen in terms of qualitative, revolutionary transformations; it follows that the construct of mediation involves different types of semiotics which are deeply interlinked in a child's development, giving rise to a new transformative function in his/her mental processes.

Vygotsky believed that the role of practical tools and psychological ones are different because they can operate independently and they are also profoundly related in a dialectical unity which is 'the very essence of complex human behaviour' (Vygotsky 1978). He states:

... the most significant moment in the course of intellectual development, which gives birth to the purely human forms of practical and abstract intelligence, occurs when speech and practical activity, two previously completely independent lines of development, converge. Although children's use of tools during their preverbal period is comparable to that of apes, as soon as speech and the use of signs are incorporated into any action, the action becomes transformed and organised along entirely new lines. (1978: 24)

Vygotsky claimed that the process of using tools and signs varies according to different contexts and the child's own development, and he suggests that speech assumes a particular function in labelling, distinguishing and identifying particular objects. Through the use of language the child detaches himself/herself from his/her sensory field (Vygotsky 1978: 32).

Thus, the process of mediation is first and foremost an active process which alters the entire structure of mental functions and involves several levels of human mediated action, i.e. social relations, mental activity and internalisation

In Vygotsky's view a child's mental activity undergoes significant changes in the course of its development, and this process is mediated by social relationships. More specifically this results from the influence of the school context and the production of the Zone of Proximal Development by the teacher and transmitted to the pupil.

In this way school relationships emphasise the use of language in a decontextualized and meta-linguistic way. This process is different from a child's experience in the everyday world which guides mental activities to elementary functions, typical of everyday concepts. Furthermore, by assuming that any mental

function starts at the intra-psychological plane 'it goes without saying that internalisation transforms the process itself and changes its structure and functions' (Vygotsky 1981:16).

Secondly, through the acquisition of scientific concepts children achieve decontextualization and voluntary control of their actions. This is achieved through a semiotic mechanism through which signs mediate other signs; according to Vygotsky, the child's attention 'is always centred on the object being represented and not on the act of thought that grasps it' while 'scientific concepts, with their quite different relationship to an object, are mediated through other concepts with their internal hierarchical system of interrelationship' (Vygotsky 1934:126).

As a practical example Vygotsky gives an account of this type of generalisation; a child uses words like *table*, *chair* or *furniture* in relation to the referred objects but he/she is able also to operate on statements like *all tables are furniture*. In this way the child can move from linguistic organisation tied to contextualisation towards the possibility of entering decontextualized relationships through the context (Wertsch 1991). This implies a concern for differences (social, cultural, individual) in mental functioning and introduces the issue of differences in mediational means as products of the socio-cultural evolution, appropriated by different groups or individuals engaged in mediated actions.

In Vygotsky's view, speech and behaviour interact dynamically during a child's development; in particular, the relationship between language and other actions is fundamental because it allows us to develop theories about developmental stages from internalisation to meaning. The first words in a child's life are essentially emotional and they coincide with gestures; the crucial point in human maturation is when the child starts naming objects and this is the first ontogenetic link between thought and language characterised by the process of internalisation and the production of meaning.

Vygotsky clarified his ideas by stating:

It may be appropriate to view word meaning not only as a unity of thinking and speech, but as a unity of generalisation and social interaction, a unity of thinking and communication.

This statement of the problem has tremendous significance for all issues related to the genesis of thinking and speech (and) reveals the true potential for a causal-genetic analysis of thinking and speech. Only when we learn to see the unity of generalisation and social interaction do we

begin to understand the actual connection that exists between the child's cognitive and social development. (Vygotsky 1934:4)

Vygotsky believes that the development of word meaning is directly related to the communicative function of speech and to its intellectual function and the development of word meaning must be studied through an analysis of words mediating specific forms of social practices. In his empirical research with Z.Shif (1935), he argues that a child learns word meanings in certain forms of school instruction, as part of a system of knowledge, and this occurs not through direct experience but through other words.

In Vygotsky's view, this is the last chain in the developmental process of internalisation; this starts with the natural or pre-intellectual stage, followed by the stage of naive psychology, and by the stage of egocentric speech and the in-growth stage leading to the emergence of a new function of word meaning or concepts, referred to as scientific concept. As every child will be socialised in his/her own culture, he/she will develop specific learning paradigms, linked to the particular social environment.

In this respect Vygotsky's notion of mind is strictly linked to the notion of culture, as this latter concept must be understood in relation to social processes which in turn are considered to be the precursor of mental processes (Wertsch and Tulviste, 1992). Thus, he never developed a clear notion of culture but equated it to the notion of mediation. Wertsch and Tulviste describe his ideas on the matter by stating that:

Indeed his analysis of culture is part of his attempt to elaborate the notion of mediation. In his view, a critical feature of human action is that it is mediated by tools (cultural tools) and signs (psychological tools). His primary concern was with the latter (what we are calling 'cultural tools'), and for that reason we shall focus primarily on 'semantic mediation. (Wertsch and Tulviste 1992: 548-57)

Vygotsky's evolutionist approach to culture, derived from Durkheim and Levy-Bruhl, implied an ethnocentric perspective because, in essence, he considered conceptual development to be based on the 'decontextualisation of mediational means' (Wertsch 1985: 33). Although he was deeply convinced that everyone is capable of development, he still considered some cultures equipped with better

psychological tools, which he tried to prove in his studies conducted with Luria in Soviet Central Asia in 1930.

However, in Vygotsky's later work, there appears to be a considerable shift as he began to consider intra mental functioning in relation to socioculturally situated activities. This is in line with recent interpretations of his work posited by Scribner and Cole (1981) and Tulviste (1986,1991) who envisaged the concept of 'activity relativity', stemming from Whorf's ideas of linguistic relativity, concerning differences between individuals or groups in mental processes; more specifically, according to Whorf these are due to the heterogeneity of social settings, rather than to inherent, fixed and immutable mental properties.

To sum up, two basic issues emerge in reference to the concept of mediation as conceived by Vygotsky according to the critical reformulation by Wertsch and Tulviste (1992).

Firstly, Vygotsky 'tended to use the notion of a developmental hierarchy too broadly when trying to interpret differences in mental functioning' (Wertsch and Tulviste 1996), and it is more appropriate to consider Vygotsky's later approach to cultural differences in mental function related to particular institutionally situated activities, which Wertsch has defined as a 'cultural tool- kit' (Wertsch 1991) as opposed to individual differences at a more general level.

Wertsch suggests that this reformulation helps to change the hierarchical conception of cultural development, implying a ranking of groups or individuals as inferior or superior to others and allows for a contextualised developmental progression within specific domains of knowledge. This means that in specific situations certain activities and forms of reasoning with their cultural tools may be more advanced than others among different groups of individuals.

Secondly, one must reconsider Vygotsky's account of the natural and cultural line of development in ontogenesis.

Wertsch and Tulviste (1992) claim that '...Vygotsky's writing seems to suggest that social and cultural processes almost mechanistically determine individual processes' since he emphasised the external environment as the source of a child's development. By contrast, Wertsch and Tulviste stress that social actions with cultural tools imply an inherent source of tension between the individual and the mediational means in such a way that they group both components into a single unit defined as the 'individual'.

Critical comments are by no means exhaustive or generally shared; however, they can place Vygotsky's theoretical framework among today's basic issues on developmental psychology, providing important implications for current studies and research.

2.5 The ZPD as a system for potential educated learning activity

The concept of the Zone of Proximal Development (ZPD or Zo-ped) is one of the most popular concepts of Vygotsky's ideas and it has been reformulated and evaluated by many Western scholars (i.e. Daniels, 2001; Lloyd & Fernyhough, 1999; Valsiner, 1998; Wells 1999). Vygotsky considered instruction and the possibility of benefiting from instruction as a human trait, and he systematized this process in a dynamic relationship, the Zone of Proximal Development, a semiotic space between the adult (transmitter) and the child (acquirer).

The operational process of the ZPD has been interpreted in many ways within the educational theoretical debate. Wells identifies two definitions of the ZPD in Vygotsky's work.

In *Mind and Society* (chap.6) Vygotsky described the dynamic assessment of children's cognitive abilities in contrast to IQ testing and he discussed the ZPD in terms of assessment, while in *Thinking and speech* (chap. 6) he described the ZPD in terms of instruction referring to the development of scientific concepts in childhood. Vygotsky states:

We have seen that instruction and development do not coincide. They are two different processes with very complex interrelationships. Instruction is only useful when it moves ahead of development. When it does, it impels or awakens a whole series of functions that are in a stage of maturation lying in the zone of proximal development.
(Vygotsky 1987: 212)

Like many of Vygotsky's constructs, the definition of the ZPD does not provide systematic principles or techniques on how it should work nor does it give a detailed account of its procedures, but it does provide general principles for its interpretation. Palincsar (1998) says that in negotiating learning and teaching research the ZPD:

[is] probably one of the most used and least understood constructs to appear in contemporary educational literature. (Palincsar 1998: 370)

This statement is justified by the many interpretations, elaborations and critical approaches that appeared in sociocultural studies literature over the past decades. The notion that it often derives from an interpretation of Vygotsky's original definition of ZPD then filtered by contemporary traditions has motivated some researchers to clarify Vygotsky's work. Among them, I would like to mention Chaiklin's work that has recently revised the ZPD according to the original Vygotskian paradigm (Chaiklin 2003).

In his attempt to provide a comprehensive introduction to the ZPD he distinguishes three basic misunderstandings of the concept.

The first refers to its *general assumptions* whereby the ZPD is conceived as a learning process and task, referring to a child's development when it is specified by its terms.

Vygotsky conceived a close relationship between learning and development but not a fused process. Besides, the ZPD as a theory of instruction, is not applicable to any particular task; it must be directed towards the development of the child. In this respect Vygotsky distinguishes instruction which is oriented towards child development from instruction which is geared towards socialised skills like typing or riding a bike (Vygotsky 1987) as this latter does not achieve development.

The second is the *assistance assumption* referring to an understanding of the ZPD as a useful aid by competent adults or peers important for learning; rather, Vygotsky's emphasis is on how this process happens, namely the meaning such assistance has in relation to the child's development and maturation.

The third is the *potential assumption* believing that the ZPD indicated the learning potential of the child, whereas for Vygotsky such potential is not inherent in the child but indicates certain mature functions which in turn can be stimulated with meaningful assistance and educational actions.

We understand from Vygotsky's work that he emphasises that '[p]ersons who want to use the zone of proximal development concept should, as a minimum, try to understand the particular theoretical and conceptual problems Vygotsky was trying to address when he formulated this concept.' (Chaiklin 2003:59)

This concept did not play a central role in Vygotsky's theory, but it provided a good way of assessing a child's development (Chaiklin, *op.cit*). He conceived the Zone of Proximal Development as a device to criticise individual testing, by defining the ZPD as 'actual developmental level as determined by independent problem

solving' and 'potential development as determined through problem solving under adult guidance or collaboration with more capable peers' (Vygotsky 1978: 86).

This definition underlines the difference between children's aided and unsupported performances. By stating that children working in collaboration with others (adult or peers) can perform tomorrow what they cannot do today, Vygotsky shifts cognitive development from the boundaries of ideal competence to those of actual performance (Cadzen 1981). Today, inspired by Vygotsky, the technique of combining theories of process and product in assessment has been termed 'dynamic assessment' (Campion 1996).

However, Vygotsky's notion of the ZPD seems to mediate cognitive development in particular, and it does not specify the kind of development and the social contextual variables connected to it (Bernstein 1993); in this way the ZPD does not specify the social construction of the child, nor does it indicate the socio-historical level of analysis in the teaching/learning process within specific social contexts (Bernstein 1993; Werstch 1999).

Vygotsky believed the role of imitation to be central to the ZPD as he conceived imitation in a new way with respect to traditional psychology by referring to a combination of understanding and imitation of the understood activity.

Vygotsky says: 'It is well established that the child can imitate only what lies within one of his intellectual potentials' (Vygotsky 1987: 209).

Chaiklin summarises the perspective and implication of the ZPD in Vygotsky's work as follows (2003:57-58):

- The ZPD is directed towards focusing on maturing psychological functions and not on already existing ones;
- The ZPD describes structural relations between maturing functions and the ones needed for the next period of age (objective). The first is obviously related to individuals but the latter are similar for all children;
- The ZPD changes content and meaning according to different ages;
- The ZPD must be understood as a search for conceptualising school in relation to a child's age and not to focus on a child's performance of a single task;
- The ZPD is not only a means of development through the assistance of more competent peers or adults; rather, it is significant in relation to the maturing functions needed to pass from one age to the next;

-The Zone is not located in the subjective one of the child, but it is also an evaluation of the child's capabilities in relation to his age model.

For the most part, the ZPD has been interpreted in connection to the role of instruction (Bruner's scaffolding). However, in such a paradigm it is legitimate to reflect upon Chaiklin's question: *What kind of instruction is optimal for a particular child?*

Considering the concept of the ZPD within a theory of instruction means thinking about the child's reorganisation of knowledge; in this respect it becomes necessary to have a theoretical framework to examine the developmental structure of thought.

Bruner (1987) and Schneuwly (1999) consider Vygotsky's theory of development as a cognitive mediated approach directed to the reorganisation of the child's lower psychological functions towards new higher ones through the use of historical construction.

In Vygotsky's opinion, there is dialectical interaction between spontaneous and scientific concepts and due to this interaction 'true concepts emerge', defined in terms of expertise in a particular social context. Scientific concepts come from culture rather than from the individual and in this process the ZPD is the concept which Vygotsky used to mediate the operation between the internal capabilities of individuals and the external needs created by society. Children acquire scientific concepts through instruction in a process of sociocultural transmission.

Thus cognitive development occurs through learning, and effective teaching should produce a developmental progression through the interaction between the child and his/her environment (adult or peer groups). In this way the child moves from the social plane to the psychological plane, and from the regulation of actions by others the child achieves a self-regulated performance through independent action and speech. Indeed the latter plays a fundamental role in this process. When the ZPD is used in terms of instruction it is fundamentally expressed by a particular form of function of speech in school.

Thus Vygotsky saw a close relationship between the development of scientific concepts, the use of words and meanings in social interaction and the ZPD, which can be viewed as distinguished aspects of a more general system of sociocultural transmission.

Moll (1990) suggests that the Zone of Proximal Development is Vygotsky's most influential idea in his theory of education. The Zone of Proximal Development can be considered a construct within his theory of education and instruction which connects many levels of mental activity.

What is missing from the model is the specification of different forms of organisation of subjects of instruction (Daniels 2001), the links between the ZPD and specific pedagogical practices (Bernstein 1993) as forms of socio-institutional effects on schooling and education (Daniels 2001).

To fill this gap, Hedegaard (1991) proposed her model of instruction, the 'double move' which has also been used by Daniels in applying Bernstein's work on school, providing a socio-institutional aspect in integrating Vygotsky's theory of social semiosis. In order to fill this theoretical gap other proposals have been forwarded stemming from the more recent elaboration of activity theory by Engeström and Wells (1999) which we shall mention in the next section.

2.6 Multiculturalism and social class

Although Vygotsky did not attempt to investigate cultural or social class differences specifically, his work is highly oriented towards a socio cultural perspective. His emphasis on psychological tools as mediators for higher mental functions already implies a distinction between educated and non-educated subjects and thus a point of discrimination for cultural diversity. Luria's research on the role of literacy in mediating higher psychological functions in Uzbekistan (Luria 1976) was a clear attempt to discover such differences. However, the study was not directed at investigating the Uzbekistan culture; rather, it was motivated by the need to find a large illiterate group of adults suitable for the research (Ageyev 2003).

Vygotsky's cultural historical approach envisages, by definition, cultural differences in individuals due to their different historical circumstances linked to their specific cultural contexts. However, he never carried out any specific research on cultural relativism, and this was mainly due to political reasons rather than a lack of interest in this aspect of the theory.

In the Soviet Union during Vygotsky's time, there was political pressure on all humanistic studies, including psychology and education, to adapt their theoretical paradigms to Marxism and this implied an emphasis on nationalism rather than on cultures. To speak of cultural diversity in Soviet Union at that time was potentially

dangerous as there were many different countries in that territory; thus, to speak of ethnicity or class discrimination was considered a serious obstacle for the creation of a new classless society (Ageyev 2003).

In such a perspective, Vygotsky's use of the term culture mainly referred to universal connotation and not to specific features of a particular social or ethnic group. Vygotsky, Luria and more recently his follower Tulviste (1991) have always placed a great emphasis on cultural aspects as factors responsible for differences in cognition.

According to the cultural historical approach these differences exist by virtue of the fact that individuals are expressions of their sociocultural and historical settings which require different types of activities from the members of their communities. Formal education and schooling are not natural or spontaneous institutions but artificial ones, dictated by the cultural norms and values of any given society. Such institutions require new demands on a child's cognitive learning and development by reorienting his/her psychological tools towards new symbolic systems such as reflection, hypothetical thinking, and decontextualised symbolic meanings of representations. This process is quite complex for any child as it is in school that he/she can achieve the transformation from everyday concepts to scientific ones, thus achieving higher psychological functions. In the case of children coming from different cultural or social backgrounds the situation becomes even more complicated. Vygotsky believed that every child starts schooling with a set of psychological tools, i.e. his/her family background of socially mediated knowledge, to be incorporated into new educational tasks. In these situations, immigrant children or children from a working class background require a set of new psychological tools (i.e. literacy, oral discussions, graphic symbolic devices, etc.) in order to help them acquire the cognitive skills necessary for learning at school. First and foremost, instruction should be reorganised in order to promote cognitive development. This latter issue was also advocated by Bernstein in the case of working class children within British schools as they did not share the same orders of meanings of the dominant and educated class (Bernstein 1975).

On intercultural cognitive differences, Cole (1990) *et al.* (1979), have a different approach; they attribute differences in perception of the context and its requirements to contextual variables. Thus, children do not differ in their psychological tools but in the degree of familiarity to specific educational tasks of school requirements.

Vygotsky's view with respect to cultural differences is that people possess an alternative system of psychological tools, leading to a different and specific development of psychological functions (i.e. memory mediated by an oral tradition instead of written documentation (Vygotsky and Luria 1993).

This debate still rages and it is not easy to separate the social and cognitive dimensions involved in the learning process. On this issue it is interesting to mention the work of Feuerstein *et al.* (1991) which operates within the mediated learning paradigm (MLE), and which is similar to Vygotsky. According to MLE, each culture possesses a range of mediated learning experiences historically transmitted to each generation; each individual who has been socialised in their own culture should develop sufficient learning potential to make a transition from one cultural system to another. Deprived people in their original culture possess a reduced learning potential and will have problems in acquiring new psychological tools. Feuerstein has developed a special programme to help immigrant or deprived children based on an integrated model of interaction between psychological tools and mediated learning experience.

An alternative mediated learning programme would also prove to be useful with adolescent students as they undergo particular developmental 'crises' in this period of their lives. Focusing on the problems of motivational learning with adolescent students, Elkonin attributed adolescents' failure at school to their lack of interest in the values transmitted by scholastic activity. He then proposed changing traditional values in classroom situations based on individual work into more interesting ones based on the principle of collectively distributed problem solving. This consisted in presenting problem solving to the whole class which is divided into small groups so that each group could tackle a segment of the problem, and the final solution would consist in the integration of each partial solution to form a completed result. This new perspective should also be kept in mind when dealing with immigrant adolescents who already know about the new language and culture when they arrive, but they do not speak the language of the classroom nor do they share the psychological tools of the other students.

These approaches open a new field of research focusing on cultural cognition and its applicability in schools and educational institutions.

As far as the concept of social class is concerned, Vygotsky's approach was deeply rooted in Marx's ideas of the relational dimensions of society in the

development of the consciousness. He studied the role of social relations to the formation of human consciousness in relation to Marxist relationships between base and superstructure and he wrote that 'class character, class nature and class distinctions...are responsible for the formation of human types' (1994: 175).

Again in his book on *Educational Psychology* (1977) he stated that:

... [the] social environment is class-based in its very structure in so far as, obviously, all new relations are imprinted by the class basis of the environment. Consequently, class membership defines at one fell swoop both the cultural and the natural orientation of personality in the environment. (Vygotsky 1977: 211-212)

These ideas are a testimony to the pluralistic vision in Vygotsky's conception of society even if he never explored empirically the effect of social class in schooling and education. His notion of a pluralistic dimension in society is linked to the concept of production because in his view individual changes are linked to such phenomena; thus children 'grow into the intellectual life of those around them' (1978: 88) thereby sharing interests and values with a specific socioeconomic group.

In this respect, Vygotsky's theory has several implications for multicultural education as in his view of learning, culture and social class play a fundamental role. Even if he did not investigate those concepts specifically, the theoretical shift from the individualistic approach of psychology and education to a sociocultural, collective one, is a powerful approach to investigate ethnic, cultural, or social class differences within and between societies. Psychological tools and the specific contexts of their use are the forms whereby a culture differentiates itself from another (Kozulin 1998).

He also believed that mental functioning occurs between people on the inter mental plane (Wertsch 1996), and his approach inspired paradigms within the Western tradition, which have added a new dimension to mental constructs (cognition, memory, attention etc). These theoretical paradigms have been revisited and labelled using terms such as socially shared cognition, (Levine and Bernard 1991), collective memory (Middleton 1987), and socially distributed cognition (Hutchins 1991) in order to emphasise the social plane of mental functioning.

2.7 Final remarks

After a synthetic exposition of the most relevant aspects of Vygotskian theory in relation to the present study, I will conclude with some final reflections focusing on the issues which have been underestimated by Vygotsky, which, nevertheless, are relevant to my field of enquiry.

These concern the socio-historical aspects of the theory, and the nature of implementation of language use in context.

With respect to the socio-historical level, Vygotsky studied dialogic interactions based on adult-child relationships to demonstrate how inter-mental activity resulting in forms of intra-mental functioning is basically described as a theory of instruction. To him this is a process leading to higher mental functions by comparing and contrasting everyday concepts with scientific concepts, by ranking them hierarchically.

However, his view was not concerned with the fact that socio-historically different forms of intra-mental functions are often functionally related to modes of interaction which may be functional to those mental activities in line with the culturally relevant outcomes and expectation of a given community/society. In accordance with a socio-historical approach, it would be more appropriate to try to proceed in understanding of why intra-mental activity is organized the way it is. According to Wertsch the answer to this problem may be found in trying to understand how inter-subjectivity shapes and it is shaped by sociocultural historical and institutional norms of setting in which it occurs (Wertsch *et al.* 1993).

This process needs to be understood at two levels: from the socio-historical perspective, concerning culture and from an interactional perspective concerning language use in context.

In fact, dealing with language in use requires an account of its constraints in social context, as semiotic mediation takes the form of text in context (Hasan, 2005). This, in turn entails variations of meanings as outcomes of socially constraint contextual variables.

In the light of this reflections, the main aspect of extending Vygotsky's views will be concerned with the analysis of variations of semiotic mediation elicited in different contexts of educational activity, related to sociocultural positioning of pupils. This is in line with more recent sociocultural approaches such as that of

Wertsch and Smolka (1993) similarly claiming that:

... if we are to understand Vygotsky's claim about the priority of sociality as Vygotsky the methodologist rather than Vygotsky the psychologist would have desired, we will have to incorporate sociocultural issues into our accounts to a much greater degree than we have. (1993: 90)

The pursuing of these issues may require the undertaking of new methods and modalities in trying to understand the sociogenesis of human mind. This will be the aim of future research in educational activity as :

The beauty of Vygotsky's approach is that it is open to such elaboration; its shortcoming is that Vygotsky himself did not explore these issues (Wertsch and Smolka:1993: 90)

Chapter III. SOCIOCULTURAL THEORY AND DISCOURSE: THE THEORETICAL BACKGROUND

Introduction

This chapter proposes an understanding of discourse conceived as sociocultural activity, aiming to construct an integrated approach capable of explaining the relationships between mind and culture mediated by language as a psychological tool.

The theoretical model applied to my analysis of discourse is based on Systemic Functional Linguistics (SFL) as elaborated by Halliday, a sociosemiotic approach which has been extended by Hasan, Martin and Mattheissen .

As this chapter is introductory to the empirical work, it will address three fundamental foci, highlighting the following issues:

a) To establish my theoretical approach explicit reference is made to the principles of my paradigm which might be equally viewed as a version of a sociolinguistic tradition, pragmatics or discourse analysis. Thus the intent of this chapter is to analyse the traditions of linguistic scholarship of particular interest for the subject of my research study. The linguistic approach desired must be capable of fully capturing the social dimensions of language (semantic variations) in the complexity of current pluralistic societies integrated with cultural knowledge , leading to the formation of consciousness. In this attempt I will discuss only the approaches which provide a theoretical perspective and a method of implementation capable of capturing the multilayered levels of such complexity. I will begin by referring to some aspects raised by Bernstein's sociolinguistic approach and Vygotsky's sociocultural theory, as both these authors have provided theoretical premises which have guided my field of enquiry, thus providing an intellectual patrimony which I wish to acknowledge to the fullest.

b) I explore basic sociocultural problematic by reflecting on issues concerning the interconnection between language, cognition, and culture. As in my study the focus of attention is the understanding of the development of higher mental functions in the achievement of educational knowledge through the tool of language, I argue that

Systemic Functional Linguistics allows understanding of cognitive and social behaviour both at the macro and micro-levels.

c) I attempt to illustrate the role of language as a multifunctional and interdisciplinary tool which depends on learning and cognition. I argue that text/discourse is a multimodal semiotic object requiring a methodology based both on lexico-grammar and semiotics as these two approaches can capture the nature of verbal signs and discourse. In this respect Halliday's SFL provides the theoretical approach allowing to understand language and its variations at different levels of analysis.

In particular, the compatibility of Halliday's SFL with both Vygotsky and Bernstein as recently described by Hasan (1996, 2005), Wells (1999) and Painter (1999), allows to examine the relevance of Halliday's SFL model with respect to discourse in light of those theories, focusing on recent debates on fundamental issues of sociocultural concern.

3.1 Bernstein and Vygotsky: a comparison from a sociosemiotic perspective

My initial reference to the work of Bernstein and Vygotsky aims to make some substantive points with respect to a linguistic perspective illustrating the multiple meanings of discourse as well as providing a theoretical context for introducing other works bearing on the issues raised by my discussion.

Paradoxically neither Bernstein nor Vygotsky viewed language as a primary interest. Indeed, Bernstein claimed to be a sociologist concerned mostly with society, given that his notion of code is an essentially sociological concept that regulates the selection and organisation of all social practices (Bernstein 1971:174). In fact in Bernstein's view sociolinguistic aspects are derived from their sociological nature (Hasan, 1973a). Similarly, Vygotsky was a psychologist driven to explain the arousal of consciousness as a result of human development *via* language as a psychological tool. Because of their epistemological complexities neither theory was totally equipped to fully address language and discourse. Although such an aspect would have added a further specificity to their fields of specialised interest, i.e. society and psychology, the theoretical approaches of both authors resist confinement to a single field of research, rather implying a dynamic relationship between human behavior and society.

As I do not intend to refer in detail to the complete theoretical production of Vygotsky and Bernstein, I will focus on those aspects of the two theories which are relevant for my purposes by discussing the centrality of social interaction and language in cultural transmission and the development of human consciousness.

From a general point of view, one can say that Bernstein's work begins where Vygotsky's ends as the former provides us with concepts which deal with contextual specificity, adding complexity and specification to Vygotsky's notions. Indeed, while Vygotsky deals with more generic concepts, Bernstein contextualises the child by dealing with social variations as significant features of his theoretical principles. In this respect Halliday, as regards Bernstein, has noted that:

...he was the first sociologist to give a place to language in his chains of explanations; and by doing so he offers an explanation of how culture is transmitted. (1988: 6)

As both Bernstein and Vygotsky raised the question of how social aspects are connected to language variations, what needs to be clarified is how a line may be drawn between the sociolinguistic and socio-historical approach to discourse as representing similar but slightly different fields of enquiry.

In light of such discussion I shall present my views by trying to point out why a particular theory appears to be more suitable for meeting the requirements of this study. In particular I shall address aspects such as the theoretical and methodological issues inherent in the semiotic approach to sociocultural discourse in this research.

Sociolinguistics is primarily concerned with language elicited in social contexts leading to descriptions of linguistic variations. Within the field of sociolinguistics Bernstein's theory of codes rises above the general abstract level of this discipline as current sociolinguistic studies deal with phonetics or syntax (Labov 1972) and often consider linguistic variations to be obvious, described as social factors but not correlated to a theory of society (Hasan 2009).

In contrast, Bernstein's view of language is a complex one, wishing to highlight the deep relations between society and forms of speech to explain systematic variation between social class, social practices and forms of human consciousness. This approach advocates the primacy of language in the process of cultural transmission and concerns sociolinguistic variations operating at the level of

meaning, i.e. semantic, implying the highest level of abstraction in the description of language (Hasan 2009). The semantic level of language can be considered 'the interface between language internal form and language external reality' (Hasan, 2009:50) mediating semiotically the outer and inner dimensions. Thus, as Bernstein's sociolinguistic approach is semiotic, it appears suitable for dealing with the dialectic between semiotics and consciousness and the relations between micro- and macro-level social phenomena. In fact the notion of code is crucial both to socialisation of the subject (external) as well as to the shaping of his/her specific forms of consciousness (internal) (Bernstein 1971;1987).

Indeed Bernstein deals primarily with meaning orientations leading to identities and modes of control addressed through the medium of language in use. Although codes are perceived as manifestations of a speaker's performance, they are treated as communicative competence, as they are referred to as potential semiotic systems which also include systems other than language (i.e. rituals and bodily adornments).

According to Bernstein, the social basis of communicative performance originates in the various positioning of individuals within the social structure, giving rise to different types of social relationships and linguistic codes or semantic styles associated with them. In his conception, individuals acquire social consciousness from the very beginning of their lives and in so doing are regulated by its social constraints. In this way the social structure acts as a powerful 'cultural positioning device' which regulates the segregation of codes between different social strata, with specific meaning orientations shaping the subject's psychological reality. Indeed, in simple societies cognition remains embedded in discourse while in more complex ones cognition is disembedded from discourse and reconstituted through the symbolic system of language through which it is made manifest. This complex intertwining of sociolinguistic and cognitive elements would require a more appropriate definition, similar to that offered by Dell Hymes of *communicative competence*. In his view, individuals acquire not only grammar, but:

... also a system of its use regarding persons, places, purposes, other modes of communications, etc.- all the component so of the communicative event, together with attitudes and beliefs regarding them.
(1974: 75)

One of the main components of an individual's communicative competence is a set of abstract structures, *schemata* or *scripts* representing social frames to enable the handling of particular types of situations and problems connected with them. Inevitably one may expect individuals to vary in terms of both their acquired schemata as well as their ways of solving particular problems, as schemata reflect experiences leading to social knowledge and prototypes. Language use parallels these structures, reflecting differences between people's experiences rather than in their intelligence.

With respect to linguistic knowledge/competence, in Bernstein's macro-sociological view, it is difficult to locate the individual knowledge/ability leading to individual consciousness based on thoughts. In this respect Atkinson claimed that:

It is undoubtedly true that in Bernstein's general approach there is little or no concern for the perspectives, strategy and actions of individual social actors in actual social settings.(1985: 32)

As a matter of fact, the claim that dominant social practices govern code varieties leading to a systematic orientation toward specific orders of relevance as constitutive of the social system (Bernstein 1982;1987), provides a description of social attitudes and behaviour in connection to social structures but fails to explain *what* motivates those practices at the micro- individual level. Bernstein left out of the picture *why* individuals are engaged in a goal-directed human activity, which could also throw light on the underlying principle governing semantic speech variations and their possible variations in face-to-face interactions.

As any semantic variation presupposes the existence of a motive underlying speaker communication, which is functionally related to the outcome of communicative goal(s), only a clearer specification of the latter would enable understanding of the process of such formation in the negotiation of meanings across different discursive orientations. In this respect, it is through the process of interaction that different modalities of speaker identities can be recognised and can be mutually negotiated. In dialogic interaction this condition can transform a material situational setting into a site for creating inter-subjectivity. This condition carries potential for restructuring speakers' original social positioning in the process

of negotiating their identities through the use of speech which can come to play in the various activity settings of society.

Bernstein's model of language, whereby elaborated/restricted coding is expected to represent just one variety of the code, would need to be replaced with an *item-based model* in which each linguistic item can be associated with a social description specifying who uses it, how and when. Similar items may be grouped together, but this may not refer to the same social factors. Indeed in a single utterance certain items such as words may reflect people's social class, others their relation to addressee, while yet others their regional accents, etc. (Hudson 1980).

Thus, coherently, the unit of description should shift from coding/variety of the code to single linguistic items, whose description may be grouped into a super-ordinate concept such as that of social register as described by Halliday, with three-dimensional aspects or vectors such as *field*, *tenor* and *mode*. The semiotic complexity of this model entails a linguistic description which, on one hand, is linked to culture and on the other to context and to the internal aspects of language described as metafunctions. In this way internal and external aspects of language are dialectically linked to explain how language develops and how it is maintained or changed according to speakers' use in their lives, which leads this discussion to the social aspects of the theory.

Bernstein's studies of semantic variations are solely linked to social class, a concept which often overlaps with ethnicity and culture or sub-culture within a society and which can often be problematic to define (Hasan 2009).

Coding orientations and their variations are consequently identified with individuals' dominant or dominated social positioning, governed by the distribution of power and the modalities of control of social practices in a particular space or time. To Bernstein a 'social positioning of the subject' (Bernstein 1990:13) represents a social experience which is also 'a marker of mind' (Hasan 2009: 28) as he maintains that society creates social inequality but also orients communication, social beliefs, judgments and social decisions in logical continuity with social identity originating within the community. This perception of the social dimension as the essential condition of knowing, in the awareness of an intimate relation between language, thought and culture leading to the shaping of individual, consciousness is identified with social class and not articulated to the full in Bernstein's proposal. While the potential of the theory is unquestionable (Hasan

1973; Halliday 1973b), its implementation creates ambiguities, especially if applied to today's mobile and multiethnic societies.

It is also important to stress that any intercultural dialogic communicative exchange would include, over and above social class, a social positioning of the subject depending on multiple variables whose mutual interplay is activated within a context of face-to-face interaction. Such variables might include religion habits and rituals, gender relations and social values as well as resources of language use in the process of second language acquisition, all belonging to the wider realm of culture. With no doubts these variables would affect the outcome of any *vis a vis* encounter, bearing consequences especially in the realm of intercultural education. According to Hymes sociolinguistics in the modern world cannot be separated from social change:

Indeed, for a systematic theory to emerge, many phenomena now treated as diverse types-acculturation, bilingualism, creolization, linguistic nationalism, pidginization, standardization, construction of artificial languages, vernacular education- must be seen as interrelated within the history of European expansion and the emergency of a world history (Hymes 1974: 79-80).

As regards phenomena which typify multiethnic and intercultural societies, it is legitimate to ask: What are the social variables which most influence the process of learning through language in education? Given that speech communities cannot be identified in terms of language alone, what role would the pupil's original code of orientations play in the process of effective second language learning? Could this process be negotiated within the context of schooling with pupils from different ethnic backgrounds? Literature on second language acquisition has often reported that foreign children are able to learn a new language in a relatively short time and that often their difficulties lie elsewhere, in the domain of culture. This leads to the problem of defining culture, a concept which cannot be completely identified with social class. This also emphasizes the autonomy of language as a system whose conceptualisation as 'a mental tool' requires a fully-developed linguistic perspective capable of capturing the complex aspects of dialogue between language and society. In this respect Bernstein must rely on a linguistic theory to relate meaning as manifested in the whole of discourse by linking semantic to social life in a synchronic and diachronic dimension.

Thus Bernstein provides a social analysis which can be referred to for its inter-psychological value, but which lacks a deeper investigation into the individual intra-

psychological level. This prevents a dynamic assessment of the interaction between inter and intra-psychological dimensions of the child, despite the fact that Bernstein is concerned with values, knowledge and social identities.

In fact language is not a homogenous phenomenon as it varies synchronically, but it also changes diachronically (Hasan 2009). While Bernstein is fully aware of the socio-historical dimension of codes and claims that historically they originated in kinship and religious systems representing the fields of symbolic control, this dimension is not explored nor envisaged in his sociolinguistic theory which only deals with the location of codes in social class as regulators of the distribution of social relations and social activities (Bernstein 1996: 183).

For the theory of codes to provide an understanding of the nature of knowing linked to the various forms of human activity, it would need a diachronic dimension capable of explaining why and how psychological factors such as values, intentions, rules and behaviour may change in space and over time under different social pressures and circumstances.

On this issue Halliday has provided the means for satisfying Bernstein's linguistic needs as his a sociosemiotic linguistic approach provides an in-depth account of how *langue* and *parole* are constantly related in time (Halliday 1999).

In terms of SFL, *langue* and *parole* are not treated as dichotomies but are dialectically related; linguistic patterns (*parole*) are realized by reference to the linguistic system (*meaning potential, competence*) in contexts of situations. Moreover, according to SFL, in order for language to function in the communicative life of social communities, it must be able to renew itself through the constant evolution of its system, and this ongoing change enables *instance/speech/parole* to work effectively as meaning realised in social contexts.

By contrast, Vygotsky 's sociocultural theory presents a more comprehensive view of the role of language not only because it plays an active role in mediating cognition, but also because it serves as a developmental tool through which thinking reaches a new level of articulation. As a result, by building on the centrality of linguistic mediation, Vygotsky argues that higher mental activities in humans depend on the quality of the symbolic tools that cultures have built over time, leading to a developmental process which reveals how mental abilities are gradually formed in the individual. According to Vygotsky this process reveals more than the end

product and is linked to his genetic method which emphasizes the history of concept formation. The dynamic dialectic relationship between learning and development achieved by the mediation of language, arises from collaborative interaction between children and other members of their cultural group. In this manner specific types of specialised interaction such as those pertinent to schooling enhance opportunities for development rather than just a means for reacting to it. The semiotic power inherent in such a view whereby a line of progression is postulated provides for explicit systematic links between culture (realised in terms of interaction), language (as a necessary element for mediating it) and thinking (as a result of a developmental process which is always sociogenetic).

Vygotsky's semiotic approach presents itself as 'a dynamic open system' (Lemke, 1993), and bears remarkable affinities with SFL (Wells 1999; Hasan 1999; Byrnes 2006). Indeed Vygotsky's sociocultural theory enables conceptualisation of all the necessary elements for understanding human cognition in its biological and social foundation, thus overcoming the dichotomies of nature/culture, language/thought, signifier/signified, synchronic/diachronic and L1/ L2.

For this reason, I conceive my field of enquiry as being more appropriately based within the sociocultural rather than sociolinguistic tradition. In this respect I refer to the term sociocultural instead than 'cultural historical' when referring to Vygotsky and his theory, as, in line with Wertsch *et al.* I believe that:

... 'sociocultural' is a better term when it comes to dealing with how this heritage has been *appropriated* in contemporary debates in the human sciences, at least in the West. (1995: 6)

I wish to clarify that as a sociocultural approach regards language as a cultural tool mediating knowledge and consciousness, the implicit assumption would be that of language as serving mental functions. Rather, cultural tools, of which language is the most powerful one, are conceived as active processes transforming mental activity. On this point Vygotsky notes that:

...by being included in the process of behaviour, the psychological tool alters the entire flow and structure of mental functions. It does this by determining the structure of a new instrumental act, just as a technical tool alters the process of a natural adaptation by determining the form of labour operations. (1981:137)

Thus the notion of mediation is an active process entailing the use of language and its potential transformation, as it is a 'cultural tool-kit' provided by the sociocultural setting in which we operate' (Wertsch 1991).

The understanding of the setting is linked to a process of semiosis between the given activity and the selection of the cultural tools, which shape the form of mediated action. It follows that if semiotic mediation varies according to different modalities of language, it must be produced wherever discourse occurs and presents variations according to the sociocultural background of speakers (Hasan 2005). It is in the light of this relationship that a sociocultural study of discourse as devised by this research can justify the implementation of Vygotsky's theory with a linguistic approach, as in this way 'one can begin to explore the concept of cultural activity in relation to semiotic mediation by using the modality of language' (Hasan 2005: 195). This is in accordance with Wertsch et al. when they claim that:

The goal of a sociocultural approach is to explicate the relationship between human action, on the one hand, and the cultural, institutional, and historical situations in which the action occurs on the other.
(1995:11)

Vygotsky's conception of language is identifiable with speech, *parole*, and his formulation of psychological functions is compatible with the notion of action, to become later the main focus of attention in Soviet psychology (Leont'ev 1978). This perspective raises the question regarding the unit of analysis in sociocultural research, conceived in terms of mediation or activity. In this respect, by identifying the unit with mediated action, Wertsch manages to unite both dimensions with that of Cole (1996). This perspective acknowledges the level of activity back-grounded in the concept of action. Cole also developed a perspective, where he considers mediated action and activity contexts as two instances of the same process (Cole 1996:334).

Thus Vygotsky's analytic framework has been addressed in post-Vygotskian studies (Wells 1999; Wertsch 1985,1991), and has been found capable of meeting the requirements of cultural and historical settings in the light of the contemporary context. Nevertheless Vygotsky's framework presents some shortcomings with respect to his underlying theory of language, such as an inability to explain different

forms of semiotic mediation and their origin, how different forms of human consciousness come into existence, and the concept of semiotic variation expressed in sociosemiotic terms (Hasan 2005). Thus when commenting on his work we must bear this in mind, without denying the profound contribution that Vygotsky has made to many fields of knowledge today.

In conclusion, the fact that both Bernstein and Vygotsky's theories are *exotropic* (Hasan 2005) implies that they can both be implemented by a compatible theory of linguistics without altering their constituent features nor denying the validity of their empirical enquiry. Nevertheless, my own theoretical position is based on a dialectic sociogenetic method which emphasizes mediation in language leading to higher mental functions. Therefore the empirical approach to the analysis of discourse must be conceived as a sociocultural one, integrated with a theory of language in use.

Halliday's framework is highly compatible with Vygotsky and provides the linguistic markers of sociocultural variations through its multilevel functional model which semiotically links speech conceived as action to cultural activity (social practices) produced in an intercultural classroom. The fact that Vygotsky's theoretical approach pursues the developmental trajectory of the individual in the assertion of the sociogenetic nature of speech conceived as meaningful action transforming concepts into higher mental functions in the process of social is particularly significant for my discussion. Indeed, one can trace a close relationship between Vygotsky's cultural historical tradition and Halliday's systemic approach to language in use, as both approaches are co-genetic, i.e. they view higher mental functions and language not as social products but as social in themselves. At the same time both these theories are dialogic as they do not present dichotomies but rather conceptualise dynamic relations between different aspects of the human dimension by linking the social and the individual, language system and speech functions, language and thoughts, actions and interactions.

While both Halliday and Vygotsky provide theories which are learning/language based, Vygotsky provides greater potential than the SFL approach for addressing activities which are not only language based, thus to contemporary activity theory. Vygotsky's epistemological potential is more extensive than Halliday's, as it can be referred to activities which are not verbal in nature, but it is certainly less specific with respect to language in use. Thus, as SFL is primarily a linguistic discipline-

based knowledge, I consider it as a mediating tool for understanding linguistic issues linked to wider Vygotskian and post-Vygotskian sociocultural issues.

3.2 Language and higher mental functions

By explaining the principle whereby the social context is related to the more general cultural milieu, and by describing the compositional features of the social context itself, Halliday's functional model allows linguistic factors and discourse types to be understood. Theoretically this is in line with Vygotsky's notion of meaning, but, at the same time, it addresses the methodological dimension of social aspects which Vygotsky disregarded. Halliday's theory of language as semiotics can provide an account of language conceived as activity by providing an understanding of how goal-directed actions translate into the language system, and in what manner. In this way his semiotic perspective enables analysis of the semiotic relationship between the nature of an activity (*field*) in connection with types of social relationships (*tenor*) and the nature of verbal contact between participating speakers (*mode*). In SFL these are the three vectors that can generate semantic variations of linguistic meanings elicited in social situations.

Thus describing the social context of semiotic mediation should envisage an articulated theory of language which brings together the system of language (syntax, grammar and phonology) and the process of its occurrence (i.e. text in context) to provide useful insights into the process of the sociogenesis of human consciousness.

In Halliday's approach these issues can be addressed in terms of the context of situation, which is conceptualized within the concept of register to create a three-strata structure entailing semantic options for the three separate entities: field, tenor and mode. The theory is also based on a multifunctional level of meanings focusing on the interactional, ideational and textual levels which are equally essential to understanding both the linguistic system and the process of its occurrence. In fact the multistrata and multilevel aspect of the theory allows meanings to be linked to the system as well as to the process within the social context in which they are produced.

Indeed, it is within a social context that the system of language (i.e. its abstract paradigmatic potential) becomes actualised in the form of speech, through a process

enacted in the form of text in context. This dynamism between language as a system and language as a process resembles Vygotsky's dynamic notion of ZPD whereby semiotic mediation occurring in conversation can enhance meanings beyond the individual's capacity to do so. Forms of such mediation will be functional to a given culture, implying differences in particular valued forms of such mediation and leading to different forms of human consciousness. In such a perspective one can better understand Halliday's remark according to which language exists in its known form because as such it serves functions that are useful in the cultural life of the community.

Thus learning how to speak involves a deep understanding of culture at the macro-level which is linked to a social context at the micro-level, implying formal patterns of language, conversational rules and cultural goals to be fulfilled. Indeed, in any given situation, speakers must simultaneously understand which features of the social environment are relevant in that context, whose features are simultaneously associated with social roles, topics and particular options of linguistic systems.

At the same time speakers must achieve an implicit or explicit goal with its motive embedded in every ordinary type of activity. This is not necessarily a conscious process for speakers but defines the degree of relevance that a given event may have for them. In this process mental attitudes resulting from a speaker's previous experience are determinant in the success of the verbal outcome as they influence the choice of discourse mode along with its relevant meanings.

To discuss the significance of variety in understanding cultural differences with respect to cognitive and linguistic functions, I recall Luria's words to illustrate his findings in Uzbekistan:

Every attempt to suggest the possibility of categorical grouping met with protest...They either disregarded generic terms or considered them irrelevant, in no way essential to the business of classification. Clearly, different psychological processes determined their manner of grouping which hinged on concrete situational, thinking rather than abstract operations which entail the generalizing function of language. (1976:77)

In describing the Uzbek subjects' behaviour Luria's description appears to have underestimated the cultural interpretation of the given task. As this task was considered to be irrelevant by the Uzbeks, it follows that it had no sense nor

meaning for them. So it did not elicit responses that contrasted with their habitual everyday situation.

As regards the given circumstances, it is possible to infer that with appropriate mediation the Uzbeks most probably would have produced different types of responses. Notably, Luria was addressing their use of language (language as a process in Halliday's terminology) in a social context, and not their linguistic and cognitive potential (language as a system). In this respect, not only would any social community, even the most primitive, use the sign system of language in a symbolic form (Hasan 2005), but moreover there is no reason to believe that 'concrete thinking' as described by Luria implies a lower level of mental development in the speakers involved in his experiment. Rather it appeared that concrete thinking was a more 'valued' form of thinking within the Uzbek culture.

For instance, in a discourse of 'doing' where agents are tied to particular circumstances and the social interaction is that of informality, the narrative mode of discourse prevails as it is based on primary experience, linked to a context typical of everyday activities. Conversely, in a more formal situation requiring a processes of abstraction, reasoning and generalisation, agents are less tied to particular circumstances and are more likely to produce an argumentative mode of discourse based on a more specialised type of activity requiring attention and conscious will.

From a contextual perspective, different types of activities activate different types of knowledge as there is a constant interplay between language as a system and language as a process in use in context.

Thus children's verbal learning also implies adjustments and changes according to the social requirements of the use of speech in a particular situation. These considerations lead to further reflections in connection with Luria's experiment.

In light of a sociocultural perspective conceived as a semiotic theory of language in use such as Halliday's, Luria's findings can be easily interpreted as originating from distinct spheres of human social existence. From this perspective, the Russian peasants in Uzbekistan are oriented towards a semantic style and genre which bears a direct relationship with the material basis of their society, implying a set of social relationships which produces and reproduces socially mediated meanings (Bernstein 1975). This challenges the conception of society as an 'innocent' entity as maintained by Vygotsky and his later followers, whereby mere social contact might elicit a particular form of higher mental functioning through a particular variant of

language use. As all concepts are appropriate for the construction of modes of speech in interactive activity specific to one's culture (Bruner 1983; Halliday 1975), the potential meaning of the genres and registers of a given language provides the tools for thinking and communicating in ways which are appropriate to the culture itself.

It follows that higher mental functions, identified by Vygotsky in scientific concepts, are not universal, nor are they a culmination in terms of the hierarchy of developmental concepts; rather they are linked to and generated by a specific activity system as well as the type of discourse genres which generate them (Wells 1999).

Thus syllogistic reasoning as well as context-dependent speech may be explained in terms of the action genres elicited in activity settings, as both processes are approached by unschooled individuals in relation to tasks, interpreted as requiring a particular register of linguistic usage. Often, as in Luria's experiment, unschooled individuals or working-class pupils perceive the experimental or educational situation as a practical task; in this view context is defined in terms of the social embedding of practical activity, goal-oriented towards the given task. In this respect actions are performed on the basis of cognitive representations which are socially constituted; for this reason they are subject to variation with respect to the inter-psychological process under way among participants. It follows that context-dependent speech is a result of activity systems based on culture which affects semiotically-mediated mental processes externalized by means of language in use.

If culture is conceived as a totality of heterogeneity cultural activities (Tulviste 1999), it follows that heterogeneity of thinking and meaning are direct functions of those activities.

In light of these considerations it is more appropriate to consider each individual's differentiated mental processes as a result of heterogeneity in activity settings (Tulviste 1991), providing individuals with different cultural tool-kits (Wertsch 1991; Wells 1999). Thus cognitive processes should be valued within specific domains of knowledge, with specific activities, cultural tools and modes of reasoning.

3.3 Systemic linguistics: a multifunctional model for learning and thinking

This section offers an explanatory view to highlight the potential of an empirical analysis of sociocultural discourse in the area of grammar, lexicon and text. It is

conceived to be a theoretical introduction to my discourse analysis based on a slightly modified version of Halliday's model.

In so doing I will provide a brief account on the compatibility between Halliday's theory and Vygotsky in relation to issues concerning human development. I proceed by describing Halliday's notion of development focused around the notion of grammar. This notion makes language an open system capable of creating meaning, enabling the integration of human knowledge and interaction in the form of spoken and written discourse.

Finally, I describe the notion of semantic variations in the SFL tradition, by addressing the notion of genre, register and semantic styles. Their descriptions provides means for understanding how configurations of linguistic phenomena construe different patterns of meanings to accomplish different goals in discourse.

The theoretical model applied to the analysis of discourse is based on Systemic Functional Linguistics as elaborated by Halliday, based on a social semiotic approach. The choice of this model depends on the fact that Halliday's theory can represent issues of sociocultural concern such as those described by Vygotsky and Bernstein, and because the importance of a dialectic between theory and description has been clearly indicated as the basis for a systemic linguistic analysis. On this issue Halliday and Fawcett declared:

The theory that [this volume] discusses is always theory that arises out of the actual textual data of languages, and that leads back to further description thus completing the cycle of the 'renewal of connection', which J.R. Firth wisely advised us to remember to make. One might even propose as a guiding principle: No theory without description, and no description without a theory - the theory, of course, often turning out to be inadequate. (1987: ix)

The Systemic Functional Linguistics approach provides a developmental paradigm for a language-based theory of learning compatible with Vygotsky's view as both are sociogenetic and developmental theories (Wells 1999).

Hasan (2005) and Wells (1999) have provided excellent accounts of integration to and departure from certain aspects of the two theories. I will refer to these as guidelines to illustrate my own account to be used in the analytical approach to discourse.

A focus on language as a mental representation as provided by Halliday remedies Vygotsky's lack of specification of the social dimension by describing the notion of context as articulated between the three functional strata of language defined as ideational, interpersonal and textual and as the outcome of the *register* to be used in that situation. Thus the understanding of a text or discourse depends on an understanding the relationship between the context of the situation and its meaning, which for Halliday is semantic meaning. However the contributions of these two approaches have different theoretical focuses.

As a psychologist, Vygotsky's main theoretical concern was the development of higher mental function in children. As a linguist, Halliday's attention is more fully directed towards the learning of language as a social phenomenon.

In accordance with the main focus of his interests, Vygotsky viewed language as a mediator to achieve higher mental functions and conceived it as a cultural tool to develop cognitive processes. It follows that the Vygotskian conception of language is mainly focused on representations as these are the most important functions that Vygotsky wished to explore. Moreover, his psychological approach lead him to explore how mental capacities are gradually developed in terms of a developmental process in children rather than in the fully-formed adult system. This approach referred to as the *genetic method* proved to be most revealing of the organisation of human mental activity but Vygotsky did not explore the fully-formed linguistic system nor the conceptualisation of its organisation.

Despite Vygotsky's shortcomings with respect to a model of language, which have been fully highlighted by Hasan (2005), his cultural historical theory still holds particular validity with respect to language learning and education.

Vygotsky's concepts such as semiotic mediation and the Zone of Proximal Development, both dealing with language and interactions, provide insightful advances for teaching methods and learning processes. In this respect Vygotsky's contribution can be re-established in light of certain interdisciplinary extensions originating in the field of linguistics, on the assumption of a theory complementary to a linguistic theory of language in use such as SFL (Wells 1999; Hasan 2005).

I will briefly outline some of the theoretical assumptions on which this integration may be based and I will illustrate the points of Halliday's theory which are relevant for this study.

According to Halliday, the process of human learning is based on and arises from language, which is a resource both for knowing the world as well as for interacting with others. In this respect his model offers a more complex system of language in use, which is also capable of analysing linguistic aspects which are not addressed by Vygotsky's view of language.

Developing from the Prague School of linguistics, Halliday's model is based on a functional approach in which meaning is equated with function. In SFL the complexity of language is analysed in terms of layering (even if this term was not used by Halliday) based on the notion of metafunctional diversity to describe linguistic structures and their different types of functions on different interrelated planes:

- 1) at the macro-level, functions refer to ideational interpersonal and textual macro-functions representing a high order of abstraction and present in every meaningful exchange;
- 2) at a lower, pragmatic level, functions refer to what people are doing in a specific time and space, related to the specific purposes of speakers (i.e. to ask, to deceive, to inform etc);
- 3) at a structural level, functions represent linguistic functional roles in the element of the clause such as actor is a function in the transitivity structure.

For Halliday the metafunctional hypothesis is relevant for two reasons:

- a) to explain the way in which language functions with respect to human life. Language as a social resource has developed to meet the needs of individuals in society and it is shaped into diverse functions to fulfil the requirements of social behaviour in social domains and different settings;
- b) more specifically, to explore how language is organised internally and is based on the exploration of language development.

As metafunctions are meanings which must be created within a social context (i.e. the social conditions from which meaning originates), it follows that the elements of social processes and linguistic meanings originating from it are related and will display differences in connection with the parameters of the situation. These differences are conceived in terms of semantic variations.

Linguistic metafunctions refer to different functional areas in the organisation of language. They are interpreted as permeating the whole linguistic system and they can be viewed with *trinocular* vision (Butler and Taveriniers 2008). This implies a

view from a higher stratum (i.e. the context of culture), from the lower strata (i.e. social context) and from the same surrounding stratum (i.e. lexico-grammatical).

Halliday gives priority to the view from above as he presents a sociosemiotic perspective concerning the semantic level of language. In fact semantics is conceived as:

the highest language-internal level bearing a dynamic relation to the encoding levels of syntax, lexis and phonology.
(Hasan 2005:175)

It follows that learning language bears some distinctive characteristics as the transformation of knowledge into meanings, is a semiotic process. This implies a semiotic relation between the context in which social relations are located, generating functional meanings, and the lexico-grammar from which meanings arise.

Halliday explains the relationship between society and language through the concepts of instantiation and realisation. Instantiation links language as a cultural system to the situation type through *parole* conceived as text. This concept permits to focus to the 'potential' and on the 'instance' at the same time, as the instance is made intelligible by reference to the potential. Realization is essentially semiotic as it links society realised as language (combining meaning and expression) created in the situation type through *parole* as text.

3.4 Linguistic development and inter-subjectivity

In developmental terms Halliday believes that children become socialised into their own culture through the use of language in their home environment. He maintains that the process of language development emerges from birth with social, cultural and linguistic features, suggesting a development of inter-subjectivity initially based on the joint activity of adults and children, followed by actions, mimesis and speech (Trevvarthen 1977). While this developmental sequence is universal and common to all cultures, the form in which it takes place is culturally bound, as linguistic systems are cultural tools depending on particular antecedents of participants' experiences. Indeed it is through social participation in verbal interaction followed by the appropriation of communicative means that the novice develops his /her meaning potential to create the particular discourse genre specific

to a context. In this view he/she can acquire control over intra-psychological processes such as reasoning and arguing while learning the modes of discourse in the given culture. In this manner the study of language allows for investigation of the development of individuals as active social subjects within their own culture. Halliday states that:

The grammar of every natural language is (among other things) a theory of human experience; is through our acts of meaning that we transform experience into the coherent though far from consistent patchwork that we learn to project us as 'reality'.
(1993: 46)

Furthermore he suggests that:

...it is not difficult to suppose an intimate connection between language on the one hand and modes of thought and behaviour on the other.
(1976: 25)

This statement is to be considered in light of Halliday's beliefs regarding social and cultural differences in linguistic experiences. Indeed he draws on the work of anthropologists such as Sapir and Whorf to explain language variations in a given culture or community which predispose speakers to interpreting experience in a certain manner.

While Vygotsky was interested in differences among cultures, Halliday focused more on the sociosemiotic variations within single cultures, particularly within social classes in relation to educational achievement. Furthermore, while Vygotsky bases cognitive development on word meaning, Halliday conceives a child's progressive reconstruction of grammar as a whole. This means that development from a child's protolanguage progressively involves new features of his semiotic system as new choices are realised through the lexico-grammatical aspects intermediating between semantic content and phonological expression. On this point Halliday notes: 'The grammar opens the way to naming and reference, and hence can function as a theory of human experience' (Halliday, LTL: 97). Indeed with the progression of grammar and learning to speak, the child's utterances, initially monofunctional, become multifunctional as they combine experiential and interpersonal meanings together, becoming at once both action and reflection.

The process of language learning is multifunctional from the start since the process of making meaning involves all three metafunctions. These concern the enacting of social roles (interpersonal function), construing our experience in the world (ideational function) and presenting the meanings as a coherent form of information (textual metafunction). In this sense the ontogenesis of language implies the ontogenesis of learning as to Halliday learning implies 'learning how to mean' (Halliday 1993b).

This process can be explained by the fact that for both Halliday and Vygotsky a child learns to speak because his/her social relations have mediated more or less effectively the mastery of the linguistic system. However, their mutual developmental orientation deviates from that of cognitive development conceived in terms of higher mental functions.

Halliday does not wish to treat language and cognition as two separate lines of development as he sees the cognitive process as a semiotic process which originates from social processes. This means that concepts are not mediated by tools but are *social in themselves*. Rather, the interactional process, being sociocultural, is the element which allows conceptualisation of something as a means for mediation, be it concrete or abstract form (Hasan 2005).

The process of learning requires language and takes place through it, as language promotes the process whereby experience becomes knowledge of the world through interaction with others.

Indeed the making of meaning develops in interaction as the linguistic meaning system is a tool which develops and is shaped during the course of inter-subjective exploration of the external world.

According to Halliday social and ideational functions develop together ; while the social dimension developmentally triggers the interpersonal function to fulfil humans' social needs, it is through the ideational function that the child starts to construe reality as the generalisation of experiences through the naming and categorising of objects, facts and events. In this way the contribution of a metafunctional theory of language makes it possible to capture the complexity of language's internal organisation and assumes significance in sociogenetically explanation of linguistic phenomena such as the syllogistic reasoning of peasants in Luria's experiment in Uzbekistan (Hasan 2005). From this point of view conceptual

development is linked to the development of semiotic potential described as 'meaning potential'.

Even if the SFL approach is aligned with Vygotsky's, Halliday does not refer directly to communication and thinking, rather saying that language as a socio-semantic system makes it possible to establish inter-subjective agreement on the type of experience one is referring to. At the same time one becomes a protagonist in the world through the mediation of others by means of social actions. Thus every linguistic act of meaning simultaneously involves both interpersonal and ideational metafunctions, with the help of the textual metafunction to achieve coherence in the ongoing exchange of meanings within a given context. This process is achieved through the use of register which implies the recognition by speakers of multiple sets of semiotic resources mediating simultaneously different aspects of the social situation.

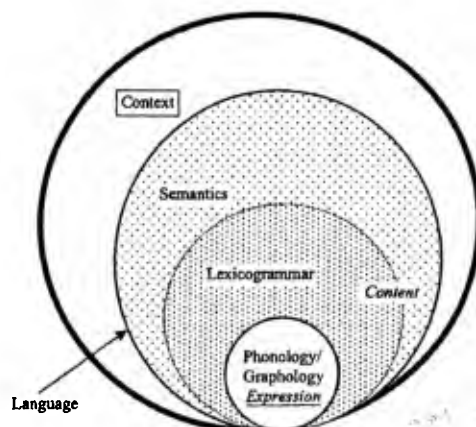
However, unlike Vygotsky, Halliday does not prescribe a specific representation of reality through the use of language, as he does not advocate the primacy of one linguistic mode over another. Rather he provides insights on variations of linguistic modes used in activity settings by subjects belonging to different cultures or strata of society. This is possible as the theory explores the semiotic potential of language through the lexico-grammatical resources of meanings.

Linguistically, these resources presuppose a typical relationship with language as a system of meaning potential, i.e. ideational, interpersonal and textual, and it can indicate the way in which these meanings are selected and used to achieve the goals of a specific action in situated activity.

In SFL meaning distinction is addressed in the concept of semantics, i.e. linguistic meaning potential, which to Halliday refers to the three metafunctions, i.e. interpersonal, ideational (with experiential and logical as sub-categories) and the textual, integrating them into an organising concept which accounts for meaning which is potentially construable within the parameters of the contextual constructs.

Visually, metafunctions' levels can be represented as follows:

Figure 1. The stratification of language in context (after Matthiessen, 1993)



Thus the semantic level of language is organised around the relevance that metafunctions bear with respect to the ongoing discourse and between discourse and its context. In fact the verbal information provided by members of society is reflected in the relationships between the social elements of the context and its verbal realisation. It is this dialectical relationship which defines the nature of the context of talk, as interpreted by the speakers.

It follows that divergences may result in the speakers' construal of semiosis as a process linking linguistic meanings to the items of the context. In this respect context as a concept is 'at risk' (Hasan 2009) as it varies according to speakers' interpretations of its variables, which Halliday defines as tenor, field and mode. However Halliday does not establish a direct association between discourse metafunctions and contextual variables; he rather claims that some of them are typically related to certain vectors of context. So the ideational metafunction constitutes the field, the interpersonal nature of tenor and the textual nature of the mode. These relationships open the possibility of studying semantic variations, as different wordings and groupings of meanings are expressed in the semantics of language as an expression of different lifestyles. Conceptually this implies that often subjects belonging to different cultures interpret reality differently, and this has a differential meaning potential for expressing their meanings through language and its lexico-grammatical choices.

3.5 Grammar as a developmental resource for meaning

In this section I will discuss some of the main issues concerning Halliday's developmental model, conceived as an empirical tool to investigate sociocultural aspects of language learning.

In particular here I will focus on SFL view on the role of grammatical abstractions such a metaphor and written language, conceived as resources for constructing knowledge as required by schooling. In chapter 5, I will outline the grammatical aspects which are conceived to be relevant foci for my discourse analysis.

Halliday's functional theory is open to empirical description as it draws on a systemic functional account of linguistic grammar. In fact in SFL theory a powerful instance of the systemic nature of language is lexico-grammar, an important means for making language (Halliday 1996). In fact Halliday considers grammar to be a privileged part of language, the dynamic interface between external reality and the internal semiotic world .

In SFL view grammar is a developmental resource in learning how to mean and to think linguistically. In fact Halliday conceives that each metafunction activates a specific part of the lexico-grammar of language, implying specific choices capable to empower the use of grammar conceived as a tool for thinking. Thus learning how to use a language means that speakers becomes consciously capable to use a grammar for knowing and understanding how a language works. The domain of grammatical enquiry is that of realisation of semantic choices in clause complexes, i.e. the combining of clauses, conceived in terms of interlocking options which specify the linguistic potential in the realisation of linguistic meanings.

This implies that the explanation of meaning at the level of grammatical description includes the explanation of metafunctions, and these concern not only the individual words but the whole message as meaning is dynamically constructed in relation to all metafunctions.

So, in the structure of a clause, the choice of word groups is activated by the interpersonal metafunction by defining the speakers' speech roles in terms of asking, responding, etc. leading to MOOD and MODALITY choices. The choice of THEME with its focus on cohesion through the system of CONJUNCTION is activated by textual functions.

The interpretation of reality relative to the experiential-ideational function occurs by means of semantic choices indicative of TRANSITIVITY system. The specific linguistic features which are most sensitive to this system of meanings are categories such as *processes* expressed by verbal groups involving participants and expressed by nominal groups. In the definition of verbal groups conceived as semantic choices marking different interpretations of reality, verbal and mental processes are conceived to be central domains of experience occurring through the construing symbolic processes. Indeed, Halliday believes that verbal and mental processes can *project*, referring to verbal situations where the message is expressed as a reported speech which has a different source from that of the actual speaker/writer. This means that if the message includes the wording of another linguistic event, this is not directly representing the speaker's experience but providing a 'representation of a representation'. This characterization of projection is described by Halliday as:

The logico-semantic relationships whereby a clause comes to function not as a direct representation of (non linguistic) experience but as a representation of a (linguistic) representation. (1994: 250)

In what follows, I will describe how grammatical knowledge of the working of clause complexes, leads to learning the rhetorical organisation of text/discourse. Developmentally, as language and its grammar constitute an unconscious and implicit theory of learning, one's experience is initially based on common knowledge and everyday experience. By explicating their everyday activities, routinized according to norms and patterns which are indicated to offspring by their family group, children have an initial unconscious and invisible apprenticeship into their culture and into the commonsense knowledge serving as the basis for becoming a member of their group.

In this way the SFL framework suggests that issues of cognitive development can be addressed through an analysis of wording, and text as an expression of a speaker's linguistic system of meanings. In this perspective, modes of thinking must be seen as a function of the socio-historical conditions which generated them (i.e. the context of culture) but they are also tied to a context of use, given that modes of communication are also powerful mediators of thought.

However, language is also the raw material for building explicit, conscious theories of language which are learned from discipline-based knowledge, systematic and based on definitions, taxonomies, orderly progression and logical relations. This educational knowledge elicits scientific concepts as described by Vygotsky and is based on a new means for organising experience, taken often as a written style. Halliday uses the term *grammatical metaphor* to indicate the possibility of creating a certain meaning in alternative possible choices generally expressed by verbs and word classes.

For Halliday, the semantic component which can explain the selection of particular grammatical choices consisting of 'goings-on' (verbs) involving things (nouns), with possible attributes, and circumstances is the system of *transitivity*. This is a semantic system in which the interpretation of reality is conceived in lexico-grammatical features, involving a configuration in which *participants* (i.e. actors) are identified by nominal groups and the *process* (i.e. actions) by verbal groups.

Thus it is possible to express an action using verbs and words classes and then express it again with different grammatical choices. To illustrate this, Halliday quoted the following example:

Spoken genre: when she accepted people applauded.

Written genre: Her acceptance was followed by applause.

(1996: 348)

Thus the semantic level of language (i.e. the ideational metafunction) is the most relevant aspect for distinguishing between varieties of language and their registers or semantic styles.

At the same time such variations point to differences in learners' mental dispositions which become powerful sources for examining the complex interplay of multifunctional factors which are active in the formation of consciousness (Bernstein 1975).

By explaining how grammar transforms experience from a commonsense form to a metaphorical form of knowledge, Halliday has made a signification contribution to ontogenetic development and to the origin of knowledge which is similar to the origin of Vygotsky's higher mental functions. More specifically, from an ontogenetic perspective, Halliday claims that language and its grammar constitute an unconscious and implicit theory of learning as one's experience is based on common

knowledge and everyday experience. Later in development, this process constitutes the resource for building explicit and conscious theories of language, such as learning foreign languages which arise from highly disciplined, systematic knowledge based on definitions, taxonomies, orderly progression and logical relations. This type of learning refers to educational knowledge or scientific concepts as described by Vygotsky, indicating a totally new way of organising experience.

A written form generally is learned through instruction and is part of the educational knowledge learned in the school setting. The fact that educational knowledge is learned and conceived in an institutional setting means that it cannot be acquired unconsciously and through casual conversations but rather requires a different system of learning and teaching. This system refers to rules or instructions realized through ideational language mediated by a specific type of interpersonal relationship, which between a teacher and pupils is symbolised by means of language.

Thus for Halliday (1989), grammatical metaphor refers to a meaning-making resource that adds an additional level of meaning as it generally refers to a written genre involving a verbal description of persons, objects or events in an explicit manner.. Indeed, by definition the written medium requires an uncommon sense of understanding about language, requiring a new way of organising meanings to express one's experience.

In this way, Halliday's linguistic conceptions are strictly relevant to learning in the school setting where written language plays a fundamental role in the process of education. The shift between semiosis in speaking to semiosis based on writing is the process which characterises educational knowledge. Such a substantial difference is also linked to the nature of the eliciting context, as educational knowledge is learned in institutional settings, which implies the recognition on the part of speaker(s) of a specialized activity type. This ability is linked to different types of social experience which originate from pupils' different interpretations of reality which are mediated by the interpersonal and ideational function of language. This may imply that some pupils are not able to enter the domain of educational knowledge as they are not equipped *a priori* with a similar social experience.

In Halliday's terms, unlike other forms of learning through language, schooling is a specific social phenomenon which requires formal patterns in verbal interactions to activate components of meanings at the semantic ideational level.

In fact, Halliday believes that schooling does not provide all pupils the same access to educational knowledge as this latter does not bear social relevance with respect to specific symbolised forms of social relations for some of them. As Hasan has pointed out:

... any learning a child encounters in school has a previous history'. It seems to me beyond doubt that this history favours children differently in today's industrialised pluralistic societies.
(2005: 213)

To Halliday and Hasan, following on from Bernstein, the reason for such inequality is to be attributed to society and the fact that learning is a highly-specialised type of activity which is not accessible to all members of that society.

In this respect Halliday's conception of education differs from Vygotsky's views of an unquestionable, universal domain for enhancing pupils' cognitive abilities.

Thus, in the context of educational knowledge, the debate regarding the requirement of a language-based theory of learning is still open. Vygotsky's paradigm is more cognitive and offers the possibility of extension to learning activities other than languages, and theoretically of linkage to recent developments in activity theory.

Halliday's model provides a challenge for a pluralistic and intercultural education illustrated by the multifunctional aspects of SFL capable of providing a means for analysing differences and activating more adequate processes of all aspects of language learning to achieve a full potential in children's linguistic abilities.

These aspects are interrelated, with their mutual strengths and possible shortcomings pointing to a need for a theoretical collaboration among theories, as forms of human knowledge are highly differentiated. Thus, rather than referring to only one theoretical model, this situation legitimises research based on a *new area* of language learning which includes a wide spectrum of possibilities concerning forms of learning and their consequent meaning-making potential.

3.6 Concluding remarks

In the synthetic discussions in the previous sections I have argued that sociocultural factors bear some influence on the things one does with language as well as linguistic choices in how people say things. This is in line with SFL perspective as Hasan (2005) claims that a linguistic theory must be able to account for linguistic features to distinguish variant forms of semiotic mediation within the same culture or society.

In this view it is important to highlight that semantic variations at the level of language are functional to the attitude and beliefs of a given community which values some meanings and not others. Likewise all linguistic metafunctions are determined by what kind of things speakers want to do through language, while in turn, language depends on what is said or interpreted to be said in given contexts. The acceptance of this approach implies an understanding of SFL metafunctional principle which is not an attribute of any one level of language. Indeed it is a relation which links the external material conditions of social existence to language as a process of socio semiosis. In this respect the features of language are not arbitrary with respect to a way of living and this implies that meanings and wordings meet the needs of a given life style of speakers in a given community.

Thus, while every text is functionally specialised with respect to its context (Hasan 2009:364), linguistic variations do not occur at random but present regularities which can be described in terms of the whole organisation of speakers' meaning potential in their discourse. The dialectical notion of linguistic realisation is activated by speakers' perceptions of the context, while the meaning potential of linguistic choices is instantiated by the lexico-grammatical forms of language.

While the first dimension implies that context operates simultaneously at different levels of analysis, metafunctions presuppose a relationship with language as a system of meaning potential, in which metafunctions (i.e. ideational, interpersonal and textual) and their selection by speakers may indicate how these meanings are selected and used simultaneously to achieve the goals of a specific verbal action. In this perspective, the three basic metafunctions make it possible to simultaneously enact social relationships, construe experience and produce coherent texts. This implies that semiotic mediation, realised by social relations instantiated by the contextual vector tenor, mediates ideational meaning and knowledge which is not

always specialised as conceived in Vygotsky 's sociogenetic view of higher mental functions. Rather, it will also construe other types of knowledge as well. For example, the more invisible type such as commonsense knowledge as found in everyday activity and rooted in the biogenetic line of development. The form of this process depends on the sociocultural conditions of the participants and their opportunities to share the use of tools and practices within and across social and cultural domains. Thus different modes of speaking can be seen as a function of different categories of knowledge, given that modes of communication are also powerful mediators of thought. In such construal all semiotic modalities of language are activated thus suggesting a multiplicity of ways of learning how to mean as identified by Halliday in the three facets of 'learning language, learning through language, learning about language' (Halliday 1980).

Thus, the use of a semiotic theory such as that described by Halliday allows us to describe semiotic variations not because meaning is conceived as mental phenomenon but because 'Meaning and mind are created in a social environment, through social agencies'(Hasan1985:32). Such a model implies a reality construction view in which language provides models of reality (Halliday 1987), as these latter are construed by the aid of lexico-grammar. This view avoids polarizing differences and offers thorough going description of language as socio-semiotic resource maintained through grammar. In this way Halliday highlights, as does Vygotsky, that individual consciousness emerges out of socially organized experience, referring to social life in which individuals live and operate .

Chapter IV. EMPIRICAL RESEARCH: PERSPECTIVE AND METHODOLOGY

Introduction

The present chapter outlines the research study, its perspective and its principal theoretical propositions. It also provides details of the methodology adopted and the fieldwork undertaken.

In particular, the chapter will set out the research problems and associated research questions which this study seeks to address.

The central interest of the research was to explore connections between socio-semiotic variety and young people's appropriation of cultural tools. The questions which this interest raises are important ones for education in a multicultural society and they reflect in turn the social concern for enhancing educational achievement which underpins the present enquiry.

4.1 Theoretical outline

The sociocultural approach adopted in this empirical research seeks to integrate my initial theoretical departure (i.e. from Bernstein's theory of codes) with a new perspective towards similar problems. These problems are analysed here in the light of sociocultural studies, with reference to cognition and to meanings and with respect to intercultural education in a school setting. In sociocultural theory, which is highly compatible with SFL, learning is seen as the appropriation and mastering of cultural tools and artifacts. In this respect, Vygotsky proposed that each individual learner has two levels of development: A level of independent performance, and a level of potential performance (Luria 1928:493-506). The gap between these two levels is filled by the ZPD, mediated by pedagogical discourse. Adopting a discursive perspective in relation to the Vygotskian proposal, higher mental processes arise from a specialized type of cultural activity, implying the production of a specialized discourse occurring through the appropriation of symbols achieved in dialogic joint activity. Related to this process is also the understanding of the teacher's (adult) role in assisting learning, a process considered to be fundamental for eliciting specialized knowledge structures.

However, the recognition that not every pupil in schooling achieves these levels of performance, invites us to explore further the concept of semiotic mediation. In fact sociogenesis of human mind achieved by working with a pupil in the ZPD cannot be taken for granted, as might be supposed from the Vygotskian approach. For some pupils, this process may require several systematic steps before reaching the upper limit of what they can do alone. A strong possibility is that such children, as members of a (sub)culture, perceive the role system regulating the pedagogical rapport to function as a way of setting up interpersonal relations instead of instilling a new piece of information. This occurs when the contextual configuration of the activity is not understood as of a specialized type requiring formative actions but is perceived as an everyday activity, continuous with everyday informal actions and interactions. Thus mediation of meanings must be understood also in terms of *what* is mediated, and *how*, and this includes more general mental dispositions, leading to more mundane knowledge mediated invisibly in language used in everyday activity types.

With respect to such issues, the idea that social differences are tool-based and socially constructed is deeply rooted in Vygotsky. He explains the history of social groups' subordination to others by means of mediated action accessible to certain groups, and not others. The socio-economic gap is also conceived in terms of educational gaps between groups, while mediated action is the main focus of explanations of developmental differences between groups and individuals, linked to activities and social practices.

However, the weakness of Vygotsky's framework in addressing issues of how a particular form of semiotic mediation originates, linked to different forms of human consciousness, implied a change of focus in this framework regarding the units relevant for the analysis of verbal discourse.

The change of focus consisted in adopting a language-based theory of learning in relation to Vygotsky's theoretical framework, considering language as a primary tool in mediating knowledge, culture and cognition. Halliday's Systemic Functional Linguistics offered an educationally oriented analysis of both linguistic and cultural differences, as being constituted and negotiated in and through the discourse interaction. In this respect, a language-based theory allows for understanding learning language as appropriating culture, as this latter is supposed to become relevant not in terms of categorical membership but in terms of semiotic mediated

action.

Thus, rather than trying to explain why subjects fail to communicate certain meanings in a given educational discourse, it becomes more relevant to understand how social identities and their meanings are constructed through the process of interaction between differently socially constituted subjects (Scollon and Scollon 1995:126). As cultural membership is not conceived as a primary conceptual entity in mediated discourse, this difference in concern also presupposes a different organizational principle in the comparisons between my samples.

With this in mind, as I explain more fully in what follows, I set out to sample discourse in the Italian intercultural classroom setting; the pupils of my sample are grouped according to multiple variables such as gender, sociocultural environment (rural/local and immigrant background) and educational achievement, based on mixed and multicultural variables.

The aim of this research was to explore the verbal data produced through different types of mediation, with different psychological tools constructed dialogically, in the realization of common goals required by an experimental task within a given context.

Adopting a notion of mediated discourse dissolved my initial sociolinguistic questions based on concepts of restricted and elaborated codes, and reconstituted them around social actions and dynamic interactions. In fact mediated meanings are not based on cultural memberships but around social activity and its practices. In this approach, culture is a dynamic construct conceived to arise from these social actions.

The shift from the individual to collective mediated action implies understanding of the purpose and the consequences of social action in the context of verbal activity and discourse. In this way, it becomes possible to consider the complexity of current pluralistic society reflected in schools and multicultural classrooms. In addition, it becomes necessary to employ a multilevel analysis of mediational means (Kozulin 1998:153), both as psychological tools to elicit learning in education and as analytical tools to be used in empirical research.

This research study, then, aims to contribute to an understanding of adolescents' discourse analysed from an intercultural and multidisciplinary perspective in the Italian educational setting.

The primary interest of this research is to outline differences in discourse, arising from pupils' different sociocultural backgrounds.

The central focus of the analysis is discourse, written and oral, produced among groups of Italian adolescent pupils, divided in terms of scholastic achievement, gender, and sociocultural background.

In particular, the analysis is oriented to investigate 'semiotic mediation by means of the modality of language' (Hasan 2005:195), characterized by a developmental and social analysis of verbal action mediated by psychological tools with respect to given tasks.

4.2 Research questions

The enquiry reported in the following chapters combines a theoretical interest in adding a more developed linguistic dimension to Vygotskian sociocultural theory. This consists of a more substantive undertaking to describe the patterns of sociosemiotic variation amongst pupils in the Italian intercultural classroom setting. Accompanying this focus, are concerns of a pedagogical nature for how best the development of pupils can be encouraged in appropriating the specialized discourses of education and associated psychological tools.

An overarching question for my empirical work was thus a theoretical one, concerned with the evaluation of the perspectives I had sought to bring together:

1. Does a combination of Halliday's linguistics and Vygotsky's theory illuminate issues of classroom discourse in the Italian multicultural setting, and indicate developmental patterns that may be helpful in informing pedagogy?

It was expected that the more substantive levels of my interest – in sampling and providing an analysis of classroom discourse – would offer insight at a theoretical level, suggesting implications for the perspectives I was seeking to assemble, as well as gathering data about the performance of pupils.

At the more substantive level, there were four principal questions to which I hoped to find an answer through empirical enquiry:

2. Do sociosemiotic variations exist, manifested in the work of pupils when taking up the discourse options of classroom tasks and the associated opportunities for acquiring psychological tools? And, if so:
3. Are these variations consistent across different tasks, suggesting patterns of response which may be relevant for educational learning?
4. Are these patterns of variation related to pupil variables – in particular, to gender, to histories of educational achievement generally, and to pupils' different

sociocultural backgrounds, especially to differences of social class, urban and rural backgrounds, and patterns of migration which are characteristic of the Italian, multicultural setting?

And, depending on these earlier questions:

5. What sociocultural principles can be inferred, which would allow pupils to appropriate the psychological tools mediating the higher mental functions required by educational activity?

As will be apparent, these questions relate to various aspects of my interest in the links between the sociosemiotic and pupils' appropriation of psychological tools.

At the core, there is the issue of how the options made available in classroom activities are taken up by pupils and whether there are differences between pupils which relate to wider issues of sociocultural background in the ways these options are interpreted. A key question here is whether such sociosemiotic variation exists, and whether it exists across classroom tasks in some consistent manner.

This implies, as a further question, exploring links between such sociosemiotic variation and the different sociocultural backgrounds of pupils in the intercultural setting. Key variables for these interests were those of social class and gender. These socially identified attributes of speakers, represent parameters providing socially explanatory efficacy as it has been widely identified by sociolinguistic studies (Bernstein 1973; Trudgill 1974).

Similarly in the Italian context, as I shall explain more fully, patterns of migration from southern Italy, and differences between rural and urban backgrounds, are significant and relatively 'hidden' components of diversity in classrooms.

The final question on this list of principal questions reflects the developmental and pedagogic concerns that were also central to my interests.

I hoped that the analysis of sociosemiotic variation would help to identify and to establish principles in pupils' appropriating psychological tools mediating higher mental functions, which would be capable of grounding pedagogy and of providing insights for teachers.

Within Vygotskian theory, a central premise is the acquisition of psychological tools through internalisation from the social to the inner psychological plane. This premise underlies the way in which the one of proximal development is theorised, with its emphasis on learning through the assistance of adults or more competent peers. It followed therefore, that my focus was on the nature of classroom interaction, on the

functioning of groups within this, and on the contribution of the group to individual learning.

The premise underlies the concentration of my earlier questions with regard to socio-semiotic variation and the work of different groups. It led also to a number of subordinate questions on which I hoped to gather evidence, concerning how groups functioned and the relations between group and individual processes in the multicultural classroom setting.

Concerning how groups functioned, I wanted to explore more particularly the following:

6. How is verbal action socialized collectively in different groups of pupils?
7. What is co-constructed developmentally which may account for predictable variations between groups?

It was hoped that the analysis of samples of discourse would enable inferences about group processes, enabling me to make distinctions between ways that different groups of pupils interpreted tasks; in this process developmental implications were valued and analysed in terms of degrees of participation in those tasks.

Accompanying this focus on the work of groups, I wanted also to explore relations between group process and individual learning, in an engagement with Vygotskian theory about the Zone of Proximal Development. Further subordinate questions followed:

8. To what extent is individual verbal action subject to developmental changes at the level of collective peer interaction?
9. Which are the relevant social interactions to produce higher mental functions in decontextualized language ?
10. What developmental learning cycle is produced within groups to achieve and to transform individual knowledge?

I was particularly interested here in whether mixed achievement groupings might help to foster individual learning as a product of the interaction between different pupils; alternatively, whether individual learning might sometimes be constrained by the working of the group. Such issues seemed important for establishing a firmer footing for a pedagogy suited to multicultural classrooms.

These ten questions covered a span of interests, ranging from the theoretical through to the descriptive and to the pedagogic. They offered challenge and constraint to the design of an empirical project that might take them forward.

4.3 The research design

The research was based on a mixed method approach. This was conducted within a sociocultural paradigm combining a quasi-experimental design and quantitative analysis of outcomes with qualitative analysis of group and individual performance. In outline, tasks of different types were administered to a selected sample of fourteen pupils, grouped according to different variables in their sociocultural background, and discursive outcomes were compared for different groups.

A quantitative analysis was made of the linguistic features of the discourse that each group produced. This was then used as basis for a qualitative, interpretative analysis of different aspects of group and individual performance.

One feature requiring further comment is the quasi-experimental nature of the design. This was chosen for its advantage in eliciting comparative data. While ethnographic studies aim to describe negotiation of meaning *vis a vis* speakers' interaction to prove their communicative competences, this design enabled me more surely to investigate how macro-sociological issues such as forms of power and control were related to the distribution of speakers' sociolinguistic rules on their contextualized performances. Details of the tasks and of the composition of the pupil groupings are described more fully, below.

Another feature is the combination of a quantitative and qualitative approach. My starting point was that analysis of discourse as a multiply related phenomenon implied a jointly qualitative and quantitative approach.

Quantitative measures were required in order to group the data and record the frequency of use and non-use of particular features of discourse. These indicators were obtained by generating a functional linguistic analysis, based on Halliday's systemic functional grammar, with functions inducted from the data.

A quantitative approach made it possible to analyse discourse moves exchanges and sequences and to decode the degree of variability between the different groups of pupils. Meanwhile, the analysis of meaning, within discourse conceived as social action, implied a dynamic qualitative investigation of interactive exchanges and move production, within the group discussions.

In the mixed, this consisted in making a content analysis of linguistic categories specified in my coding and in counting their instances used by speakers in the empirical tasks. Content analysis was considered a useful measurement to meet issues of reliability, enabling different researcher to use the data in a similar way, and

of validity allowing a precise counting of certain word use. However, while this approach was very useful to organise the analysis of the data, at the same time it did not allow to take notice of uncategorised linguistic activities as these escaped the researcher's coding scheme.

For this reason a qualitative approach was incorporated into my quantitative data; this in order to throw light on participants 'own categories of meanings analysed in terms of appearance of words use in the process of their discourse activities.

This implied a perspective analysing linguistic elements in terms of functions arising in the dynamic of the discourse structure as a whole. As these functions were produced in the setting of verbal actions, they gave rise to sets of semantic choices which would develop and change during the flow of pupils' discussion. This process involved counting verbal instances in terms of frequencies of appearance of functions along the text; however these were not determined by the researcher as pre-fixed entities but stemmed from speakers' semiotic positions in relation to their specific discourse at any given point of the discussion.

Although various expectations were held regarding the semiotic relations between linguistic productions and the eliciting contexts, it should be added that the relatively small size of the sample did not allow definite hypotheses nor general conclusions on the results. Hypotheses were inducted from the data, and results were treated as implications for educational intervention, interpreted in the light of similar studies and research. These and other issues in the design of this research are taken up in the sections that follow, which describe the details of this design, more fully.

4.4 The variables of the research

The aim of the research was to identify the relationship between ways of thinking and the use of language, in the exploration of the process of semiotic mediation in relation to different groupings and to different tasks.

The central variables of the research were therefore the activity setting, shaped by different tasks, the different pupil groupings and the semiotic devices emerging in the course of pupils' work.

4.4.1 Activity setting

The activity setting was differently structured in the tasks of the research, as follows:

i) a formal setting of written task, executed individually within the classroom, implying visible power and forms of adult control, with clear instruction to execute the task;

ii) a more informal setting of oral discussion, taking place in a small room, with reduced distance between adult/researcher and pupils, with less visible power between participant speakers, sitting in a circle on the floor. Despite the informality of the setting pupils were positioned in an interrogative instructional discourse to discuss a topic of moral issues and sub topics associated to it.

The two types of setting, differently structured in their external features, required similarly the production of educational knowledge as a specialized educational activity. The context activity was one key to understanding if and how verbal thinking changes.

The system of the experimental setting was constructed to achieve developmental change in pupils' learning activity elicited by the tasks. It was anticipated that the changes would be related to different interpretations of forms of power and control inherent in both settings. These were elicited by the presence of the interviewer and reflected in pupils' linguistic outcomes. In this respect the two activity settings were treated as a unitary system based on how what was verbally produced was related to different types of verbal thinking and genres of discourse.

4.4.2 Pupils' groupings

As the enquiry aimed at seeking answers on how different forms of communication reflect and are reflected in discourse, the division of pupils into groups and the study of how group identity was reinforced through verbal meanings in discourse were conceived as ways of defining culture at work in specific actions and contextual interactions. Thus the allocation of pupils to different groups for the execution of the oral task was an important principle of the research. Fuller details of these groupings and of how they were arrived at, are given in the section that follows, outlining the nature of the sample and the school setting. Here, it is sufficient to note that the groupings were as follows:

i) a mixed achievement intercultural group, further divided into two smaller groups

by gender. Subjects of these groups were of upper lower class and lower middle class background, of high/medium school achievement, and were city and local town born.

The mixed nature of these two groups was chosen with consideration of Vygotsky's Zone of Proximal Development in mind. This in order to study the potential within group interaction for the discourse of lower achieving pupils to be enhanced by contact with more capable peers. As mentioned, the variable of gender was introduced to this mixed grouping, by subdividing it into two groups of boys and girls, interviewed separately. This was because gender differences in discourse have been often reported by the literature (Lakoff 1975:16; Cameron and Coates 1988:23; Coates 1988:122). I wished, then, to explore how these differences were related to different forms of cultural transmission, distinguishing socializing models between sexes likely to be found in traditional local areas of Italy.

ii) Two socioculturally homogenous groups of male pupils were also formed, based on pupils' cultural similarities; this in order to observe the effect of social structure on pupils' individual and collective identities. In these groups, selected subjects originated from similar local geographical areas. One group was formed from rural native subjects, attending the school from areas outside the city, from which the majority of pupils derived. A second group was comprised of immigrant pupils from the South of Italy. These homogeneous groups included a group of rural students and an immigrant group from Southern Italy, significant variables in the Italian setting. As it appeared, there was a strong association between area, social class and school profit and these groups were allocated to medium/low school achievement.

Comparing mixed groups of pupils (boys and girls) to more homogenous ones (immigrant and rural boys) was considered an empirical index of how group membership might affect pupils' identity, and how this, in turn, might lead to the production of inter-subjectivity in discourse.

This process was chosen in order to provide an empirical means to reflect on pedagogical directions on how to organize the teaching of pupils in a multicultural setting.

In particular, it was expected that this would indicate how pupils assumed communality as given or as something to be established with voluntary efforts in order to reach high level semantic meanings.

4.4.3 Semiotic devices

It was anticipated that the type of social relations created between pupils, through the different tasks and the varied membership of different groups, would be reflected in discourse in two principal ways: in the nature of participation by individuals in the group dynamic, and in the unfolding meanings of the different group discussions. Together, these two dimensions would yield a range of semiotic devices that would form the central focus for the study.

Exploring the first of these dimensions involved observing the degree of participation of each individual pupil within the group dynamic. This was analysed in terms of quality and amount of turn-taking produced and of different role allocation among speakers. For this reason the structure of the setting was created to minimize the role of the adult to that of a facilitator in order to reduce her interference in the flow of the discussion.

At the same time, careful consideration was given to the effect which the adult/researcher produced on the groups. In fact, the role of the interviewer allowed a focus on the type of social constraints perceived by speakers made evident in their turn taking system, revealing dynamics of power and control on the discourse structure. Inequalities of power, age, and gender preferences were conceived to affect the discourse dynamics and thus its outcomes. In particular this was so with reference to the type of adult assistance, as effective instruction was required to orient pupils to work in their Zone of Proximal Development. This latter was considered a relevant question to the study, as adult's intervention, as well as her physical presence within the groups, were factors associated with children's responses leading to different outcomes in their task performances.

With regard to the second dimension chosen for concentration, the unfolding meaning of the group discussion was often negotiated through participants' turn-taking, leading to the exchange of meanings in the sequence of their talk. Thus the notion of discourse was conceived as a sociosemiotic system co-constructed by agents who acted within it. This implied that discourse meanings resulted from the dynamic relations between the subject – matter, the activity features, and the speakers' relations relevant to the discourse. These relationships were captured by the category of genre and semantic style as described by Halliday's Systemic Functional Linguistics.

4.5 Data analysis

Sociocultural discourse as an object of study was analysed in a unitary way with analytical categories of Systemic Functional Grammar, in order to provide cohesion among the units of the linguistic analysis.

Halliday's semantic approach made it possible to capture speakers' meaning potentials as well as their linguistic realizations; these related both upwards to categories of a more general social theory and downwards to categories of linguistic form produced in context. In this respect macro aspects of culture were realized as language use in micro aspects of context of situations.

The relation between context of culture and context of situation was formulated in semantic terms, operationalized through the concepts of *genre* (context of culture), and *semantic style* (context of situation).

While genre referred to speakers' choice orientation towards discourse meaning potentials, semantic styles did not refer to variations in saying the same thing, but on how speakers positioned themselves with respect to the activity setting. Such positioning was assumed to provide the recognition of the social context giving rise to speakers' functional roles as well as to their realization of meanings within discourse.

The discourse produced by the pupils required attention to be paid to formulating the notion of units of analysis. These units were semiotically defined as in every activity setting individuals activate the discourse genre appropriate to that setting, understood on the basis of a close semiotic relation between different types of activity and forms of discourse.

The notion of *semiotically-mediated-action* was the unit of analysis at the linguistic level (inter-psychological and intra-psychological). This notion rested on an understanding of discourse as a sign and as a cultural tool-kit, developed in order to achieve the goals of actions and sub-actions of the constituent task setting.

The underlying assumption consisted in conceiving a relationship between social interaction as mediational means and activity setting requirements, resulting in specific discourse genre privileged in that setting.

From the sociocultural point of view the notion of goal of action integrated sociocultural and psychological aspects of the analysis. In fact, verbal actions in discourse, analysed in terms of semiotically mediated meanings, were not merely individual or collective but resulted from the pupils' negotiation in order to establish

an inter-subjective agreements during the flow of the discussion.

Linguistic analysis was used to distinguish how sequences of meanings were organised within discourse, resulting in different semiotic strategies with different degrees of inter-subjectivity and different goals of actions to pursue the tasks.

Details of the scheme of analysis adapted from the work of Michael Halliday are given in the following chapter.

Discourse meanings were described at three interrelated levels of analysis representing indexes of pupils' potential development with respect to domains of discourse:

- development of appropriation of conversational skills among speakers (i.e. turn-taking and exchanges);
- development of goals of action governing the communicative uses of speech functions (i.e. exchanges and moves);
- development of strategies to produce knowledge in group discussion conceived as verbal problem solving context (sequences of exchanges).

In this respect, functional relations between the three levels of analysis were expected to be an expression of different types of activity at work. These implied different goals and sub-goals of verbal actions in the operationalization of discourse meanings, regulated at all levels by different types of semiotic mediation.

It was anticipated that presupposed differences in discourse genres would arise from different social positions of speakers in a specific sociocultural formation, contextualized within the Italian setting in the specific area under investigation. Such differences were considered as dependent variables. Independent variables were defined as context of activity and verbal task, and type of grouping, allocated by gender, educational achievement and sociocultural background, as outlined in the previous section.

4.6 Setting, sampling, tasks and procedures

Following the outline so far of the questions and design of this research, I turn now in greater detail to the setting and the school in which the work was undertaken, and to the sampling and research procedures. These various, detailed matters are covered underneath the sub-headings, which now follow.

4.6.1 The area

Asciano, the site for this research, is a small rural town in the province of Siena, situated at the centre of a group of hills in the valley of the river Ombrone. The local population of 6.500 inhabitants works predominantly in agriculture, small industry and construction. Due to its geographical position in a hilly and green valley, the town is subject to the migration of Italians from the South, mainly from Calabria and Sicily, and from Sardinia. The presence of the latter regional group is due to the fact that in recent years the social mobility of local inhabitants took them from the countryside to urban areas, and their houses have been bought and restored by newcomers who cultivate the fields. In particular, Sardinians who settled in Asciano roughly twenty years ago were mostly shepherds, who produce a goat's cheese ('*pecorino*') which is famous throughout the area. Most of these people were illiterate when they arrived but they have now socially upgraded and work as builders or in local factories. They have integrated well with the local population and the second generation has partially lost its ethnic and regional characteristics as there has been a lot of intermarriage with the local population.

The more recent immigrants arrivals have come from non-European countries, mainly Albania, former Yugoslavia, Romania and Morocco. These features of the population are reflected in the sampling and groupings outlined below.

4.6.2 The school

The school was the only comprehensive school in town and therefore reflected the local population of the area and it was considered to be representative of the local territory. Also the classrooms where pupils have been selected were representative of the more general school population in Tuscany at the time. This latter included Italian immigrant pupils from the South and extra-European community pupils, in a ratio of 1 to 10 per class. As these were attending a secondary level school, all of them spoke Italian well.

The composition of the school population was as follows:

Table 1. Percentage of immigrant pupils (Italian and foreign) with respect to total school population

Tot. Pupils	Infant school	Elementary school	Secondary school
7.6	4.4	4.5	4.6

Scholastic year 2004-2005

No records were available regarding the presence of only Italian immigrant pupils in the school as this information was not recorded by the local education authority.

4.6.3 The sample

For the purpose of my research I selected a small sample of 14 Italian pupils of 13-14 years of age. Only Italian children born of Italian parents were selected as it was important to avoid variables connected to bilingualism, which would be the case with immigrant pupils from foreign countries.

All the pupils were born in Asciano, except the group of Italian migrants who had arrived in Tuscany with their families when they were very young; all the children started their schooling in Asciano.

Pupils were divided for the purposes of the study into different groups, according to gender, parental economical status and geographical origin. Four groups were formed within this sample for the purposes of study, making it possible to typify the discourse productions in terms of the pupils' social characteristics. In the first of these two homogeneous groups, pupils were representative of the local population, but drawn from rural areas. In the second of these groups, pupils were all of migrant families from the South of Italy. I also introduced two mixed groups, i.e., a group of male and a group of female pupils. Like the first two, these were of lower and middle class background, but they were also of mixed learning achievement. This factor was used as a variable to test whether a dialogic collaborative attitude might originate within the group discussions between some of the pupils and their more capable peers.

Finally, in order to assess hypothesised differences of gender in the use of linguistic meaning girls were grouped separately from boys, but compared together as mixed achievement groups.

The groups which then resulted for the study were necessarily very small and the great heterogeneity of the classroom population created difficulties in finding pupils with similar social characteristics. On the whole, the selected Italian pupils ranged between medium and low learning achievement, with the exception of the girls who had a higher level of school proficiency. As such as Italian, history, geography, requiring verbal skills and an appropriate use of the language within this group, rest

of the. Information about the pupils' learning was provided by school teachers, who evaluated the pupil's achievement mainly with reference to humanities subjects where the use of language is a prior mean of expression.

4.6.4 Demographic questionnaire

In arriving at these allocations, I decided to classify pupils in my sample according to the simple criteria of the profession, education and geographical location of both parents, as social theory has not yet satisfactorily solved the classification of social mobility in relation to social class.

A simple questionnaire was given to the pupils to be completed during the interviewer's first visit to the school. It included information about the pupils themselves (age, place of birth, place of residence) as well as their parents (age, occupation, place of birth, place of residence, year of arrival in Asciano).

Scoring was done according to the ISTAT Scale (Italian National Statistical Institute).

Pupils belonged to the lower class, lower middle class and middle class, with no upper class represented in the sample.

However the two dimensions often appeared to overlap, which created the following picture:

- pupils with parents from the South of Italy belonged to lower working class backgrounds;
- pupils from native local families belonged both to the lower working class and upper working class;
- pupils of mixed achievement from native local families belonged to the upper working class and lower middle class.

These findings confirm the strict relations between social mobility and social class, the former of which is often the result of economic reasons for migrant families from the South of Italy.

On the basis of this information, as mentioned earlier, the composition of the groups was relatively small, due to the difficulty of matching pupils according to the established principles of grouping envisaged by the research. In summary, the grouping was devised as follows:

1. group of males, native children from local rural area: 3 pupils;
2. group of males, migrant children from South of Italy: 3 pupils;

3. group of males of mixed achievement (natives): 4 pupils;
4. group of girls of mixed achievement (natives) : 4 pupils.

Comparisons were made between the homogeneous groups - the immigrant and rural boys, and between mixed achievement groups - the mixed achievement boys and girls.

4.6.6 The tasks

Two tasks were constructed in two different activity settings:

1. an individual written task, comprising two sub-tasks; and a collective verbal discussion task of a story, both based on educational requirements, designed to elicit development of knowledge within their outcomes.
2. The main task, i.e. the collective discussion of a story, was based on a verbal activity engaging pupils in talking and thinking, conceived as developmental learning processes shared among pupils. The task was performed within the school premises, but the setting was constructed in order to convey a sense of informality with roles emphasising symmetrical relationship between participants. Pupils and interviewer were all sitting on the floor and the role of the researcher was minimised to probe silent speakers or to answer questions posited by pupils.

The individual written tasks, introduced to pupils by their teacher in the whole classroom setting, had two purposes:

- a) to explore pupils' pre-existing knowledge on classification of words and values;
- b) to focus more closely on pupil's individual sociocultural domain, to explain psychological functioning in formal schooling.

More specifically, the individual written classificatory task required word definitions of agents of the story, implying the production of individual verbal thinking.

The sub-task was a written specification of sociocultural values underlying the behaviour of agents of the eliciting story. Pupils' written definitions were connected to their sociocultural knowledge, while values corresponded to different fields of experiences stemming from different social activities in which each individual pupil has been previously engaged.

In the following main task requiring oral discussion of the story, pupils' verbal actions upon discourse as tool were also considered as fundamental conditions for investigating their mental development in cooperative actions and interactions.

The dialectical nature of the discussion was chosen in order to study the close interdependence between social interaction, cultural tools and ZPD, whereby more capable peers might provide other pupils with new and more efficient cultural tools in the flow of the discussion task.

4.6.7 Procedures

I will now describe the procedures for each task.

Task A: The individual written task and sub-tasks

This task with its sub-tasks was introduced in order to analyse pupils' ways of thinking and their values systems with respect to their written verbal actions in the given activity setting. It allowed for the exploration of the close relationship between thought and language and for study of the heterogeneity of pupils' verbal thinking resulting from different psychological tools employed by different cultural groups.

These tasks were presented to pupils of my sample, but they were performed individually by all students in the classroom, in order to be conceived as part of the school setting. In this respect pupils were presented with five social categories, i.e. the characters of the story to be discussed later in task two, which had to be defined in a written form in the following terms:

- according to word definition of each category of agents;
- according to their type of social action (i.e. what the category actually does);
- according to their type of unaccepted action (i.e. what the category should not do).

The details of the task are set out formally, below, in Table 2.

Table 2. The classificatory task.

A. Describe who the following people are in one sentence:

- 1) WIFE
 - 2) HUSBAND
 - 3) LOVER
 - 4) BOATMAN
 - 5) WISEMAN
-

B. Describe what you consider to be the worst behaviour in relation to their role in one or two sentences.

The pupils' answers were then analysed according to a sociocultural model, described in the next chapter.

Task B: Oral discussion of the story

All the group interviews, led by A. Castelnovo, were preceded by several visits to the school and by participant observation sessions; these resulted in protocols carried out with the teachers as part of a wider project on intercultural education, organized by the University of Siena.

For the observation protocols the presence of the researcher in the classroom was avoided and replaced by mutual observations, which teachers did reciprocally, with specific focus on the structure of their lessons and on the nature of their communication with their students. Classroom activities were based on a teacher-centred approach using traditional methods of classroom instruction.

Cooperative learning was used occasionally by teachers only when group activities were planned, and these mainly concerned small research projects on recreational subjects. For this reason, it would have been difficult to organise the discussion within the classroom as pupils were not used to working together in groups. Therefore all the group interviews were conducted in a small silent room on the school premises, with very informal procedures. Pupils sat on the desks or on the chairs, as they preferred, and the interviewer sat among them with a tape recorder placed on one of the desks.

All the interviews lasted fifteen minutes, with the exception of the last group of girls, who spoke at considerable length. This was considered significant in the light of our original hypothesis.

Discussions were predominantly carried out by the pupils and probing was done only in the following circumstances: (a) after relatively long pauses, (b) to encourage silent group members to join the discussion, or (c) to answer specific questions on the topic under discussion.

The discussion was considered controlled by the interviewer even if her interventions were limited to the above conditions, with few verbal exchanges made within the discourse.

The task

All the children were interviewed in a small room within the school premises and in groups of three or four participants (divided, as previously indicated, according to social background and gender) to discuss a story read aloud by the researcher (A. Castelnovo).

The main purpose was to engage in open discussions regarding the content and

consequences of the story.

The topic

It was constructed with Basil Bernstein in the period of my previous research, to provide a framework intended to elicit moral judgements and sociocultural values with respect to affective and marital relationships as well as economic transactions. It was based on regulative and instructional discourse and its text contained only a plain sequence of events to be discussed by the pupils. The lack of specification of places or time in which the events occurred made the story resemble a myth. This was done in order to reduce biasing factors with respect to the pupils' cultural backgrounds.

The story

Discourse in group discussions was elicited by a short story created for the empirical task.

The story was as follows:

Paul and Mary were married and lived in a small house by the river. Paul worked very hard and Mary was often alone in their little house. One day Paul decided to go to work abroad to make more money and he left.

Months passed and Mary became more and more unhappy. One day she decided to go to the other side of the river to visit John, a young man she was very fond of. Before setting out, she went to see the wise man who lived on top of a mountain to ask for his advice. The wiseman replied that he couldn't give her any advice and she ought to decide for herself.

So Mary decided to go to the other side of the river to see John, but she didn't know how to cross the river: she couldn't swim and the water was very rough.

While she was thinking how to reach John, a boatman approached her and said: I can take you to the other side, but it's a very dangerous trip and I want all your money.

Mary sold all her property to the boatman and he took her to John. John was very happy to see her. They lived together for a while but then he sent her away because she was married and he didn't want to live with a married woman. At that point Mary remembered Alain, a man who was in love with her but who she didn't really like. He lived next to John and she went to ask him for help. But Alain refused to let her in. Mary went away. She didn't know where to go as she had sold all her property to the boatman. She threw herself into the river and drowned.

The researcher's first probe to the pupils was as follows:

We have six people altogether: Mary, Paul, John, Alain, the boatman and the wiseman.

Whom would you blame for Mary's death and why?

None of the participants asked for further information before the task, but during

the discussion a few asked about the reason why they had been selected and about the research plan, which was provided at the end of the discussion. This was considered part of the meanings produced by the pupils during their discussion and treated as part of their perception of the whole situation and of the type of relationship created with the examiner.

4.6.8 Transcripts

The small number of participants within each group made it possible to identify all speakers and in general it was possible to code all exchanges. This was more difficult only for the group of girls of mixed achievement, as they all spoke a lot and often expressed themselves at the same time; thus there was some overlapping speech in their recording. When speech could not be heard clearly, the sentence was not coded.

The transcript layout used was a *standard* one (Swann 1994), with speaking turns following one another in sequential order of speakers and noting all silences, pauses, repetitions and false starts. Punctuation was not used in order to avoid giving a misleading sense to speeches.

4.6.9 Piloting

A pilot study was carried out in order to test the story as an eliciting device for the discussion. This was done in a different school, in the same local area.

4.7 Expectations

Hypotheses were made with respect to pupils' semiotic linguistic responses in relation to the two eliciting contexts.

It was anticipated that presupposed differences in discourse modes would arise from the different social positions of speakers in a specific sociocultural formation, contextualized within the Italian setting.

Linguistic features from the two activity settings were predicted on the basis of meanings to be expected in relation to the tasks, as details of relevant semantic features of specific text in context were used to predict the formal characteristics of discourse.

Expected differences among pupils were defined according to the forms of discourse genre, depending on the goals of actions inherently present in the specific

cultural activity.

It was also expected that such differences would be related to pupils' ways of verbal thinking and functionally associated to different ways of interpreting and appropriating the mediational means provided by the task.

Differences in pupils' productions of discursive knowledge were attributed both to sociohistorical and sociocultural factors, as groups were differentiated in terms of their gender, scholastic achievement, social mobility, status and regional origins of their parents. This latter variable was taken as an index of cultural change in terms of the acquisition of new psychological tools resulting from contact with the new society, requiring the use of new models of thinking and verbal behaviour.

In greater detail, different expectations were formulated in relation to the various classroom tasks through which the pupils' discourse was elicited. These expectations, it should be added, were adopted for heuristic purposes, as initial hypotheses to be adjusted in the light of evidence. In what follows, they are briefly summarised.

Task A: Individual written tasks

i) Sub -task: classification of categories.

The classificatory task was based on the categorization of agents in the story, belonging to pupils' experiential knowledge. As the task was conceived to be a school task and pupils were at secondary school, all participants were expected to deal with this classification with a certain level of competence, going beyond everyday concepts.

Differences in this respect were likely to be attributable to differences in the use of psychological tools to be produced within the school institution.

However, some differences were expected among the groups, according to the pupils' educational proficiency. In particular pupils of lower levels of achievement were expected to define the categories of agents according to syntagmatic criteria (i.e. descriptive), while pupils of higher levels of achievement were expected to categorize them according to paradigmatic criteria (scientific/ taxonomic).

ii) Sub- task: rules of behaviour/misbehaviour

This section was linked to pupils' values, expressed in their production of rules regulating the behaviour of agents in the story.

In this connection sociocultural differences were expected, and these differences were expected to be more marked within groups coming from a cohesive culture (i.e.

immigrant boys and rural boys). These were expected to produce homogenous sets of values within their groups. The immigrant group in particular was expected to produce rules according to social status and rules of affective/caring relationships. Mixed achievement groups (boys and girls) were expected to produce moral rules with reference to principles based on individualized interpersonal relationships. In particular, it seemed possible that boys would produce rules with reference to justice, while girls might produce more rules with reference to care.

Task B :collective oral discussion

The informality of the activity setting, and the collective nature of the experimental design of this task, were expected to give rise to different interpretation of the activity on the part of pupils of the sample. In general, the local/rural group and the immigrant group might perceive the task as an everyday type of activity requiring elementary mental functioning based on reference to common beliefs, leading to the acceptance of the given meanings provided by the story. Conversely the mixed achievement groups (boys and girls) were expected to classify the task as an educational learning activity, requiring a specific type of reasoning and thinking to produce new meanings and new knowledge.

Such differences in the production of discourse meanings were expected to be realized at different linguistic levels, expressed in the following speech functions:

i) *Interpersonal function*

The local/rural group and immigrant group were expected to realize patterns of social relationship primarily based on inter-psychological functions.

Meanings produced within these groups would be based on a simple division of labour, with one or two speakers silent within the group, as their propensity to establish social relationships would not lead them to analyse nor to question given meanings of the story.

This mode of interaction was expected to reduce the amount of speech exchange between speakers, realizing context-bound meanings with respect to the given story.

The mixed achievement groups were expected to realize patterns of social relationship primarily based on intra-psychological functions, based on arguing and reasoning within their groups. This pattern was expected to be based on complex functional roles, equally distributed within their groups, to be realized in terms of amount of speech exchange between speakers. In this respect, girls group were expected to produce more exchanges than boys' group.

Both groups were expected to realize context-free meanings with respect to the given story.

ii) *Ideational and textual functions*

The local/rural group was expected to produce a narrative genre of discourse, realized with context-bound meanings with script knowledge based on spontaneous concepts.

The immigrant group was expected to realize a descriptive genre of discourse, with context-bound meanings, and operational knowledge based on everyday concepts. Meanwhile, mixed achievement groups (boys and girls) were expected to produce an argumentative genre of discourse, with context-free meanings, and taxonomic knowledge based on scientific concepts.

4.8 Statistics

The outcomes of the tasks introduced to my sample of pupils were written texts and sets of oral discussion. I was initially confronted with describing 'how' speakers responded to the tasks and contexts provided for their interaction, and only secondarily with the 'why' questions, concerning institutional and sociocultural constraints and the developmental and pedagogic issues that were also important to me.

The data gathered required my dealing first with patterns of communication by considering the features of the discourse that pupils produced, based on a linguistic and quantitative analysis. This analysis was intended to supply the basis from which a more qualitative and interpretative account could be pursued.

The first consideration for a linguistic and quantitative analysis of features consisted in observing and recording how much each pupil spoke within the group's dynamic, recording the total amount of speech produced by each pupil and what he/she said in interaction with others. However, this implied that discourse as text was determined by the context created by the pupils' forms of interaction progressively constituted by their talk. The implication was that I had also to identify exchanges of related talk, to examine how speakers took on certain social roles, and look for particular meanings as outcomes in these talks.

This led to a second aspect for quantitative analysis, referring to the dialectical nature of discourse activity, transforming human development and being transformed by it through a series of continuous exchanges, as speakers responded to the

institutional constraints of social situations and contexts. In my enquiry such constraints were represented by the social interaction of pupils engaged in the discussion, performed through acts and exchanges that were functionally related to the quality of relations produced within each group.

The structure of the experimental setting was created so as to capture such dynamics within the group discussion, where the role of the adult was minimised to that of a facilitator. In this respect the role of the interviewer allowed to focus on mediated action, i.e. the type of instruction required by the pupils to work in their Zone of Proximal Development. This was considered relevant to the study, as mediation was associated with differences in children's development and task performance.

As discourse was dynamically changing in its functions and sequences, verbal data required a statistical analysis based on recording variability as speakers were producing their talks differently to perform different verbal actions. This implied the application to my data of a linguistic and quantitative methodology, in order to establish descriptively the patterns of discourse that were produced.

In this respect, I applied a feature analysis to quantify both the number and the content of exchanges and speech acts of each pupil, to be compared between speakers (i.e. between pupils and between pupils and researcher). This analysis was based on the coding frame derived from Systemic Functional Linguistics, in a slightly modified version of Halliday's analytical model.

As variation in verbal output was considered to bear some theoretical significance, as an index of different orientations to the task goals, frequencies and patterning of occurrence of categories of meanings were calculated across the variables of the investigation (social class, gender and context). Percentages of total dialogue were used for each speech act in each group to search for statistically significant differences in categories of meanings within and between groups.

Statistically, the data was treated in terms of analysis of variance to show differences between and within classes in their total number of speech produced within their discussions.

Frequency of use within pupils' discourse was calculated for the exchanges and speech acts in each utterance. For low frequency categories of use a chi-squared analysis of presence or absence was performed, as this measurement made it possible to combine theoretically relevant categories with low incidence of appearance.

Results are presented in accordance to the explanation of the categories of the coding frame.

In what follows, chapters six and seven will be concerned with presenting the empirical results from quantitative/qualitative analysis for the separate tasks administered.

4.9 Validity and reliability

The concept of validity in this research was deeply linked to the nature of descriptive categories and concepts dealt with in the multilayered aspects of discourse. Validity was required to check the fit between the concepts investigated and the analytic measures.

Maxwell (1992), in considering issues of validity, refers to three basic aspects such as:

- *theoretical* validity in the explanation of reasons and causes of given events;
- *descriptive* validity, concerning the description of the phenomena observed and their frequency of occurrence;
- *interpretative* validity, concerning access to the meanings of acts through the research constructs.

In this research the first level refers to the general nature of research and is connected to the methodological principles used for the purpose of validating conclusions, as any process of generalization must start with the actual psychological reality of the subjects examined. At the more specific level (i.e. descriptive and interpretative), the validity of the data is concerned with the discourse analysis and its specific features, i.e. the features that are relevant in the given situation.

It may be added that judgments of relevance are not necessarily given by the degree of detail in the transcripts, but rather by the manner in which they are coherently linked with all other elements of the analysis, to create what Gee describes as a 'trustworthy analysis' (Gee 2005). More precisely, when concerning discourse analysis, validity is based on asking research questions that should provide the background for the tools of the enquiry.

Thus, discourse analysis will be more valid the more it meets the criteria of: *convergence* (i.e. the more it gives answers to many of the above questions), *agreement* (i.e. the more native speakers agree with the analysis of how social languages function in a certain social setting), *coverage* (i.e. the more it can be

applied to related data) and *linguistic details* (i.e. the more it is tied up to details of linguistic structures).

As no discourse analysis will be completely 'correct' with respect to all these issues, it is also important that these questions are considered not only in relation to one task but to different building tasks, and that different linguistic details support the conclusions drawn.

External validity is problematic in qualitative research, especially with respect to the issue of generalization. Generalization is interpreted as *comparability* and *transferability* (Eisenhart and Howe 1992), suggesting that it is possible to assess the typicality of a situation and to state how data might translate into different settings.

The discourse analysis in this study has external validity as it allows generalization within specific groups or communities with similar characteristics to those of the research sample. Internal validity was addressed in terms of *credibility* as sample data was constructed after prolonged involvement with the school, in the form of continuative observations to establish the relevance of the research and to achieve plausibility and credibility. Thus the research provides a profound understanding of the issues under investigation. However the nature of the research as a case study cannot be conceived as being representative of a larger universe of cases, thus it does not provide the basis for generalizing to a wider population.

4.10 Summary and conclusion

This chapter has described the design of the investigation undertaken with the groups of pupils in an Asciano comprehensive school, together with principal research questions that have underpinned the study. I have stressed the mix of methods that characterised the project and explained in some detail the nature of the sample and of the tasks, and varied activity settings on which the work was based. In particular, I have emphasised the combination of linguistic/quantitative and qualitative approaches in analysing the data. In order to arrive at a linguistic/quantitative analysis, it was necessary to develop a framework from Halliday's linguistics with which the features of the discourse produced by pupils in the sample could be described. The terms of this analysis will occupy chapter five, which follows. The linguistic/quantitative analysis will occupy chapters six and seven of this thesis.

Chapter V. THE CODING OF THE DISCOURSE

Introduction

The analysis and description of discourse is based on Systemic Functional Linguistics (SFL). This provides a perspective on language conceived simultaneously both as system and as process, set in motion through the verbal interaction within activity settings. Activity settings are semiotically defined as people learn the tools to be used specifically to those situations. This allows to postulate a functional relation between different activity settings and different forms of knowledge in text/discourse (i.e. narrative, descriptive and argumentative), described as types of meanings relevant to those settings. In this way speech and language are never context-free productions as people's talks are always socially recognizable forms of interaction (Halliday 1978), similarly the notion of knowledge is conceived as culturally, historically, and contextually situated.

5.1 Linguistic definitions

Having already described the theoretical reasons for adopting SFL model, I will now explain some of Halliday's basic concepts in the light of the functional analysis of speech and discourse.

I will firstly illustrate the linguistic definitions I used in my linguistic analysis.

The notion of *discourse* refers both to written and oral language in use, conceived as discursive practices. They imply variations at different levels, as they are linked to different types of elements such as: *genres*, *styles*, *activity type*, with configurations leading to specific discourses.

This view implies a dialectical relationship between discourse and social structure as language is shaped by the latter at all levels. It is believed that specific discursive actions vary in their semantic elements according to the specific social activity which have generated them.

The two eliciting tasks setting devised by the empirical study of this research are defined as *reflection based activity types* as discourse is constituent of the activity, leading towards a high level of goal awareness mediated by school instruction. This

is based on visible mediation implying the mastery of voluntary and conscious verbal realization on the part of speakers. Speakers' interpretation of constituents of the activity give rise to different *meaning potentials*. These are also cognitive potentials encoded in words and structures of lexico-grammatical forms of their language. Verbal discourse is conceived as a potential meaning making activity, analyzed with the following categories:

i) The concept of *context* of situation is defined as 'generalized semiotic construct deriving from culture' (Halliday in Thibault 1987: 610) which speakers can recognize as a form of social activity in which they engage in. It is a stratified concept comprising the levels of register, semantic style and genre (Halliday and Hasan 1985: 12-14).

ii) The concept of *genre*, is defined as 'a staged-goal oriented-social process, (Martin 1992) referring to stages of semantic choices realizes in text/discourse that implying a range of meanings with great variant realizations (Hasan 2005).

The description of a '*genre*' occurs above metafunctions at a higher level of abstraction than register, focusing on key features of a specific genre within the whole generic potential of a culture (i.e. written genres, conversational genres, etc).

In my analysis I refer to Hasan's definition of the concept, whereby genre is seen in relation to more general semantic choices in texts/discourses, rather than specific lexico-grammatical ones. In fact more delicate items within the general area of the discussion are not so relevant in the light of this research.

The metafunctional organization of speakers' genres determines probabilistically the organization of any subsequent semantic choices within their text in a given contextual setting.

iii) Verbal action is translated in the semiotic notion of *semantic style*, comprising field, tenor and mode realizing semiotic tools in particular activity types. The notion of semantic style is different from that of register as it correlates with roles systems lying at the basis of social relations defining the degree of personal distance between participants. These relations vary in terms of *communalized* or *individuated* meanings (Hasan 2005:185-187).

Communalized meanings realize styles which are focusing on institutional and communal aspects of behavior, often taken for granted, largely predefined and highly predictable on the basis of common sense beliefs, by reference to positional status.

Individuated meanings refer to styles focusing on personal aspects of behavior, analytically defined and less predictable as are constructed on the basis of motives, affect and beliefs by reference to unique attributes of individual persons.

iv) Semiotic tools are realized in terms of multifunctional meanings, i.e. interactional, ideational and textual realizing *semiotic strategies*, i.e. a principle of organized, rule regulated sequence of speech actions, chosen by an individual to execute a task.

v) The notion of *task* is defined as a constituent of genre.

vi) The notion of *text* is a semantic concept conceived as a lexico-grammatical unit realized in meanings exchanged between speakers.

To Halliday: 'A text has a generic structure, is internally cohesive, and constitutes the relevant environment for selection in the 'textual' systems of the grammar...A text is a product of its environment, and it functions in that environment' (2002: 47).

vii) The notion of *context-bound/decontextualized* speech refers to the degree of dependence between meanings and their situational contingent facts. According to Hasan: 'a context dependent speech as 'language which does not encapsulate explicitly all the features of the relevant immediate situation in which the verbal interaction is embedded' (2005:187-188). Conversely, context independent language is language that encapsulates explicitly all the relevant features in which the verbal interaction is embedded' (Hasan 2005:188).

To accomplish a linguistic analysis from the perspective represented in these categories, the first step is to establish the generic structure potential of the text in which a particular instance of language use is coherent with the activity setting which has generated it. This starting point is in order to choose the relevant focus features to analyze texts in terms of language functions. The analysis was guided, further, by interests in what could be shown about adolescents pupils handling of semantic variation and about the learning issues indicated in their use of language.

5.2 Semantic variations in eliciting settings

In this study linguistic analysis is concerned with examining pupils' language in two communicative tasks (written definitions and oral discussions), both referring to the relationship between pupils' sociocultural knowledge and their use of language in oral interaction.

The two tasks are defined in terms of different semantic characteristics with respect to their modality for eliciting language.

The classification of words, in the first task, evokes hierarchies in taxonomic relations, while accompanying explorations of value systems referring to beliefs of social validity.

In the second task, oral group discussion requires a type argumentation with explicit reasoning expressed with ideational meanings. These meanings must be explicit and highly specific as they are features enabling the realization of decontextualized speech.

A central question connecting these two tasks was whether pupils' written definitions bear any relevance to the types of strategies they develop in the oral language learning task. This latter was aiming to lead to argumentative meanings and theoretical knowledge. In fact written and oral genres are generally suited to mediate different tasks within any activity. Oral talk mediates the planning, monitoring and evaluation on the action to be performed, while written texts may supply explicit and abstraction information for the task at hand. To Wells this involves a 'second order symbolism with written symbols standing for the spoken words of speech, which are themselves symbols.' (Wells 1999:141)

In my study, written and oral tasks were complementary as they perform different linguistic functions within discourse activity.

In Halliday's account of speech and writing, the difference between a written and oral genre is made in terms of the distinction between dynamic and synoptic perspectives (Halliday 1985b:97). From a dynamic perspective grammatical options are conceived as a process, produced step by step in a temporal sequence. This is characteristic of everyday, informal conversation, leading to 'situated knowing', more linked to everyday human activities. From a synoptic perspective the structures resulting from these choices are seen as a product, whereby the linguistic meanings imply a mode of language use that projects a 'world of things, symbolically fixed so that they can be observed and measured, reasoned about, and brought to order' (Halliday 1993b:22).

However, while both of these perspectives are necessary to the description of discourse, a linguistic analysis implies necessarily a synoptic perspective on the dynamic one; in fact one cannot analyse something unless it holds steady the

dynamic flow of language, as one has to abstract and generalize representations which must be necessarily frozen .

Semantic variations are analysed according to sets of selection of options available to speakers in the three systems of metafunctions. They are crucial semantic components reflected in the lexico-grammatical organization of language. To Halliday :

...every sentence in a text is multifunctional....The meanings are woven together in a very dense fabric in such a way that, to understand them,. we do not look separately at its different parts; rather we look at the whole thing simultaneously from a number of different angles, each perspective contributing towards the total interpretation.
(Halliday 1985b:23)

So, for instance, options in the message of interpersonal meanings can result in *questioning, commanding, informing, disagreeing*, etc; in the system of ideational-experiential meanings consist of *evaluations, definitions, identification*, etc; systems of textual meanings consist of *topic change* or *topic maintenance* etc.

It followed that meanings produced in the individual written tasks and the verbal interaction in oral discussions required a functional classification that took into account different types of meanings coherent with their genres, leading to. written and oral texts/discourse. Each task was distinguished in terms of the grammatical categories through which these functions were realized.

The hypothesis was that different pupils would differ in the realization of these tasks; the degree of such variations depend on different semantic styles bearing different configurations between field mode and tenor and three metafunctional meanings connected with them.

Table 3. The oral - written continuum at lexico-grammatical levels
(after Colombi 2006 adapted from Halliday 1985)

<i>Linguistic characteristics</i>	
<i>Dynamic structure</i>	<i>synoptic structure</i>
<i>Everyday lexicon</i>	<i>specialized lexicon</i>
<i>Non-standard grammar</i>	<i>standard grammar</i>
<i>Grammatical complexity</i>	<i>high lexical density</i>

5.3 Multilevel aspects of learning through language

The process of verbal learning as outcome of the oral discussions is analyzed as interpersonal development, addressing multifunctional integration of meanings at different levels of semiotic organization of discourse.

In order to describe learning through language achieved through different modes of semiotic mediation, linguistic analysis addresses the following levels:

1. understanding and explaining how pupils construe their meanings in their verbal interactions (mode of interaction and ZPD);
2. if and in what manner these meanings are cohesively related to the activity type in which they appear (i.e. language as constitutive/ancillary to discourse, realizing implicit context bound, explicit decontextualized speech);
3. the cycle of learning within the group of interaction implying different degrees of enhancement of discourse, working in the ZPD.

In oral discussion, learning is conceived as a semiotic process (Halliday 1993b), as in SFL perspective conceptual development is conceived as semiotic potential, actualised in linguistic meaning potential. This means that cognitive process can be analysed through aspects of lexico-grammar and it is learned in interaction with others. In the discussion group of the present task, learning of and through language takes place through the interaction of pupils whose goal should be oriented to elicit high semantic components in discourse. The effectiveness of collective interaction, as a mean of enhancing development of discourse, lies in the potential of speakers to produce ideational functions to describe aspects of experience as required by the task.

In the discussion task, with its specific goals to be achieved, ideational meanings are linked to the degree of collaboration among speakers; such collaboration provides a sociocultural perspective as it is a way of making meaning valued in a given culture. Thus the goal orientation of verbal action is provided by the type of semiotic mediation characterizing speakers' interaction during the flow of the discourse, which can vary dynamically in the course of that interaction.

Following Vygotsky, this can refer to adult's guidance during the discussion, (adult-pupil) and/or pupil to pupil relationships, concerning mediation with more capable peers (pupil-pupil). This process is referred to as ZPD, which regulates the task performance of pupils in their group discussions. This suggests a symbolic exchange whereby the 'natural' line of mental life can be transformed in a cultural

one by linguistic interaction. This is a semiotic process which is based on ideational achievement: That of being able to express a generalization of experience in linguistic terms with the resources of ideational metafunction.

This implies that language can be an object of interaction as well as a mean for reflection, as it is organized by means of textual metafunctions, using the resources of ideational ones, in interaction with others. This also means that learning through language implies learning how to use language, as according to Halliday speakers must be able to think and act in one and the same operation (Halliday 1986:4).

Linguistically speaking, the ideational meta-function realizes a configuration of meaning (transitivity) through the experiential and the logical sub-functions. This must be realized, with a multiplicity of meanings, through systematic organization, 'represented by definitions, taxonomies, ordered progressions and logical relations' (Halliday 1988b:1), accompanied by common educational knowledge (decontextualized meanings) and by an explicit goal to orient towards explicit reflection on meanings and conscious understanding of their relations.

Thus while some groups of pupils may realize immediately ideational meaning as result of their interpretation of the reflective activity, other groups may require a process of learning taking place in interaction, in order to achieve the production of semantic ideational meanings during the unfolding meanings of discourse. In this way learning is conceived as a dynamic process, taking place in a cycle which can result in a process of 'logogenesis', whereby pupils move gradually towards a capacity to use language and to achieve new knowledge and understanding (Halliday and Martin 1993:18).

As the cycle of learning, implying enhancement of discourse, is based on linguistic development arising from situations of language in use, I illustrate Halliday's version of linguistic changes from common sense to educational knowledge (i.e. Vygotsky's everyday/scientific knowledge). Similar changes are expected to be produced as a result of pupils' collective interactions in the oral task of my study.

**Table 4. Linguistic changes from common sense knowledge to educational knowledge
(Halliday 1999a)**

From interpersonal orientation (language as action)	to include	experiential orientation (language as reflection/understanding)
From dialogic mode	to include	monologic mode
From deictic centre (you-and-me, here and now)	to include	'other persons and objects' 'other times' 'other places'
From entities that are concrete and perceptual	to include	entities that are institutional or abstract
From simple categories ('common terms')	to include	taxonomies of categories
From generalization	to include	prediction, reasoning and explanation

PARTICULAR CODING CHOICES

5.4 Classification of structures

From SFL point of view a *structure* is a realization of grammatical choices made from a number of concurrent systems, referring to the three metafunctions. Analysis of structures involves successive steps in accounting for the abstract syntagmatic patterns of units in discourse. The units are related to each other by reference to the *scale of rank* which in English is composed of *sentence*, *clause*, *group* and *phrase*, *word* and *morpheme* (Halliday 1961 : 253).

The *rank scale* is referred to as such because linguistic units are hierarchically ordered in a cline, starting from general distinctions to more specific ones, such as: *clause*, *group/phrase*, *word*, *morpheme*. While a structure is concerned with syntagmatic relations among elements in *presentia*, the notion of system is concerned with paradigmatic relations among elements in *absentia* (Halliday 1981b: 124), accounting for the occurrence of one choice rather than other in a number of like events (Halliday 1961: 264)

In Systemic Functional Linguistics priority is given to the system while grammatical structures are conceived to be generated by these systems. Assigning relevant choices to each grammatical system provides a mean to assign probability to each choice. So, for example, from a perspective of experiential function, there are

a number of options at clause-rank which are associated with *process type*, referring to the *transitivity system*: material, verbal relational etc. Interpersonal options refer to those associated with giving or asking information, realized by declarative or interrogative structures, related to the mood system. Textual options are realized by options of *referential system*, allowing the speaker to indicate whether something has been already repeated in the text or is something new, helping to perceive coherence in the text.

In the present analysis, Halliday's rank scale was applied in order to identify the units of the grammar form, i.e. the hierarchical arrangement of grammatical constituents, where clauses are made up of groups and phrases, which are made up of words, which are made up of morphemes. This hierarchy was essential to locate the linguistic analysis in terms of its rank.

The grammatical units were identified by class, defined by context (i.e. verbs, nouns, adjectives, pronouns, etc.) and by function, i.e. interpersonal, ideational and textual.

As SFL model allows to analyse genre and semantic style in context of their use they will be realized in the grammatical choices defining the specific features of the tasks in empirical context.

In analyzing the data I refer to a primary degree of delicacy at the rank of the clause. Delicacy refers to the degree of differentiation of units made at a particular rank.

5.5 Coding of written tasks

Analysis of classificatory definitions and values system

The individual classificatory task, which requires words definitions, was concerned with ideational system of language as it dealt with pupils' experiential knowledge and its description in the definition of categories of the given story and their valued relationships. The process of construing definitions, in the creation of semantic taxonomies involved two clear dimensions:

- i) construction of experiences as discrete social phenomena;
- ii) categorization of agents by lexical items.

Both dimensions concern ideational meanings involving a configuration of participants in terms of lexical items which also requires the use of *relational* processes to identify and classify things. Relevant systems in this area of meanings are described grammatically by the nominal group to represent experience as *things*. Similarly the system of *reference* is relevant to introduce things in the discourse and maintaining reference to them in the text .

In fact classification in word definitions concerns things and their qualities as phenomenon which can be described in semantic taxonomies. Lexical semantic relations are very important in linguistic realization of taxonomic definitions as well as in the relational process to classify and describe categories and events. The representation of this latter involves the transitivity system, with process configurations realized with material verbal and mental options.

The following semantic systems will be taken in consideration in the analysis of written definitions as illustrated in Table 5.

Table 5. Ideational system relevant for development of field (after Painter 1999)

Aspects of experience	Linguistic system implicated
Things, qualities, etc.	<ul style="list-style-type: none"> - Lexical taxonomies - Relational transitivity to identify and taxonomy - Nominal group modification to identify and describe
Semiotic events	- Material, mental, verbal transitivity

5.6 Description of relevant systems

The semantic analysis regarded cognitive developmental processes whereby pupils identified, classified and described the agents of the story. These processes were constructed by grammatical and lexical features of language, since language itself is part of the totality of pupils' experience. It follows that speakers realized their meaning systems through language and lexical grammatical items, and this allowed us to look into cognitive processes as well.

Classifications and word definitions were organized on a metafunctional principle providing speakers' resources for acting in the world and for reflecting upon it.

In SFL these processes concern the use of language in representing the world, referring to the ideational and experiential functions, involving the TRANSITIVITY SYSTEM, with *processes* as the cores of the clause typically realized by verbal group and *participants* normally realized by a nominal group.

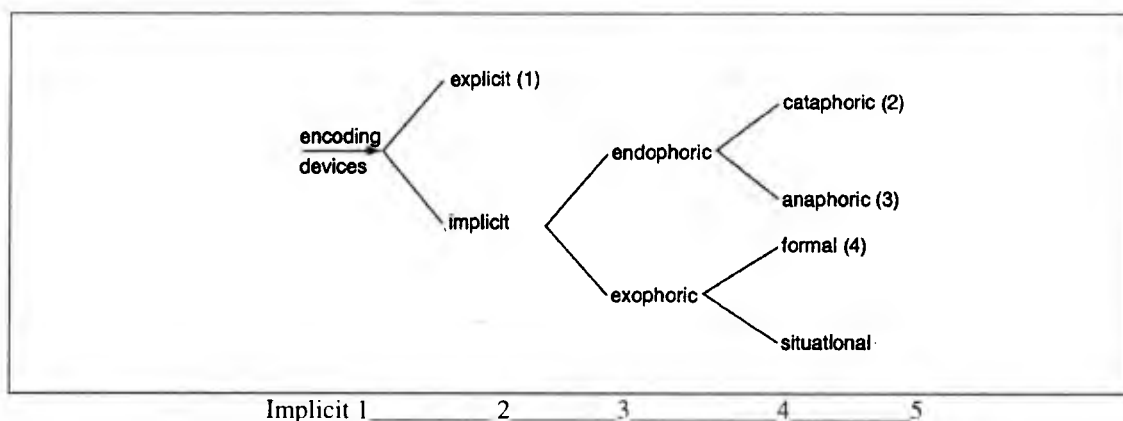
Within Halliday's three strata of language defined as metafunctions, the ideational function allowed the possibility of representing the world of experience. In particular, word definitions and their taxonomies provided a linguistic analysis based on different classes of words capable of doing so.

These were mainly focused on *verbal groups* - since it is from this that a particular action is derived - but also on *nominal groups* to define entities and adjectives to describe their qualities realized in the text with referential cohesion.

From the experiential perspective, the interest lay in the main clause, which defined an event, as this deals with the process or state that participants are involved in. Meanings are described according to their degrees of implicitness/explicitness as described by Hasan (1996) based by reference to the requirements of their interpretation.

These is described according to Hasan's taxonomy of encoding devices, described in figure 2.

Figure 2. Taxonomy of encoding devices(adapted from Hasan 1996)



5.6.1 Classification of headwords

Nominal group

The nominal group represented an index of linguistic style to encode different degrees of information. This makes it possible to realize high frequency of explicit speech depending on parameters of its differentiation in terms of modifiers or qualifiers.

The definition of the nominal group structure, operating as subject or complement within the clause, comprises 'the head', which is obligatory and can be a noun or pronoun, the 'modifier', which is optional and occurs before the head, and the 'qualifier' occurring after the head.

Head nouns consisting in nouns and pronouns were all coded as head words. Pronouns have been further distinguished in terms of deictic (i.e. *the, a, some*). This distinction was considered an important index from the point of view of decontextualized language since each structure has a different degree of explicitness within the text.

Qualifiers may be sub-classified as one word (i.e. *all, else, both*), group qualifiers (i.e. *in the house*) or clause qualifiers (i.e. *who works hard*).

Each sub-category has a different degree of expansion of the nominal group as *Common Nouns* can have Modifiers like deictic or determiners as a basic category. *Indefinite pronouns* cannot have modifiers as they indicate a generalisation and they were classified as *thing role* in the concept of reference.

The limitation of differentiating parameters in terms of modifiers or quantifiers lowered the degree of explicitness in the nominal group structure, while the opposite enhanced explicit encoding of meaning. That is to say that making the nominal group realization implicit at the level of lexis and grammar makes meanings more context dependent. However while context independent meanings are always realized explicitly, the converse does not hold since context bound meanings can be realized both implicitly and explicitly (Adlam 1977). We can also add that in the empirical setting explicitness was not the only feature concerned with the nominal group structure to determine its level of decontextualization. In fact the encoded meaning also implied some sort of classification based on the use of taxonomic understanding to construe the field in terms of everyday or scientific knowledge. This process required the ability to construe the world of phenomena and categorize them using lexical items. This was based on a double competence: a purely linguistic one, i.e.

use of a wide vocabulary, and a more cognitive one, consisting of the use of names of things and creating relationships for their identification and classification. This process is culturally typified in linguistic modes of definitions. Definitions reflect the unique requirements of a written/literate register as they make explicit the implicit meanings of words used in everyday discourse. On this basis they can also be reflected upon, analyzed and revised (Watson 1985:194).

In Western culture, the most widely recognized form of noun definitions is a statement of semantic equivalence 'NP1 is NP2' where NP1, the *definiendum* has an equivalent relation to NP2, the defining expression (sign-sign relationships). i.e. the cat is an animal, holding a taxonomic relation. On the contrary, the form NP1 is not conventionally accepted, i.e. the cat is furry, (sign-object relationship) as also dogs or other animals have fur. The conventional form is based on the assumption that super-ordinate terms give all relevant information to identify the object or event in the most economical way. These forms are heavily dependent on the child's capacity to use words explicitly, thus requiring a certain mastery over the use of language.

To capture these differences in linguistic terms, lexical items have been further distinguished in construing either a *hyponymy* relation, pointing to a semantic relation where words are included in the meaning of a more general word (i.e. wife: married woman), or a *meronymy* relation indicating a part-whole relation (i.e. she is a woman who has a husband).

Examples:

1) **Hyponymy** relations (class inclusions):

WIFE: Married woman

HUSBAND: Married man

FIANCE': unmarried man

2) **Meronymy** relations (part/whole):

WIFE: a woman who has a husband

HUSBAND: a man who shares his life with a woman

FIANCE': a boy with a companion

Verbal group

In the ideational function, the construction of phenomenal experience is realized in the grammar through the system of *transitivity*. This refers to the choices available for a clause and its functional parts (i.e. participant, process, circumstances) realized by the rank units such as nominal group, verbal group, prepositional phrase. At the rank level, the main focus of transitivity is generally on the verbal group which determines the labeling of participants and their actions.

These can be construed as:

- i) *material process*, constituted by ‘a world of action in which physical and biological entities interact, by themselves, or on other things’ (Halliday and Martin, 1993:27) and typified by verbs of action. More specifically, material process refers to external experiences which occur in the external world. Participant is defined as *Actor* and a second participant is defined as *Goal*, since the action is directed at it. Some of these processes also include *Circumstances* which further specify the location or the manner in which the action occurs.
- ii) *Mental and verbal processes* construct ‘a world of semiotic activity in which typically conscious entities negotiate meanings (Halliday and Martin 1993: 27), realized by verbs expressing psychological or perceptual states.
- iii) *Relational processes* express a construction of ‘a world of relationships among entities-a world in which things can be without doing’ (Halliday and Martin 1993: 28).

A relation is set up by two processes:

- a) an attributive relational process when two participants represent an object and one ascribed quality or attribute, respectively the *Carrier* and the *Attribute*;
- b) an identity relational process where the function is to identify one entity in terms of another.

Here the more general category is called the *Value* while its more specific embodiment is called the *Token*. In the passive form, the value is the subject and the token is the object. Thus values express speakers’ ideological experience. This also plays an important role in defining a register.

The analysis of transitivity can show not only how a text works but also how a speaker experiences and perceives different worlds and how these are construed through linguistic texts.

Thus, there is a relationship between different aspects of experience and the ideational grammatical function involved in this construal.

In the presence of linguistic semiotic variations in my groups of pupils, such variations are expected to show grammatically also through transitivity processes.

Examples:

i) **Material process** (expressed by action verbs)

WIFE:	<i>She</i>	<i>must cook</i>	<i>and clean</i>	<i>the house</i>
	Actor	Material process	Material Process	Circumstances-

ii) **Mental processes** (expressed by verbs denoting psychological or perceptual states)

WISEMAN:	<i>he's someone</i>	<i>who thinks</i>	<i>a lot</i>
	Senser	Mental cognitive	Phenomenon

iii) **Relational processes** are realized by the copula 'be'.

WISEMAN:	<i>he's</i>	<i>a very intelligent</i>	<i>man</i>
	Attribute	Relational attr	Carrier

5.6.2 Textual meanings: reference and ellipsis

The textual function is expressed in the grammar by the system of reference, used to bring an entity within an interactional framework since it construes the possibility for readers to locate and identify entities and keep track of them as the text unfolds.

Grammatically, entities are construed by presuming the nominal group as reference items and reference is realized within such grammatical structures, either in the Thing role or in the *Deictic role*.

In the *Thing role* reference will be realized by a personal pronoun (i.e. *I, she, he, they, he*, etc.) as the use of exophoric pronouns in the definition of words is linked to the type of relationship that the writer has with the reader and it is strictly connected to register. In this respect, the frequent use of pronouns is typical of a dialogic discourse (face to face between participant-speakers) as in oral discourse.

In the *Deictic role* reference will be realized in personal and demonstrative pronouns (i.e. *my, this, those, his, the*, etc.).

The identification of participants is classified by Martin (1992a) as such:

i) *Phoric groups*, which *presuppose* information, where the identity of the Thing is known to the addressee since it is recoverable from the context and expressed by non-specific pronouns (i.e. *a*, *some*, *all*, describe or classify).

Phoric groups are subdivided as follows:

i) *endophoric* pointing inward to the text;

ii) *anaphoric*, pointing backwards in the text, including pronouns whose reference has already been specified in the previous text.

Examples:

WIFE: she is a married woman; HUSBAND: he is a married man; BOATMAN: this is a man in the boat; (context independent, decontextualised meanings).

ii) *Non-phoric groups* which *present* participants to the addressee with specific pronouns, i.e. The, specific reference, act of selection: This, These, a, some, ordinal (one, two) epithets (little, red, good or noun).

Ellipsis is the set of resources by which full repetition of a clause or clause element can be avoided, and by which it can be signalled to readers that they should repeat the wording from a previous clause (Thompson 2004 :. 80).

Examples:

WIFE: a woman; HUSBAND: a man; BOATMAN: someone that loves boats (context dependent, implicit meanings)

To summarize, the importance of this section on ideational/experiential meaning is linked to the interpretation of reality and it can provide evidence for a given mode in the construal of events. At the same time, it allows us to explore the capacity to make sense of experience, partly as a part of pupils' conceptual development. Linguistically, this also provides an opportunity to see how meaning is structured, moving down the rank from the clause to the group as the participants' role is often expressed in the nominal group associated to each process. This is the following layer, in the group rank of the clause to be explored.

5.7 The coding of values systems

Appraisal (Interpersonal function)

The second individual sub-task concerned the elicitation of pupils' written expressions of their system of values on expected behavior of social agents (categories) of the story. The use of the semantic category of *appraisal* is one of the three major resources construing interpersonal meaning, alongside with *involvement* and *negotiation* (Martin and White 2005).

It is concerned with how writers/speakers approve or disapprove, agree or criticize and with how they position their readers/listeners to do likewise. For this purpose I adopted the classification of *Affect* developed by Martin (2000), to extend the Systemic Functional Linguistics account of the interpersonal mode of meanings. It allows to categorize written texts like the particular meanings produced by the task under investigation, which are language evaluation. Martin argued that it is possible to group types of values in a small number of categories to map overall values within our culture. These terms are interactive or dialogic in that the construed reader/speaker, is represented as sharing or not sharing a particular set of values with the writer/speaker, expressed in the way in which a discursive framework is constructed. Evaluation, stance or appraisal are terms dealing with the ways subjective views of speakers or writers are conveyed in language and how evaluative language expresses the value systems of individuals and communities (Hunston and Thomson 2000; Martin and White 2005; Biber *et al.* 1999).

To study evaluation in pupils' definitions in the written task I used Martin's subsystems of *Affect* and *Judgment* as pupils written expressions were mostly falling under these categories of meanings.

I will briefly describe each system of meanings.

A. The system of judgment

Judgment implies an explicit evaluation of other people and their actions, made by reference to socially determined expectations regarding behavior.

With respect to Judgment, Martin has devised five sub-systems each of which with either positive or negative value. Positive sub-system are assigned to a more general grouping of *Social Esteem* as their positive values increases people esteem at the public eye. On the contrary as negative sub-system decreases public esteem they are assigned to general category of *Social Sanction*.

System and sub-systems are as follows:

Social sanction

1) *ethic*: it involves compliance or defiance with social system. Compliance concerns positive ethical judgment (i.e. moral, good, ethical, kind). Defiance concerns negative ethical judgments i.e. immoral, wicked, bad, corrupted, sinful, etc.

Examples: positive -*She must be a good and moral person*

negative -*He mustn't deceive people*

2) *truth*: concerns integrity and falsity. It can express positive instances (i.e. honest, genuine, trustworthy, etc.) or negative instances (i.e. dishonest, deceitful, hypocritical, etc.)

Examples: positive- *She must always be faithful to her husband*

negative - *He mustn't tell lies to people*

Social esteem

1) *resolve*: involves reference to internal mental or emotional states. It can express positive instances (i.e. brave, reliable, careful, dependable) or negative instances (i.e. weak, cowardly, unreliable, stubborn, reckless).

Examples: positive -*He must solve people's problems*

negative - *He must not abandon the ship*

2) *capacity*: assesses the person or his/her action with reference to his/her abilities. There can be positive judgments of capacity (i.e. clever, gifted, talented, educated, accomplished, etc.) or negative ones (i.e. slow, thick, stupid, dull, insane, inexpert, foolish, etc.).

Examples: positive- *He must know how to lead the boat*

negative -*He must not be stupid*

3) *normality*: assesses the normal state of affairs, in a positive way :i.e. lucky, fashionable, predictable or negative way: i.e. tragic, unexpected, peculiar, odd, etc.

Examples: positive - *She must stay at home and wait for her husband*

negative - *He mustn't behave strangely*

B. The system of affect

This system is made up of three sub-systems, each of which have respectively a positive and a negative value. They are:

- happiness/unhappiness;
- security/insecurity;
- satisfaction/dissatisfaction.

All of them can be directed to the subject (self) or towards others.

Examples: positive - *He must make her happy*

negative - *He must never be upset with his girlfriend*

Table 6. Categories of Appraisal

Judgement	Affect
Ethic	happiness/unhappiness
Truths	security/insecurity
Resolve	satisfaction/dissatisfaction
Capacity	
Normality	

Further specifications of the coding outside Halliday's linguistic system are specified in the next chapter. Expectations and results will be discussed in the sections to follow.

5.8 CODING OF COLLECTIVE DISCUSSIONS

5.8.1 Discourse as a semiotic tool

Within the framework of activity, discourse is the tool- kit for achieving goals and sub-goals of actions with respect to the task event. The discourse activity and its action-goals are operationalized in the dialogic contribution of speakers in the course of the exchange of meaning between them.

The notion of 'goal oriented social process' represents the way in which both action and genre are conceptualized (Wells 1999: 194-195). Both processes require routine forms of behavior to be employed in the appropriate social conditions.

Genre is conceived of as a kind of linguistic action , and represents an item of the speaker's linguistic tool kit. More precisely, it includes what speakers are doing

through language and how they organize the language event, and it deploys the resources of a register in linguistic choices to achieve in discursive goals.

This can be linked to the fact that discourse has a tool nature which allows the speaker to intervene in social action and control it, and at the same time it makes it possible to represent that action linguistically. In this perspective, genres are items in the linguistic tool kit; they constitute the range of linguistic means whereby different kinds of 'action' are 'operationalized' (Wells 1999: 239).

Oral genres, such as the verbal discussion proposed by the empirical task of this study, are realized through face to face interaction. Here, recognizable routine actions occur frequently while their operationalization through discourse sequence often changes from one group to another, in as much as it is co-constructed by the speakers, sequence by sequence. Despite these differences, one can find generic patterns through which oral genre is operationalized, mainly at the level of the sequence of discourse as often moves and exchanges correspond to a particular task that make up the 'action'. According to Wells, this process cannot be fully operationalized without considering the whole structure of discourse. This means that, quoting Wells:

...dialogic discourse...is co-constructed sequence by sequence; it both depends on, and further develops, the inter-subjective agreement between the participants about the interactional goal to which they are orienting. (Wells 1999 :241)

Thus inter-subjectivity conceived as semiotic mediation in the organization of discourse is situationally conditioned and subject to variations, depending on the functions that language serves in real world, the varieties of language that are possible within each function and the shared sociocultural goals of speakers that are necessary to determine the discourse appropriateness.

Generally, these functions correspond to structures within the discourse to be found in its sequential organization in terms of sequences and exchanges between speakers.

At the micro-level of analysis, such construction may differ significantly according to the degree of inter-subjectivity and collaboration among speakers as well as in terms of the interaction goal they have set to pursue during the task.

In the discussion task, with its goals to be achieved, inter-subjectivity refers to the degree of collaboration among speakers which, from a sociocultural perspective, is a way of making meaning valued in a given culture. Thus, the goal direction of an action is provided by the type of semiotic mediation through the language that characterizes speakers during the flow of the discourse. This process is referred to as ZPD that regulates the task performance of pupils in their group discussions. Following Vygotsky, this can refer to adult's guidance during the discussion, (adult-pupil) and/or to pupil-to-pupil relationships concerning mediation with more capable peers (pupil-pupil). In the present study, the two modes have been classified separately.

5.8.2 Linguistic metafunctions: the context of situation

The analysis of the process of semiotic mediation, i.e. the interactional meanings and their task goal, is based on a functional classification stemming from the work of Halliday and Wells, with categories inducted from speakers' production and broadly relating to the theoretical assumptions underlying my study. In this task, the first step of the analysis is to identify the units of discourse, conceived as text. The text, as semiotic realization of context, is defined by Halliday and Hasan as follows:

any passage, spoken or written, of whatever length, that does form a unified whole...A text is best regarded as a semantic unit'.
(1976 :1-2).

Within the text the hierarchical structure of the discourse is organized into different levels. The functions underlying the structure of discourse are based on Halliday's semantic classification of register variables. These are:

- A. *Field*: refers to characteristics of the situation in terms of the social activity taking place in it (i.e. discussing, writing etc;
- B. *Tenor*: refers to the different relationships that hold between participants speakers involved in the situation, directly (i.e. pupils speaking to each other) or indirectly (a writer and the reader);
- C. *Mode*: refers to the place assigned to the text in the situation giving rise to the distinction between written and spoken medium of discourse.

The three register variables (tenor, field and mode) represent different dimensions of meaning, respectively the interpersonal, the ideational and the textual. These are linguistic manifestations of speakers' construction of reality which are manifested in the way that speakers construe their text/discourse. On this issue, Martin (1991a: 104) stated that ideational meaning construes 'reality', interpersonal meaning 'social reality', and textual meaning 'semiotic reality'. Even if all three dimensions of meaning are constructed simultaneously, there is often a dominant superordinate function in discourse which plays a *larger* role within the text, while other functions play a more ancillary role. While these differences are often linked to the context of the situation that elicits the production of specific metafunctions, the latter are also related to speakers' socio-cultural differences, since individuals are likely to construct meanings in language forms that are valuable for their group/community. Thus context is defined in terms of negotiating of the three metafunctions among speakers along the sequence of discourse.

5.8.3 Interpersonal Function (Tenor)

Tenor, referring to the nature of social action taking place between participants speakers, is analysed both in terms of the kind of acts carried out by speakers as well as by the goal of action referring to those acts in stages referring to different pupils' goal directed actions towards the verbal activity, i.e. field.

Following Hasan (1985a) actions are based on a cline of institutionalization. At one end of the cline the verbal action could be of highly institutionalized nature such as formal education activity, while at the other end it could be of a highly individuated nature such as informal conversation. The interaction among participants within the group was conceived as a process of semiotic mediation in the realization of task goals. This process involved dialogical negotiation of speech acts and exchanges, concerning social roles created in the speech situation, i.e. giver/demander of information, related to what it was said by speakers. This process was analyzed also in terms of adult-pupils mediated assistance with reference to the production of regulative or instructional meanings to probe pupils in the flow of the discussion.

Adult-pupil ZPD has been grouped according to a shortened version based on Gallimore and Tharp's classification (1990: 184).

Verbal assistance: adult-pupil (ZPD)

The pedagogical genre adopted by the adult-interviewer was based on the interplay of two registers, i.e. the *regulative* and the *instructional* register, typical of pedagogic discourse (Bernstein 1990). While the use of a regulative register aims at clarifying goals of the pedagogical relations, the instructional register has to do with the content to be achieved in the discussion.

Thus the interviewer's task orientation was initially based on a dominant regulative function in establishing a student/teacher relationship, and secondly on an instructional function, clarifying the goal of the ideational meanings and defining, at the level of text, the theme to be discussed (the short story). Thus, while the regulative register was dominant at the opening sequence of the task, it was supposed to be gradually replaced by the instructional register, as this was linked to the capacity of pupils to move independently, and to use language to produce new meanings and understanding

During the dynamic of discourse assistance, goals of adult-researcher's generic pattern were described as follows:

a. *Initiation-probing* within the group by socializing silent speakers, activating Interpersonal functions;

i.e. Marco, what do you think about the husband?

(Marco cosa pensi del marito?)

b. *Responding -clarification* of the goal of the activity activating Ideational functions;

i.e. We need to discuss why her husband left her.

(Dobbiamo discutere sul perche' il marito l'ha lasciata)

c. *Follow up -change* topic to give feedback and to open new area of discussion activating Textual functions;

i.e. All right, but what about Alan, who refused to let her in?

(Va bene , e Alessio che ha rifiutato di farla entrare?)

Social interaction: pupil-pupil

The pupil-to pupil interaction was classified in terms of modes of interaction within each group, distinguished by the different types of semiotic mediation that originated. These lead to different potentialities in transforming and changing the meanings of the discourse and are linked to differences in the type of inter-subjectivity, which in turn leads to different types of agency formation within the

group. These dynamics can be applied to goals of discourse in the discussion group of the present sample and refer to different pupils' goal-directed actions towards the verbal activity. These goals are described as follows:

- a. Social structure-action-goal:* a goal orienting pupils to establish and maintain a social relationship between themselves, producing the discursive structure of group solidarity (Initiation-agreement exchange).
- b. Problem task -action-goal:* a goal orienting pupils to maintain a social relationship with the adult interviewer in the task discussion, reproducing the discursive structure typical of school context (Initiation – Response – Follow up exchange).
- c. Problem solving action-goal:* a goal orienting pupils towards cooperative cognitive activity produced within a system of explicit objectified knowledge aimed at challenging and transforming the meanings of the given story (Initiation – Elaboration- Justification- Counter Argument exchange).

These goals correspond to different forms of inter-subjectivity, giving rise to different verbal strategies in the discourse activity, which are culturally mediated and socially transmitted.

Every unit, at each level of analysis implies a given goal, which must respond to the questions: Why is it produced? What are the means through which it is produced? What is its goal?

5.9 Analysis of focus features at different levels

In linguistic analysis, it is important to code the possible options of the speakers' system in order to identify the instantiations of the system in the data to be analysed.

As in SFL any clause is an organization of metafunctional levels, in discourse exchanges interpersonal and ideational functions are expressed simultaneously, with textual function linking meanings between them.

In this study, data were coded in terms of interpersonal, ideational and textual meaning, according to the following criteria:

- a) At a higher level, instances of exchanges were distinguished in terms of whether they negotiate *goods-and-services* or form exchanges negotiating *information*. These instances are important markers to distinguish between activity types (i.e. everyday activity or reflexive activities) implying, respectively, language use as ancillary or

constitutive. As in this section the given task was based on a reflection type of activity, functions of discourse exchanges negotiated information between speakers

b) Interpersonal meanings were coded according to the function of speech acts and moves produced by individual speakers in the negotiation of verbal exchange in the discussion.

c) Ideational meanings were analysed in terms of generalisation of experience - i.e. narrative/familiar, with text bound meaning, or hypothetical/argumentative, with context free meanings.

d) Textual meanings were analysed in terms of cohesive links between and within moves and topic maintenance- topic change (theme) within the strategies of discourse.

The focus of this analytical approach to discourse lies on the organisational principle underlying pupils' discourse productions elicited by two activity settings, implying respectively: An individual task of written definitions and a collective task of oral group discussions.

One of the relevant aspect lying behind the choices of two settings is that different levels of semiotic mediation are embodied in pupils' actions for the executions of the two tasks.

As mentioned in the previous chapter, while in the written definitions task a level of literacy competence is required, mediated by cultural historical factors (ontogenetic domain), in the oral discussion task mediation is realised by pupils' joint collaboration in verbal interaction, as a result of inter-subjectivity (microgenetic domain).

In this approach discourse is conceived as a process, put in motion through the verbal interaction which can allow to observe its development in a dynamic progression.

In accordance to this principle, the analysis and description of discourse is based on SFL, providing a perspective on language conceived simultaneously both as system and as process instantiated within social settings

Activity settings are semiotically defined as people learn the tools to be used specifically to those situations. In this respect both verbal and mental functions must be studied in context, as they are useful semiotic tools to solve problems generated by those settings. In this way the notion of mind is conceived to be culturally, historically, and contextually situated as also language is never a context-free

production as people' talk is always a socially recognizable forms of interaction (Halliday 1978).

When activity settings concern the use of language as a cultural tools, externalised in texts/discourse the close relationship between activity setting and psychological tools is realised within them .This allows to postulate a functional relation between different activity settings and different forms of knowledge in text/discourse (narrative, descriptive and argumentative) described as types of meanings relevant to those settings.

The assumptions of the present approach entail differences in semiotic mediations allowing to describe which meaning potential appear to be relevant for whom and when, devised to describe the two complementary perspective on pupils' use of language (written and oral tasks).This latter point bears a fundamental importance from the perspective for this analysis of discourse.

The hierarchical sequence of interaction is described as follows:

Moves, exchanges , strategic sequences representing the hierarchical levels of discourse.

The *move* is the smallest contribution of one speaker to an interactive exchange and it forms an independent clause serving specific linguistic functions (i.e. question, request, praise, correct, etc.). These are connectedness by *exchanges* between speakers within the dialogue conceived as the unit of interaction involving two or more participants. In the discourse *strategic sequences* these refer to sequence of utterances of the dialogue related to previous contributions, allowing to capture pupil's inter-subjectivity within discourse.

5.9.1 The taxonomic coding of discourse moves

Within the exchanges and moves of the discourse I distinguished the following interpersonal meanings with their relative role functions to establish the generic structure potential of the oral discussions.

Table 7. Taxonomic coding of moves

Cohesive questions	Speech roles functions
1. <i>Agree ?</i>	Question asking acceptance or agreement with speakers' own contribution
2. <i>Clarify ?</i>	Request to clarify other speaker's preceding utterance
3. <i>Justify?</i>	Request for other speakers' explanation
4. <i>Meta ?</i>	Question concerning the task
5. <i>Question?</i>	Simple question with no reference to previous utterance
6. <i>Pseudo question?</i>	Questions where speaker knows the answer
Cohesive statements	
1. <i>Accept/Agree</i>	Accept Previous Contribution
2. <i>Acknowledge</i>	Acknowledge
3. <i>Answer Yes/No</i>	Answer a question with a Yes/No answer
4. <i>Challenging /Disagree</i>	Challenge Previous Contribution
5. <i>Check</i>	Check For Understanding
6. <i>Clarify</i>	Clarification Of Speaker's Own Argument
7. <i>CounterArgument</i>	Disagreement With Others' Preceding Utterance, Accompanied by other suggestion
8. <i>Criticize</i>	Disagreement With Others' Preceding Utterance, Accompanied By A Critique
9. <i>Exemplify</i>	Gives Relevant Example)
10. <i>Elaborate</i>	Elaborate Previous Contribution
11. <i>Extend</i>	Extend Previous Contribution advancing preceding argument
12. <i>Justify</i>	Justify/explain Own Contribution
13. <i>Inform</i>	Gives Information
14. <i>Meta</i>	A statement concerning the story itself
15. <i>Praise</i>	Praise Previous Contribution
16. <i>Opinion</i>	Gives Opinion
17. <i>Repeat(Accept</i>	Repetition of Previous Contribution
18. <i>Reject</i>	Reject Previous Contribution
19. <i>Request</i>	Request Information
20. <i>Reformulate</i>	Reformulate Previous Contribution
21. <i>Suggest</i>	Give Suggestion
22. <i>Summarize</i>	Give Summary
Non Cohesive Statements	
1. <i>Continue</i>	Continuation of own previous utterance ignoring other speakers
2. <i>Unconnected</i>	Utterance unconnected with other utterances of speaker's or others immediately preceding utterance

Variations are supposed to be present in terms of quantitative as well as qualitative aspects of speech function production.

5.9.2 Semiotic organization of discourse

In the construction of oral discourse, *strategic sequences* of exchanges represent the larger building block and refer to types of meanings produced in the discussion, extending across multiple sequences of utterances to achieve their action goals.

A *strategy* is defined as any organised, purposeful and regulated line of speech action chosen by an individual to carry out a task.

Different strategies within the sequence of the discussion were conceived to be semiotic devices linked to pupils' interpretation of tasks. On this basis they were said to provide different means for knowledge building. These types of knowledge stemmed from discourse meanings realizing in different modes of thinking, reflected in metafunctions within sequences, exchanges and moves of discourse. To classify semiotic strategies I used a revised version of Wegerif and Mercer (1997:59) and Mercer (2000). This is as follows.

- i) **Cumulative (C)**, realized through separated exchanges where each speaker speaks on its own, referring to an idealised adult. These strategies are more likely to be the realization of social structure-action-goal.
- ii) **Disputational (D)**, realized through a joint action exchange with two or more speakers. These strategies are more likely to be the realization of problem task-action goal.
- iii) **Exploratory (E)**, realized through the multiple speech functions of two or more speakers engaged in the flow of the discussion. These strategies are more likely to be the operations of problem solving action-goal.

These sequences are coded according to the degree of interconnection between pupils' exchanges, through the encoding of semiotic interaction as text, operationalized in interpersonal and ideational metafunctions. These specific semiotic properties of text/discourse give rise to a genre, an aspect of the mode of discourse, with specific social value in the culture of speakers.

Table 8 illustrates the distribution of moves within each strategic sequence of discourse activity. The function of moves within each strategy represents a general orientation of speakers in their strategic sequence productions.

Table 8. *Semiotic strategies and their meaning potential in terms of speech moves.*

CUMULATIVE (SOCIAL GOAL ORIENTED): it includes the following role functions :

<i>Opinion</i>	Gives opinion:
<i>Accept</i>	Accept previous contribution
<i>Repeat</i>	Repeat own or others' contribution
<i>Check</i>	Check for understanding
<i>Justify</i>	Justify/Explain own contribution
<i>Acknowledge</i>	Acknowledge

DISPUTATIONAL (TASK GOAL ORIENTED): it includes the following role functions:

<i>Opinion:</i>	Gives opinion
<i>Elaborate</i>	Elaborate previous contribution
<i>Riformulate</i>	Riformulate previous contribution
<i>Extend</i>	Extend previous contribution
<i>Justify</i>	Justify/Explain own contribution

EXPLORATORY (PROBLEM SOLVING GOAL ORIENTED): it includes the following role functions:

<i>Reject</i>	Reject previous contribution
<i>Request</i>	Request information
<i>Exemplify</i>	Give Relevant example
<i>Evaluate</i>	Evaluate previous contribution
<i>Justify</i>	Justify/explain own contribution
<i>Counter A</i>	Disagreement with other's preceding utterance

Examples of Semiotic Strategies:

1. Cumulative strategy (social goal oriented)

(Rural boys group)

		MOVES
Francesco:	How did the story go?	<i>requ/information</i>
Adult:	(<i>Repeats the story</i>)	<i>answer</i>
Yuri:	It's a desperate story	<i>metacomment</i>
Francesco:	Nobody's to blame ,	<i>opinion</i>
	she entered in the situation by herself	<i>elaborate</i>
Yuri:	She liked so many boys	<i>elaborate</i>
	and in the end she has no one	<i>elaborate</i>
	Long Silence	
	Laugh	
	Long Silence	
Martino:	She could have stayed at home	<i>suggest</i>
Francesco:	The cleverest thing...	<i>accept/evaluate</i>
Martino:	If she had stayed at home .it would have been better...	<i>repeat/suggest</i>

2. Disputational strategy (task oriented goal)

(Immigrant boys group)

MOVES

Angelo: May be before her husband had to go away to work she could have called... like before, she could have called some friends to stay with her...	<i>suggest</i>
Antonio: Yes, but if the text doesn't mention it...	<i>disagree/metatask</i>
Angelo: Eh... but she could have called some friends no??	<i>disagree/suggest/check</i>
Antonio: But if the text doesn't mention it...	<i>repeat/metatask</i>
Adult: And then?	<i>request</i>
Antonio: Mary's to blame, she should have stayed home.	<i>opinion/suggest.</i>
Adult: Even if she was unhappy?	<i>request/ opinion</i>
Antonio: She was wrong to sell her house and her belongings	<i>opinion</i>
Luigi: And also her husband who went away	<i>opinion</i>
Adult: But he needed to go...	<i>justify</i>
Antonio: .. But he needs to work so...	<i>repeat</i>
Angelo: .. But her husband hasn't left her she could have waited for him	<i>justify</i> <i>suggest</i>
Antonio: Exactly, for me Mary is to blame.	<i>opinion</i>

3. Exploratory (knowledge goal oriented)

(Mixed achievement boys)

Marco: To me it is the husband because he shouldn't have left her alone, maybe he should have made an effort to take her with him or come back to her sometimes and not leave her alone.	<i>opinion</i> <i>justify</i> <i>suggest</i> <i>extend</i>
Mattia: If you go to work.	<i>suggest</i>
Mario: If he was working she should have waited for him.	<i>opinion</i>
Marco: I know, but for such a long time..may be	<i>acknow:/suggest</i>
Mattia: And then the wise man, the wise man.. if he is so wise he should have known what he must do..	<i>opinion</i>
Mario: I don't think so..	<i>reject</i>
Simone: To me the wise man was right, not to give advice, especially..	<i>opinion</i>
Mario: He goes against her husband.	<i>elaborate</i>
Simone: The way in which he behaves in this situation.. he washed his hands up, in short he can't give advice because of that, too, because he probably wanted Mary to think for herself.	<i>elaborate</i> <i>justify</i> <i>justify</i>

Marco:	Yes the boatman because...	<i>acknowledge</i>
	he practically blackmailed <i>her</i>	<i>justify</i>
	because... to take her on the other side for all her belongings	<i>justify</i>
	it is just too much in my opinion	

5.9.3 Textual metafunction

The selection of options in the textual system, refers to *theme (topic entity)* of discourse, and also to the link between utterances ensuring continuity of topic between speakers.

Thematization refers to the discourse process by which a referent is developed as a central subject in the discussion. Cohesion refers to linguistic devices by which pupils signal coherence and continuity of the text with respect to the subject-matter. This aim was firstly achieved by categorizing the linkages between the structure of discourse in terms of functions performed by successive moves in pupils' exchanges, as follows.

Between moves:

These links are decoded through linguistic markers which have a connecting function to previous utterances such as *and, but, also, no but, yes but*, etc .referring to pupils linkages in discourse either refer back to previous speaker's contribution or prompt a response to one's own contribution. In our coding this are divided as follows.

- i) Conjunctive cohesion (CC) i.e. *and I also believe she's right to go away.*
- ii) Non-cohesive statements. (NC) i.e. *let's talk about her husband.*

At the same time cohesion is coded within clause complex of the same move according the continuity between the subject matter (*theme*). This was classified by reference to a thematic content produced by speakers in their discussion, accounting how it is developed in the sequence of discourse as this was providing the marker of joint activity between speakers.

Within moves

Sentences within moves are related to each other by cohesive relations expressed in the grammar by conjunctions. These are not cohesive in themselves but they express types of meanings presupposing different semantic components in the discourse. (Halliday and Hasan 1976). Thus they are indicating the way in which what follows is systematically connected to what had gone before.

Following Halliday and Hasan (*op.cit.*) I distinguished conjunctive relations as follows:

- i) additive (*and, or*);
- ii) adversative (*but, yet, however*);
- iii) causal (*as, because, hence, thus*);
- iv) conditional (*if then, in consequence*);
- v) temporal (*and, then*).

The different types of cohesive relations within pupils' texts may indicate the presence of a certain type of interpersonal strategies within their discourse. In what follows, I will describe the logico-semantic relations at different levels of analysis. These are:

- at the level of text, marked by structural conjunctions ;
- at the level of single clause realised in participant and process transitivity system;
- at the level of clause complex systems realising conditional clauses with the hypotactic *if* clause.

The choice of conditional clause for the focus of the present analysis is justified in terms of the following assumptions:

- i) Conditionals provide a context within which a fact can be validated by speaker(s). This can be identified as a Theme choice.
- ii) Conditionals may provide a context for imagining conditions and reflection on consequences, not originally provided by the story.(decontextualized meanings);
- iii) Conditionals provide a possibility of negotiation of meanings between participant speakers.

Differences in types of functions within the structure of text/discourse as a whole must be examined in context of the interaction (context of situation, i.e. semantic style) and in relation to pupils' sociocultural situation (context of culture, i.e. generic structure) activity was strictly linked to those issues as well as to models of interaction of speakers as a function of social and historical conditions of participants. These models define the meanings resources of speakers during the dialogue and their progressive exchanges with respect to those meanings. These are described as a set of semantic options and will be illustrated in the following section.

5.9.4 Ideational function: logico-semantic relations

Strategies of discourse are further categorized in terms of their dependency within their internal textual relations. These are defined in terms of cause-effect relationships and in terms of logical dependency.

Logical dependency of clauses within the discourse sequence can have different relationships. These are defined by Halliday and Matthiesen (2004) in terms of *hypotaxis* and *parataxis*.

A paratactic statement is one in which speakers do not distinguish clauses in the order in which they were expressed and they have an equal status. Generally, a paratactic statement is expressed with prepositions such as *so, as, and* (i.e., *if he loved her he wouldn't have left her*).

A hypotactic statement expresses a dependent relationship between clauses where one is the dominant and the other is dependent. Generally, they are linked by cohesive conjunctions expressed by cohesive links such as *therefore, thus*, i.e. *He didn't earn enough, therefore he went abroad*. Categories of cause can be defined in terms of grammatical context as reason, purpose, condition, behalf.

The nature of the process being linked is the experiential function, belonging to the interpersonal functions. Thus a further classification is made in terms of transitivity system.

From a linguistic point of view, the expression of symbolizing activity involves the simultaneous use of mental and verbal processes, defined by Matthiesen as 'symbolic processes.' This means that this type of clauses stands apart from others since, they bear different characteristics such as conscious nucleus participant, i.e. *the Senser* is endowed with a conscious role (for further discussion see Matthiesen 1991). Thus a clause with a mental or verbal process construes experience linked to inner state and consciousness. Grammatically, both mental and verbal processes constitute the central domain of experiential meaning (Painter 1999: 186), which is concerned with symbolic processes. This rests on the possibility of both these processes projecting a situation as a secondary clause, which is not supported by material processes. The relation of projection distinguishing mental and verbal phenomena is believed to represent a second order of phenomena which, being a representation, is defined as a '*metaphenomenon*' (Halliday, 1994: 252).

Table 9. Examples of metaphenomena

Projecting clause	Projected (secondary clause)	Metaphenomenon type
<i>She should have said</i>	<i>I don't want to pay so much</i>	locution (construction of wording)
<i>He thought</i>	<i>she was in love with him</i>	idea (construction of meaning)

This section was also compared to the previous section of word definitions in the individual written task of the enquiry, to be able to gain a more complete picture of pupils' symbolic processes realized in the grammatical options within their texts.

Expectations

Differences are expected with respect to textual and ideational functions in the realisation of logico-semantic relationships.

At the textual level the rural boy group is expected to produce more additive, casual and temporal conjunctions as these are typical markers of the cumulative strategies produced at the interpersonal level. The immigrant boy group is expected to produce more additive, adversative, causal and conditional conjunctions, more typical of disputational strategies; among the mixed achievement groups, boys are expected to produce more causal, conditional and temporal conjunctions, typical of exploratory strategies.

Girls are supposed to produce more additive, adversative, and causative conjunctions typical of disputational and exploratory strategies as produced within their moves and exchanges. At the ideational - experiential level the mixed achievement groups are expected to realize processes symbolically (i.e. mental and verbal), and girls are expected to realize them with more verbal than mental ones.

Rural and immigrant are expected to realize material processes .

All sections were coded at a first level of delicacy, referring to only one entry condition into their relevant system of meanings.

Summary of Semiotic Strategies

i) Cumulative strategy (C):

realized through the multiple speech acts functions or two or more speakers engaged in the flow of the discussion. These strategies are more likely to the operations of a social relation action-goal.

Meaning is used to build a joint identity, with a shared inter-subjective perspective on the topic of conversation in which individual differences of perspectives on the topic of conversation are minimized.

Linguistic function: interpersonal

Meaning: text bound embedded

Knowledge: script everyday knowledge.

ii) Disputational strategy D):

realized through the multiple speech acts functions or two or more speakers engaged in the flow of the discussion. These strategies are more likely to be the operations of a problem task action-goal.

Meanings are characterized by an unwillingness to take on the other person's point of view, and the consistent reassertion of one's own. It is associated with competitive activity and individualized decision-making. Cycles of assertion and counter assertion, forming sequences of short utterances which rarely include explicit reasoning are typical of this strategy of talk.

Linguistic functions: interpersonal/ideational

Meanings: text bound/explicit

Knowledge: contextual/ everyday knowledge.

iii) Exploratory (E):

realized through the multiple speech acts functions or two or more speakers engaged in the flow of the discussion. These strategies are more likely to be the operations of a problem solving action-goal.

Meanings are used to produce reasons and explanations to enable participants to make critical evaluations and reach joint conclusions.

Linguistic functions: ideational/referential

Meaning: text free

Knowledge: decontextualised /scientific concepts

Chapter VI. SOCIOSEMIOTIC VARIATIONS AND PSYCHOLOGICAL TOOLS IN VERBAL ACTIVITY SETTINGS

Introduction

In this chapter I will present the empirical analysis of pupils' sociocultural knowledge, with respect to their written descriptions of social categories, values and behaviour.

The relationship between conceptual knowledge and semantic considerations is considered to be an important one in analysing intercultural discourse, supported by the sociocultural hypothesis that thinking is semiotically specific and mediated by language as a psychological tool (Bruner 1986,1990;Vygotsky 1934/1986).

The extent to which a given culture allows individuals to develop abstract and decontextualized knowledge (i.e. scientific concepts) depends both on the complexity of the activity settings in which individuals participate, providing experience of the world, and on the semantic potential of the language system to meet the demands of the community, according to its culturally oriented genres (Halliday 1978).

With reference to those issues the main aims of this chapter are as follows:

- to explore pupils' general sociocultural knowledge, conceived as a meaning potential for the collective argumentative discourse elicited by the oral discussion task (illustrated in chap. VII).
- to verify how such knowledge finds corresponding representation in pupils' specific semantic variations expressed in the context of written language definitions of words and social values, which reveals pupils' intra-psychological conceptual organisation.

In pursuing these aims data will be analysed on two levels, i.e. socio-cognitive and semantic to provide further insights into verbal knowledge connected to this task. This is explained more fully in the following section on the setting of the tasks and expectations from them.

6.1 Task setting and expectations

In this section, the coding analysis and expectations of two individual written tasks are illustrated:

- i) a classificatory task requiring prior written definitions of the main agents of the story to be discussed. This task was given prior to hearing and discussing the story;
- ii) a sub-task on social values and social behaviour definitions.

Both tasks were considered educational tasks since they were performed by pupils during their school activities in their classroom. In this respect an *a priori* educational competence on the part of pupils was presupposed, with regard to their ability to organize their experience in a conceptual manner, as required by formal education.

The coding analysis was based on two levels.

The first level (Level 1: socio-cognitive) analysed the pupils' classifications in terms of socio-cognitive categories referring to the pupils' word definitions and associated ways of thinking, related to scientific/everyday concepts. These were analysed on the basis of Vygotsky and Bruner paradigms.

The second analytical level (Level 2: semantic) was a semantic one associated to linguistic markers used in the verbal realization of those concepts. Analytical categories at this level stemmed from Halliday's systemic grammar.

The choice of a two-level coding was justified in order to check correspondence between pupils' sociocultural knowledge, revealing ways of thinking, and pupils' written language, produced to formulate that knowledge with respect to the given tasks.

In the analysis of the outcome of the empirical tasks the following contextual criteria were considered:

- All pupils were presumed to possess a basic level of competence in verbal definitions of the given categories, as these were associated with everyday knowledge and social behaviour typical of basic activities.
- Demands of task performances were related to reflection based types of activities typical of educational knowledge; thus pupils' responses were expected to require a forms of discourse and ways of thinking associated with formal education.
- These requirements consisted in degrees of abstractions of the categories embodied in taxonomic classifications and degrees of explicitness in their verbal realizations.
- Differences from the criteria of the above contextual requirements were attributed to pupils' different goal orientations leading to different psychological tools used to perform the task.

In what follows, a quantitative analysis of the pupils' work arising from these two written tasks is presented, organised in relation to the socio-cognitive and semantic levels. This is followed by a qualitative consideration of some illustrative examples, together with a closing discussion and a summary of findings for this aspect of my enquiry.

6.2 LEVEL I: SOCIO-COGNITIVE

6.2.1 Task I: The individual written classificatory tasks

The individual written classificatory tasks were intended to provide material which would enable the analysis of pupils' variations in ways of verbal thinking and in value systems with respect to the classification of agents in the given story. Furthermore, those tasks allowed:

- a) the analysis of the heterogeneity of the pupils' verbal thinking resulting from different psychological tools employed by different cultural groups, in a socio-historical perspective (Vygotsky 1934/1986);
- b) the exploration of the close relationship between verbal thought and discourse;
- c) the possibility of investigating individual changes in knowledge in collective verbal activity, as a result of the ZPD.

In the written classification task, pupils were presented with five social categories, a list of the agents, to be defined in writing in terms of:

- i) conceptual definition of the category;
- ii) the category's social behaviour (i.e. what the category should do);
- iii) the category's unacceptable behaviour (i.e. what the category should not do).

The coding of classification of pupils' responses in terms of word definitions were made with reference to the paradigms of Vygotsky and Bruner (1986), and to the script-event knowledge as described by Schank and Abelson (1977) and Nelson (1986).

Responses were classified according to statements of syntagmatic – paradigmatic shifts. Syntagmatic relations are based on non semantic equivalence between classes of nouns (i.e. fiancé: *is a nice fellow*) ; paradigmatic relations refers to expressions of semantic equivalence based on taxonomic relations (i.e. wife: *is a married woman*).

This task was submitted to all pupils within their classrooms . The results of this task concerning selected pupils in the sample were interpreted also in relation to those of other peers. In this way, they have been considered as part of a collective community, i.e. the classroom, conceived as a sociocultural system of values and beliefs.

Table 10. Classificatory task to elicit verbal categories

<p>a) Describe with one sentence each of the following people:</p> <ol style="list-style-type: none"> 1)MOGLIE (WIFE) 2) MARITO (HUSBAND) 3) FIDANZATO (FIANCE') 4)BARCAIOLO (BOATMAN) 5) SAGGIO (WISE MAN) <p>b) Describe with one or two sentences what you consider to be the social behaviour of each of these people.</p> <p>c) Describe with one or two sentences what you consider to be inappropriate behaviour of each of these people.</p>

Answers were classified according to sociocultural models, described as follows:

1) Conceptual definition of the categories: These are coded in terms of cognitive categories linked to pupils' ways of thinking and goals of action orienting their task outcomes.

2) Category's rules of legitimate behaviour : These are coded with reference to:

- i) *social status relationships* (collectively regulated);
- ii) *affective/caring relationships* (mutually regulated);
- iii) *individualized general relationships* (individually regulated).

3) Category's rules of illegitimate behaviour: These rules should be consistent with the production of section 2, but expressed in the negative form.

Classification of categories is as follows:

a FUNCTIONAL / SCRIPT RELATIONSHIPS : Categories are defined in terms of prototypical action-event sequences based on sociocultural collective rules (syntagmatic relationships).

Examples:

MOGLIE (WIFE) :	una donna che deve dare affetto (<i>a woman who must give affection</i>)
MARITO (HUSBAND):	la persona che deve affrontare la vita insieme con la moglie (<i>the person who must share life together with the wife</i>)
FIDANZATO (FIANCE'):	un ragazzo che ama una ragazza e ci esce insieme (<i>a boy who loves a girl and goes out with her</i>)
BARCAIOLO (BOATMAN):	uomo che conosce molto bene tutti i luoghi (<i>man who knows all places very well</i>)
SAGGIO (WISE MAN):	quello che non si fa mai le sue (<i>someone who never minds his business</i>)

b. CATEGORIAL/DESCRIPTIVE RELATIONSHIP: Categories are defined in terms of functional event-sequences based on specific attributes and syntagmatic criteria expressed with contextual rules and meanings (syntagmatic relationships).

Examples:

MOGLIE (WIFE):	donna che ha fatto una decisione per la propria vita. (<i>woman who made a decision for her life</i>);
MARITO (HUSBAND):	uomo che ha scelto una compagna; un uomo che ha delle grosse responsabilità; (<i>man who has chosen his mate</i>); (<i>a man with great responsibility</i>);
FIDANZATO (FIANCE') :	un ragazzo che e' innamorato; e' colui che sta insieme ad una ragazza (<i>a boy who is in love</i>);(<i>he's the one who is with a girl</i>);
BARCAIOLO (BOATMAN):	quello che guida la barca; una persona che lavora con le barche; (<i>the one who drives the boat</i>);(<i>a person who works with boats</i>);
SAGGIO (WISE MAN):	e' una persona con molte idee ed intelligente; persona che oltre a pensare per se aiuta gli altri ad imparare. (<i>is a person with many ideas and very intelligent</i>); (<i>person who, besides thinking for himself, helps others to learn</i>).

c. SCIENTIFIC/TAXONOMIC RELATIONSHIPS. Categories are defined in terms of actions transcending their particular attributes based on general paradigmatic criteria expressed with decontextualized rules and meanings (paradigmatic relationships).

Examples:

MOGLIE(WIFE):	donna sposata; colei che viene sposata (<i>married woman</i>);(<i>she who is given in marriage</i>)
MARITO (HUSBAND):	uomo sposato; colui che viene sposato; (<i>married man</i>);(<i>he who is given in marriage</i>)
FIDANZATO (FIANCE'):	uomo non ancora sposato (<i>man not yet married</i>)
BARCAIOLO (BOATMAN):	mestiere; rematore (<i>job</i>) (<i>rower</i>)
SAGGIO (WISE MAN):	un esperto; colui che sa; (<i>an expert</i>);(<i>one who knows</i>)

6.2.2 Sub-task II. System of values in the definitions of categories' behaviour

This task is concerned with the pupils' answers to questions about the appropriate/non-appropriate behaviour of given categories of the story.

The analytical scheme devised for the purpose of interpretations of each pupil's answers is based on content of values, making reference to studies on cultural models (Quinn 1987; Gee 1999), and with reference to common knowledge of the local culture. Values grouping is coded as follows:

Table 11. Pupils' system of values

I. Types of values The following values have been produced by pupils in their definition of roles and relationships of the given categories of the story task.	
1. STATUS ACTION:	clean, cook, iron, drive boats, give advice
2. AFFECTIVE:	unity, trust, caring, support
3. MORAL:	responsibility, duty, freedom, trust, faith
4. COGNITIVE:	competence, communication, success
5. ECONOMIC:	work, earn
6. LEISURE:	luxury, security, leisure, fun
<i>a. Positive b. Negative</i>	

II. Quantity of values The quantity of values can be:	
a. SINGLE	(only one value)
b. MULTIPLE	(more than one)

III. Direction of Values

These are expressed in terms of rules regulating behaviour directed towards:

- a. COLLECTIVE : (husband/wife, wife/child)
- b. MUTUAL: (husband/wife, wife/child)
- c. INDIVIDUAL: (self)

Examples:

Pupil: *Francesco* .

POSITIVE VALUES (what categories should do):

MOGLIE (WIFE): La moglie deve fare le cose di casa e badare al figlio che ha
The wife must do housework and look after her son

MARITO (HUSBAND): Il marito deve lavorare e accontentare la moglie
The husband must work and meet the needs of his wife

FIDANZATO (FIANCE'): Il fidanzato deve accontentare la sua compagna
The fiancé must meet the needs of his girl friend

BARCAIOLO (BOATMAN) Il barcaiolo deve pensare ad affittare le barche
The boatman must provide the rental of boats

SAGGIO (WISE MAN): Deve intervenire in una discussione
Must intervene in a discussion

NEGATIVE VALUES (what they should not do):

MOGLIE (WIFE): La moglie non deve tradire il marito
The wife must not betray her husband

MARITO (HUSBAND): Il marito non deve tradire la moglie
The husband must not beat his wife

FIDANZATO (FIANCE'): Il fidanzato non deve tradire la fidanzata
The fiancé must not betray his girlfriend

BARCAIOLO (BOATMAN): Il barcaiolo non deve affogare
The boatman must not drown

SAGGIO (WISE MAN): Non deve chiacchierare di continuo
Must not chat all the time

Quantity and direction of values

MULTIPLE:

- 1. status action;
- 2. mutual - affective
(mother/child)

MULTIPLE:

- 1. status action;
- 2. mutual - affective
(husband//wife)

SINGLE:

mutual- affective

SINGLE:

SINGLE:

status action

SINGLE:

mutual- moral

SINGLE:

mutual-moral

SINGLE:

mutual-moral

SINGLE:

status action

SINGLE:

status action

Expectations

Definition of categories

Initial expectations of individual results were placed in relation to the pupils' sociocultural background and educational competence, classified in terms of high, medium or low achievement. Differences were expected within the sampling of the research, both with respect to words definitions of categories as well as with respect to social values defining rules of legitimate/illegitimate behaviour of those categories.

With respect to classification of categories expectations were as follows.

High-achievement middle-class pupils (boys and girls) were expected to produce taxonomic classification in their verbal descriptions of characters of the story, while mixed achievement middle-class pupils were expected to produce classifications based on relational description and to a lesser extent of functional everyday knowledge. To the contrary, rural and immigrant boy groups were expected to produce classifications based on script everyday knowledge.

Expectations with respect to values were as follows.

Differences were expected to be found between groups with respect to quantities, types and direction of values. Mixed achievement groups (boys and girls) were expected to produce a greater number of values, most likely focusing on intra-psychological ones such as moral, cognitive, affective values. Rural and immigrant boys were expected to produce a smaller quantity of values, focusing on inter-psychological ones such as social status, economic and comfort values.

With respect to the direction of values, mixed achievement groups (boys and girls) were expected to produce more values towards mutual and individual rules, while immigrant and rural boys were expected to produce rules directed towards the collective and mutual rules.

6.2.3 Task I: Classification of categories

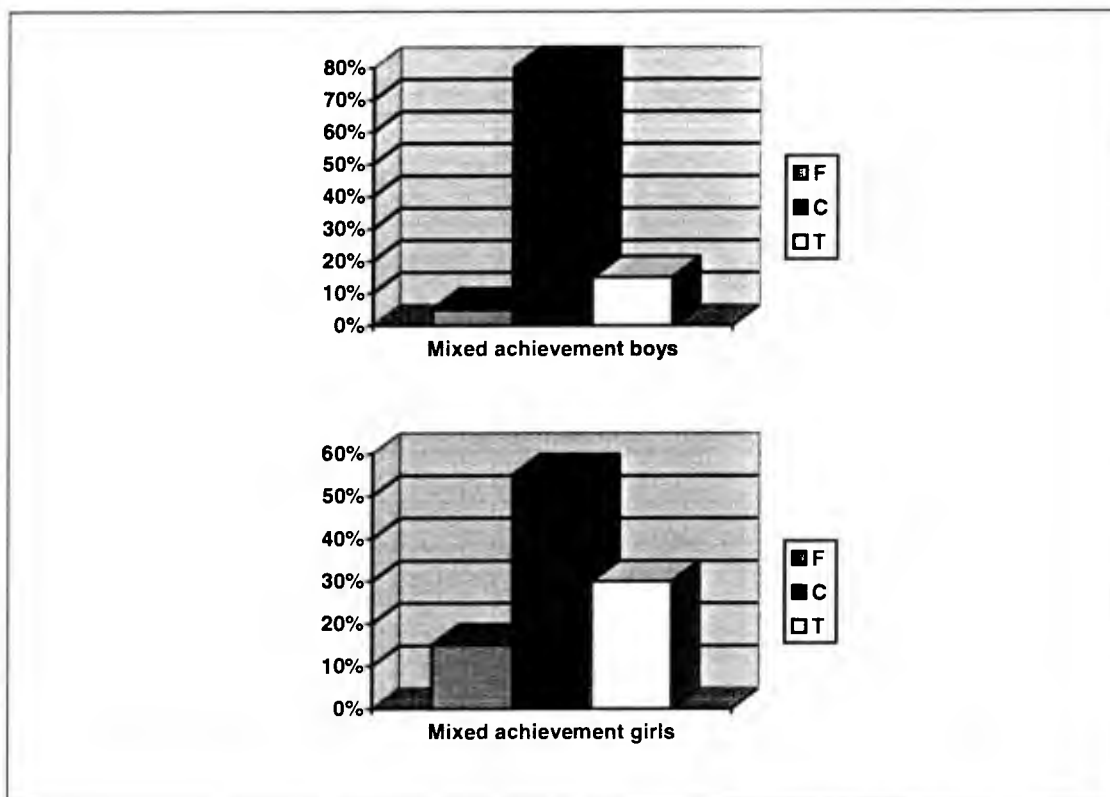
Results

Results are only descriptive because of the limited size of the sample. They are shown in Table 12 which indicates typology of individual pupil responses.

Table 12. Typology of individual responses in classificatory task

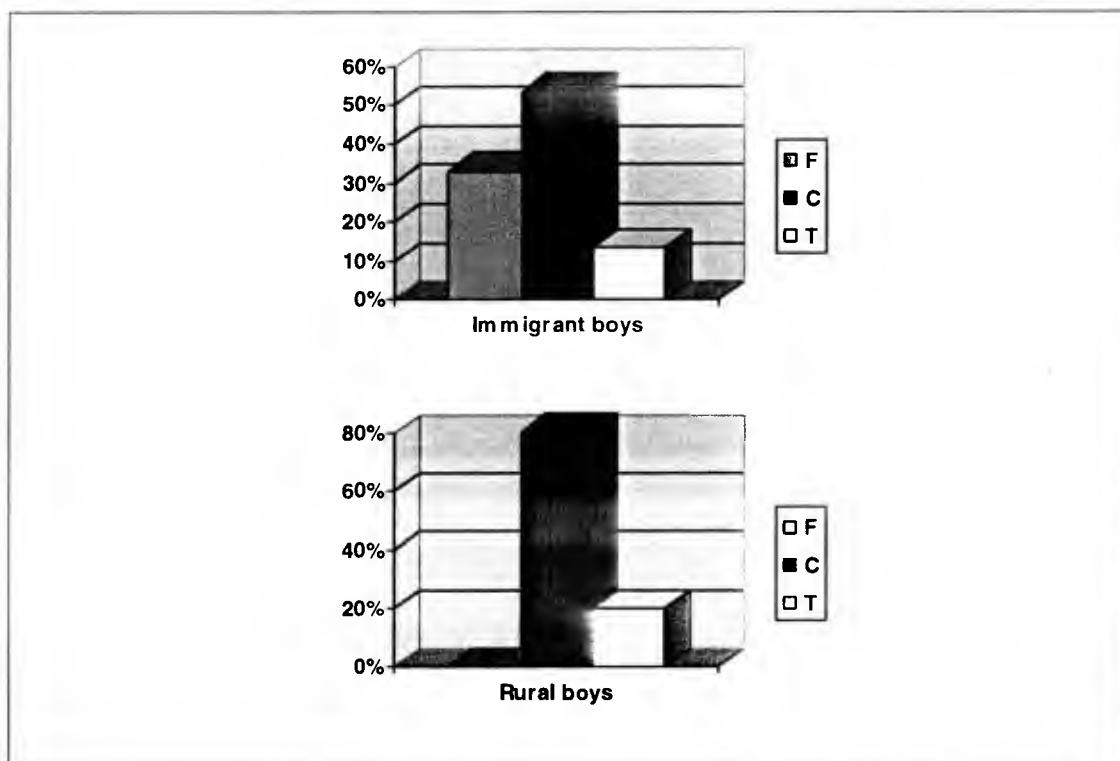
PUPILS		CLASSIFICATION OF CATEGORIES			TOTALS
MIX ACH. BOYS	Functional	Category	Taxonomic	Totals	
Simone	---	5	---	5	
Mariano	---	2	3	5	
Mattia	---	5	--	5	
Marco	1	4	—	5	
Total	1	16	3	20	
%	5%	80%	15%	100%	
MIX ACH.GIRLS	Functional	Category	Taxonomic	Totals	
Sara	---	5	---	5	
Jessica	---	3	2	5	
Carolina	---	1	4	5	
Francesca	3	2	--	5	
Total	3	11	6	20	
%	15%	55%	30%	100%	
IMM.BOYS	Functional	Category	Taxonomic	Totals	
Antonio	3	2	5	10	
Antonio	2	3	5	10	
Luigi	--	3	2	5	
Total	5	8	12	25	
%	33.3%	53.4%	13.3%	100%	
RURAL BOYS	Functional	Category	Taxonomic	Totals	
Yuri	-	2	3	5	
Martino	-	5		5	
Francesco	-	5	—	5	
Total		12	3	15	
%		80%	20%	100%	

**Table 13 and 13.1. Percentages of categories in mixed achievement groups
(boys and girls)**



Legenda: F=Functional; C=Category; T= Taxonomic

Table 14 and 14.1 Percentages of categories immigrant and rural groups



Legenda: F=Functional; C=Category; T= Taxonomic

Overall results of mixed achievement pupils and immigrant group confirmed initial expectations. Expectations were not fulfilled with respect to the responses of the rural boys group.

Among the mixed achievement groups (boys and girls), there was a mixed presence of low, medium, and high achievement pupils whose responses confirmed the deep relationship between educational level and the pupil classificatory system. In fact, as most boys of mixed achievement group were of low/medium achievement, their responses were predominantly of the Category classification type (80% of total responses); this was followed by Taxonomic responses (15% of the total, produced by only one pupil) and, by a very low percentage (5%), Functional ones (produced by only one pupil of low educational level). Individual girls of the mixed achievement group were of high/medium achievement, thus more educationally competent than boys. Their individual responses were distributed between Category (55%) and Taxonomic (30%) types with a smaller amount of Functional ones (15%, produced by only one girl of medium achievement). Thus, individual responses of pupils of mixed achievement groups (boys and girls) produced individual responses which were coherent with their school experience and their educational level.

These findings are interesting in light of the initial hypothesis, i.e., that pupils with good educational level would perform classificatory task in accordance to formal educational activities. Their way of verbal thinking would be associated with scientific concepts, and this would be irrespective of gender but linked to their socio-cultural background.

Individual responses of immigrant boys (low achievement pupils) were predominantly of the Category type (53.4%), followed by Functional (33.3%) and Taxonomic ones (13.3%, produced by only one pupil).

Rural boys' responses (low achievement pupils) were of Category classifications type (80%) followed by Taxonomic responses (20%, produced by one pupil), with no production of Functional ones. Thus, contrary to our initial expectations, one pupil of this group was able to produce responses of classificatory task associated to scientific concepts, despite his low educational achievement.

Variation of individual percentages of responses within each group indicates that:

- a) The pupils' educational competence plays an important role in the verbal classification as Taxonomic responses were produced by pupils with high

educational achievement, confirming that scientific concepts are directly linked to formal educational. The only exception consisted of rural group where a boy, Yuri, gave also Taxonomic responses, despite his low educational profile. The reasons of this result must be explored in terms of sociocultural rather than cognitive explanations.

b) Category classifications, which overall represented the majority of pupil responses in all groups, can be conceived as a potential transition from everyday concept to a later development of scientific concepts. This transition is more likely to occur in groups where there is also a high percentage of Taxonomic responses indicating the presence of scientific concepts produced by more capable peers. The presence of scientific concepts among participants of a group may indicate a potential for progression towards the ZPD. Thus, immigrant and rural groups have different potentials for working in the ZPD; however homogeneity within the group may impair the developmental progression towards discourse knowledge in collective joint activity. In this respect rural boys produced more equally distributed responses than immigrant boys, and this fact increased the potential of a more capable peer leading the group towards a progression in the discourse.

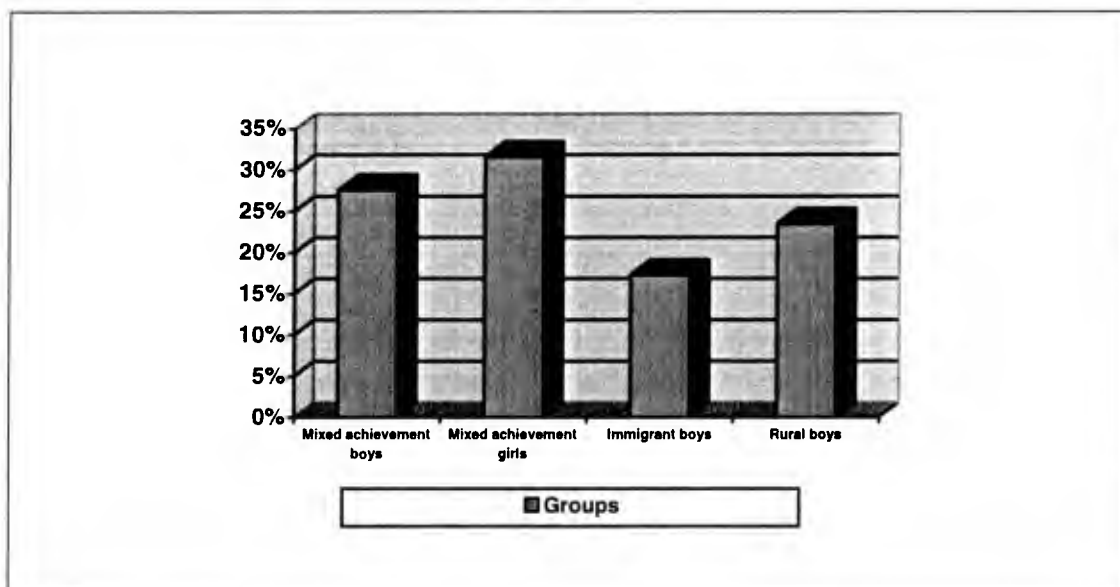
c) Finally, verbal classifications defined in terms of everyday and scientific concepts represent a way to understand the systematisation of knowledge according to the pupils' parameters. This knowledge, in the discussion task, would rely particularly on peer interaction and would be connected to the specific strategies and modes of discourse produced during the unfolding discussion. In this respect, pupils' individual classificatory system can be used to understand how the dynamic inter-psychological collective activity may affect, transform and change the intra-psychological knowledge of each individual pupil's conception.

6.2.4 Task II: System of values

Results

Results about quantities, types and direction of values are shown in table 15,16,17,18.

Table 15. General production of values



With respect to quantities of values, results confirm our expectations, as mixed achievement groups (boys and girls) produced more values than did rural and immigrant boys groups.

In particular, girls in the mixed achievement groups produced the highest percentage of values of all groups while the immigrant boys groups produced the lowest percentage of values among all groups.

Table 16. Employment of values within groups

MIX. ACH. BOYS	Self	Mutual	Collective	Totals
Simone	1	3	3	7
Mario	1	3	3	7
Mattia	0	4	2	6
Marco	0	3	4	7
Total	2	13	12	27
GIRLS				
Sara	2	7	0	9
Jessica	2	3	0	5
Carolina	2	4	0	6
Francesca	4	3	3	10
Total	10	17	3	30
IMM. BOYS	Self	Mutual	Collective	Totals
Antonio	2	4	0	6
Antonio	2	2	3	7
Luigi	1	2	1	5
Total	5	8	4	18
RURAL BOYS	Self	Mutual	Collective	Totals
Yuri	1	5	2	8
Martino	5	3	0	9
Francesco	4	3	0	7
Total	10	11	2	24

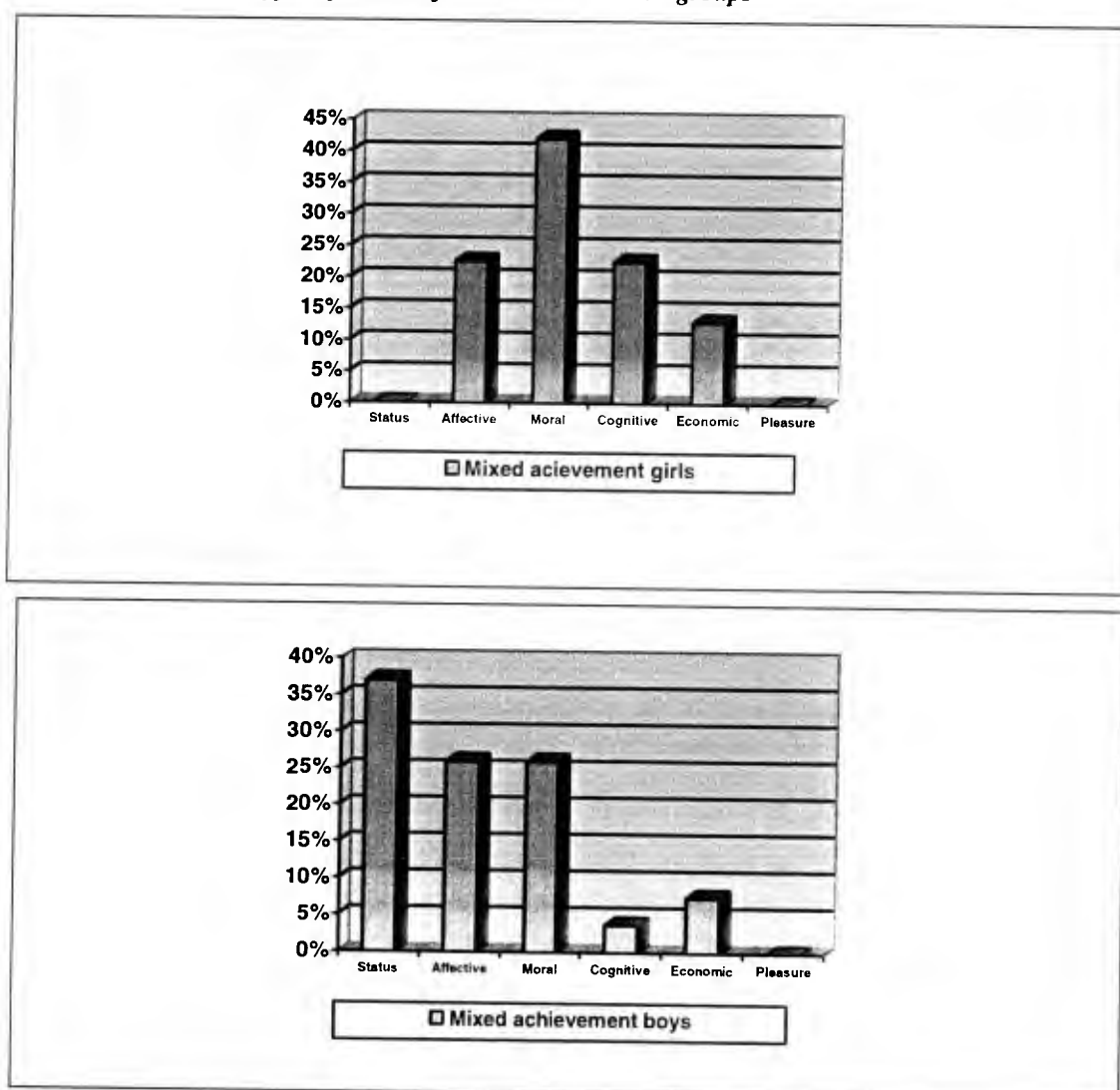
Results show that all groups produced more values focusing on mutual relationships of agents, followed by those focusing on the self, and finally on those focusing on the collective aspects of a relationship. This means that pupils are oriented towards inter-subjective values which are also explicit and specific, with a lower production of general values represented by collective ones. The mixed achievement groups produced the highest percentage of collective values among all groups.

Values referring to the self deserve some attention as they were produced both by mixed achievement girls, immigrant and rural boy groups. However, while the mixed achievement girls referred to moral values focusing on the individual self (implying responsible social behaviour and individual autonomy), the rural and the immigrant boys referred mainly to status values attributed to the individual, implying behaviour

achievement groups produced the highest percentage of collective values among all groups.

Values referring to the self deserve some attention as they were produced both by mixed achievement girls, immigrant and rural boy groups. However, while the mixed achievement girls referred to moral values focusing on the individual self (implying responsible social behaviour and individual autonomy), the rural and the immigrant boys referred mainly to status values attributed to the individual, implying behaviour embedded in the social role. Thus, the different content of values production among those two groups points to differences in pupils sociocultural knowledge, despite the focus expressed in their verbal statements.

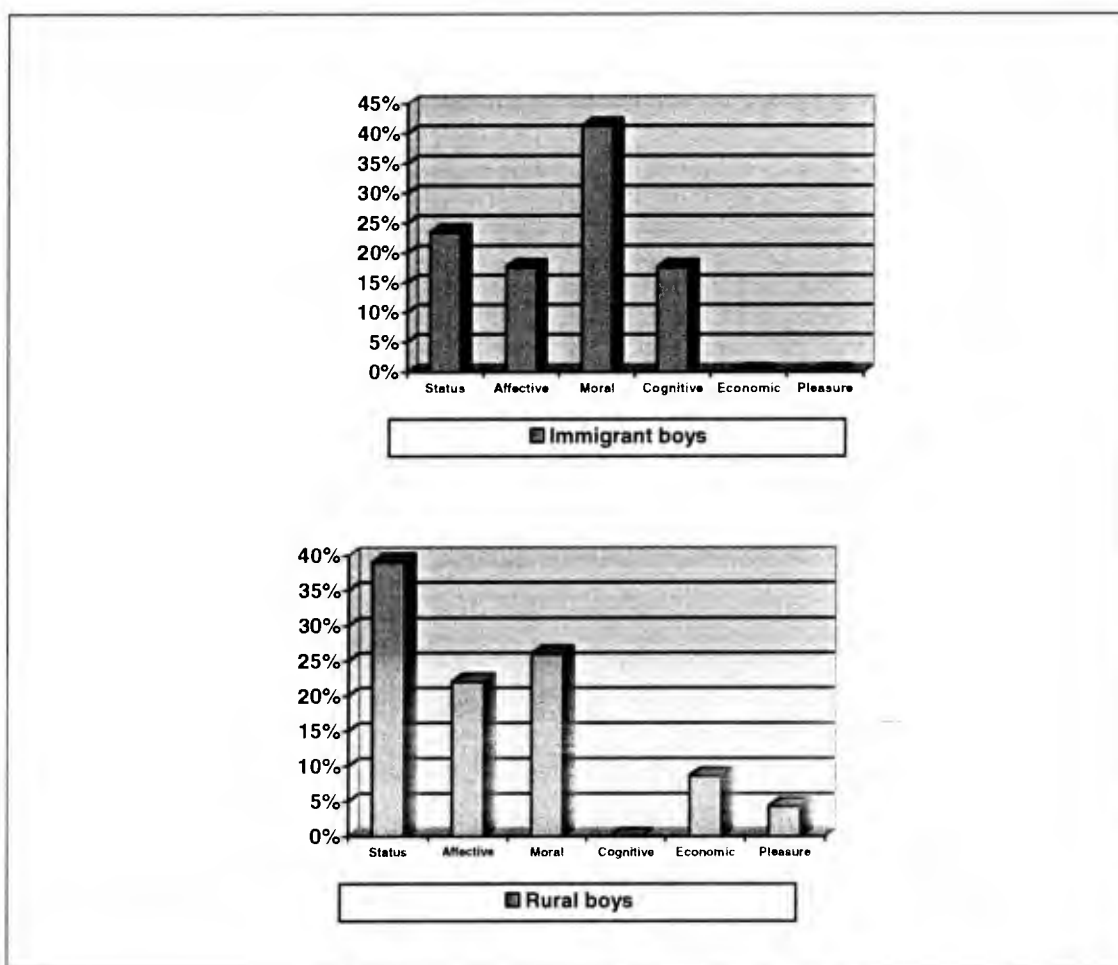
Table 17 and 17.1. Types of values of mixed achievements groups



Among mixed achievement groups only girls confirmed our expectations, for they produced a greater percentage of moral values, followed by moral and affective

with a lower percentage of economic ones. Neither status nor leisure values have been produced by pupils in this group. Contrary to our expectations, mixed achievement boys produced their highest number within status values, followed by affective moral ones. Very small percentages were produced among economic and cognitive values, and no values were produced among leisure ones.

Table 18 and 18.1. Types of values of immigrant and rural boys groups



Results of immigrant and rural boys were not in line with our expectations.

Contrary to predictions, immigrant boys produced the great percentage of their values within the moral type (41.3%), followed by status (23.5%), affective (17.6%) and cognitive ones (17.6%). No economic or leisure types were produced by pupils of this group. Among the rural group, the highest percentages of their values fell within the status types (39.1%), followed by moral (26%), affective (22%), economic (8.66%) and leisure ones (4.3%).

This concludes analysis at the socio-cognitive level; the semantic level is considered in the following section.

6.3 LEVEL II: SEMANTIC

6.3.1 Linguistic construal of definitions

In addressing questions of sociocultural formation the focus on the specific domain of verbal meanings is particularly relevant in order to make comparisons among groups acting within cultural contexts. It is believed that by analysing the linguistic system in depth it will be possible to provide further insight into aspects of cognitive and learning development. Having analysed the data with a grid based on the cognitive use of language, manifested through the content features of speech, here the main aim is to provide further evidence that speech of different groups of pupils differs in terms of multifunctional choices taken up by them in their semantic definitions, evaluations and orientation to meanings with respect to the tasks.

In this section, I will analyse the pupils' category and values definitions according to Systemic Functional Linguistics (SFL). In the SFL perspective, definitions are part of ideational meanings concerning *field*; these meanings were realising the system of transitivity. In rank-shift terms, this concerns the structure of the nominal group, the verbal group and the use of reference. At the level of context, tenor is influenced by the role of participants, and value system is part of interpersonal meanings to be analysed (Martin 1994) within the system of Appraisal. The analysis of relevant features of a written task such as the system of TRANSITIVITY and LOGICAL RELATIONS may add a further dimension regarding similar meanings in pupils' realizations of the context of the oral discussion. If patterns of response will be consistent across contexts this may suggest some evidence for semantic variations of linguistic phenomena as part of speakers' linguistic system; more specifically this exploration may reveal pupils' general goal orientation towards context bound or decontextualized meaning with respect to educational tasks.

The analytical functional semantic level applied to written words definitions and pupils' values system (task I) will allow comparisons with their semantic meanings produced in oral discussions (task II).

6.3.2 Nominal group

Results

The Head of the nominal group has the experiential function of Thing, i.e. that which has been construed in the form of a noun or a pronoun.

Table 19. Results of nominal group

GROUP	MODIFIER		HEAD		POST MODIFIER	
MIX. ACH. BOYS	Deictic		Pronoun		Noun	
	specific non spec.		specific generic		specific generic	
S	1	—	1	—	4	—
M	—	—	—	—	5	—
M	—	1	—	—	4	1
M	—	3	—	—	2	3
Total	—	4	1	—	15	4
%	—	15%	—	4%	58%	15%
4%						
MIX. ACH. GIRLS						
S	—	5	—	—	2	3
J	2	2	2	—	1	2
F	—	5	—	—	1	4
C	—	2	—	—	2	3
Total	2	14	2	—	6	12
%	5%	38%	5%	—	16%	33%
3%						
IMMIG BOYS						
A	1	1	3	—	2	1
A	5	—	3	—	3	—
L	—	—	1	1	—	—
Total	6	1	7	1	5	1
%	27%	4.5%	32%	4.5%	23%	4.5%
4.5%						
RURAL BOYS						
M	2	1	3	1	3	—
Y	—	2	—	—	2	—
F	—	—	5	—	—	—
Total	2	3	8	1	5	—
%	9%	14%	36%	4%	23%	—
—						

Results showed that the nominal group has been realized differently by our groups of pupils. Mixed achievement boys and girls realized it predominantly as nouns (specific nouns by the boys group, and generic nouns by the girls group), while the immigrant and rural boys realized it mainly as a specific pronoun. These findings imply that there are different extents to which pupils can elaborate their

definitions. In fact, with nouns there is more potential to modify the nominal groups' structure, while with pronouns this is not possible. Decontextualized speech makes use of nouns rather than pronouns to make its referent explicit. Furthermore, the use of nouns allows the possibility to make classifications and sub-classifications, and thus to explore semantic meaning at a deeper level of analysis.

6.3.3 Taxonomic relations

Results

The value relation between lexical items was defined in terms of *hyponymy* (basic categories and super-ordinate ones, realizing class inclusion relations between lexical items) and *meronymy* relations (realizing part/whole relations). Results are described in the following table 20.

Table 20. Results of taxonomic relations

MIX. ACH. BOYS	MERONYMY	HYPONIMY	TOTAL
S	5	-	5
M	3	2	5
M	5	-	5
M	5	-	5
Total	18	2	20
%	90%	10%	100%
MIX .ACH. GIRLS			
S	5	2	5
J	3	-	4
F	5	-	6
C	5	-	5
Total	18	2	20
%	90%	10%	100%
IMM .BOYS			
A	4	-	4
A	2	-	2
L	3	-	3
Total	9	-	9
%	100%		100%
RURAL BOYS			
M	1	-	1
Y	2	2	4
F	-	-	-
Total	3	2	5
%	60%	40%	100%

(Continued)

RURAL BOYS			
M	1	-	1
Y	2	2	4
F	-	-	-
Total	3	2	5
%	60%	40	100%

Results have shown that in all groups super-ordinate classification in terms of hyponymy relations were very low, while *meronymy* relations were much higher. More specifically, *hyponymy* relations were produced in the mixed achievement boys and girls in an equal number (10%), while they were totally absent in the immigrant boy group. In the rural group percentages were higher than in all other groups, for they reached 40% of the total and this was produced by only one speaker (Yuri). This points out to the fact that taxonomic classification is present in all groups of pupils, but its percentage of use appear to be different among groups.

6.3.4 Reference: identity of participants

Results

In this section, I used Martin's classification for participant identification, i.e. phoric groups *presuming* a participant identity, while non-phoric groups *present* it or introduce it to the addressee. (Martin1992a) Within the nominal group, reference can be realised either in the Thing role or in the Deictic role. The use of phoric groups, *presupposing* or *presuming* information such as '*the one*' or '*the woman*' means that a pupil refers to someone already mentioned and that the addressee already knows the identity of the Thing, as he is familiar with it. This meaning is anaphoric as it refers backwards within the text and is embedded in the context. The use of non phoric groups such as '*a woman, a man*' (but also '*someone, somebody*,' which were considered functionally indefinite pronouns) often expresses decontextualized meanings, as they often operate at a high level of generality (Hawkins 1969).

Martin's definition also allows the analysis of a generic category to construe the Thing identity. This has been reported to present a participant with no Deictic element in the structure, i.e. *married woman*; *man with a boat*, *man of great intelligence*.

Table 21. Results of reference

GROUPS	THING ROLE		DEICTIC ROLE	
	specific	generic	Non specific deictic (non phoric) presuming	Specific deictic (anaphoric) presenting
MIX ACH. BOYS				
S	1	-	-	1
M			1	-
M	-	-	1	
M			3	-
Total	1	-	5	1
%	14%	-	72%	14%
MIX ACH.GIRLS				
S			5	-
J	2	-	-	3
F			5	-
C			2	-
Total	2	-	12	3
%	12%	-	70%	18%
IMMIG. BOYS				
A	3	1	-	5
A	3	-	-	-
L	1	-	1	-
Total	7	-	1	5
%	50%	7%	7%	36%
RURAL BOYS				
M	3	1	-	-
Y		-	2	-
F	5	-		-
Total	8	1	2	-
%	73%	9%	18%	-

Results show that mixed achievement groups produced no phoric pronouns in the Thing role; indeed, they used mainly reference nouns within the nominal group. Conversely, both immigrant boys and rural boys groups produced pronouns of the specific type (*he, she*) and a lesser amount of the generic type (*someone*). The rural boy group produced 73% of specific phoric pronouns, while the immigrant boys produced a percentage of 50%. Furthermore, immigrant boy group produced 4% of phoric deictic, while the percentage of the rural group non-phoric deictic was 18%. Such production, however, was due to only one speaker (Yuri) who also produced taxonomic classification in the lexical items relations.

Finally, mixed achievement groups produced a very high percentage of non-phoric items, (non specific deictic) such as *a, some, one*, which in the boys group was 83% and in the girls group 80% out of all reference groupings. This finding indicates that in mixed achievement groups a participant is *presented* to the addressee, while immigrant boys and rural boys (with the exception of one pupil)

presumed a participant's identity, to indicate texts construing common sense knowledge with meanings embedded within the context. Thus the use of reference, like other lexical-grammatical features of written definitions, shows different meaning orientation among different groups of speakers, to indicate different linguistic resources in the production of a written definition genre.

6.3.5 Verbal group

Results

Results are illustrated in Table 22.

Table 22. Results of verbal process

GROUP	MATERIAL	MENTAL		RELATIONAL		VERBAL	TOTAL
MIX ACH BOYS		affect cogn		ident attr.			
S	1	-		3	1	-	5
M	2	-	2	-	2	-	6
M	-	1	4	-	-	-	5
M	1	2	4	1	-	-	8
Total	4	3	10	4	3	-	24
%	17%	8%	46%	17%	12%	-	100%
MIX ACH.GIRLS							
S		-	2	2	-	1	7
J	3	2	2	-	1	-	6
F	6	3	-	1	-	-	10
C	-	1	-	3	1	-	5
Total	9	6	4	6	2	1	28
%	32%	22%	14%	22%	6%	4%	100%
IMM.BOYS							
A	2	-	-	2	2	-	6
A	2	-	1	2	-	-	5
L	4	-	1	1	-	-	6
Total	8	-	2	5	2	-	17
%	47%	-	12%	29%	12%	-	100%
RURAL BOYS							
M	2	-	-	2	1	-	5
Y	1	-	1	-	3	-	5
F	3	-	1	1	-	-	5
Total	6	-	2	3	4	-	15
%	40%	-	13%	20%	27%	-	100%

From the above tables, it appears that the process in transitivity is realised differently by the various groups of pupils. In this respect, mixed achievement boys produced the highest percentage of mental cognitive process among all groups (46%), while mixed achievement girls produced an equal number of mental affective (22%) and relational identity responses (22%); the highest percentage within this group concerned the production of material process (32%). Conversely the immigrant boys produced the highest percentage of all groups in the material process (47%), followed by rural boys group in the production of material process (40%).

Both immigrant boys and rural boys groups produced a very small amount of mental process, but a greater amount of relational process. Among this type, immigrant boys realized a higher percentage of relational identity, while the rural boy produced more relation attributive (27%).

6.3.6 The notion of Appraisal

Results

Results of appraisal are shown in table 23.

Table 23. Results of appraisal

GROUP	JUDGEMENT		AFFECT		TOTAL
MIX .ACH. BOYS	s.esteem	s. sanction	self	other	
S	3	3	—	1	7
M	3	4	—	—	7
M	2	1	—	3	6
M	4	-	—	3	7
Total	12	8	—	7	27
%	44	30%		26%	100%
MIX ACH GIRLS	s.esteem	s. sanction	self	other	
S	3	3	—	1	7
J	3	4	—	—	7
F	2	1	-	3	6
C	4	-	-	3	7
Total	22	8	—	7	27

(continued)

IMM BOYS	s.esteem	s.sanction	self	other	
A	2	2	–	3	7
A	2	2	–	3	7
L	1	4	–	–	5
Total	5	8	–	6	19
%	26	42%		32%	100%
RURAL BOYS					
M	5	–	1	2	8
Y	5	–	–	2	7
F	4	6	–	–	10
Total	14	6	1	4	25
%	56	24%	–	7	100%

All groups, with the exception of immigrant boys group, produced more Judgement evaluations that Affect ones. Among Judgement, *social esteem* appears in higher percentage than *social sanction*, to indicate the pupils' general preference of social behaviour rather than moral qualities of participants-agents. In this respect, the rural boys group was the one that produced the highest percentage of social esteem evaluation (56%) and the lowest percentage of social sanction evaluation (24%). Immigrant boys presented a rather different picture, as they were the only group to produce more social sanction (42%) than social esteem evaluation (26%), indicating a preference towards moral qualities. Finally, Affect appraisal was generally more directed towards others than towards the self in all groups of pupils. This finding suggest that pupils of their age are more concerned with the emotional states of others than with their own.

6.4 Qualitative analysis of illustrative examples

As linguistic meanings bear a qualitative nature, the discussion of results implies the use of examples from pupil's responses. I will illustrate classification of definition and of values systems by comparing two pupils with different sociocultural backgrounds.

Example 1: classification of definitions

Mattia:

HUSBAND	:	the person who must share his life with his wife
FIANCE	:	a boy who loves a girl and goes out with her
BOATMAN	:	a person who works with boats
WIFE	:	the person who must share her life with her husband
WISEMAN	:	a person who manages to find silence thus the awareness of life.

Yuri :

WIFE	:	married woman
HUSBAND	:	married man
FIANCE	:	person bound to another
BOATMAN	:	person who gives rides
WISEMAN	:	always knows what to do

If one compares the classification of definitions produced by two pupils (respectively a mix achievement boy of middle class and a low achievement rural boy, working class), there appear to be great differences in their realisations of classification and category definitions.

As each statement is a configuration of three metafunctions, definitions are also communicative exchanges with the reader, thus realizing interpersonal meanings alongside ideational ones.

Linguistically, Mattia realizes headwords in the nominal group with a *pre-modifier* (a, the), followed by a relative clause which qualifies participants, thus apparently providing a way of communicating which reflects meaning organisation of writing. This presupposes a use of language as constitutive of the action as it must achieve means which are totally linguistic, associated with lexico-grammatical resources. Mattia's style realizes transitivity meanings with a *relational processes* at the verbal group level. These are explicitly realized, coherent with required social distance between the writer and its audience, as required by writing genres. However, despite the degree of explicitness in definition of the message expression, the latter realizes ideational meanings based on functional descriptive relations common of

everyday day knowledge. Linguistically this is defined in terms of part/whole relationship (i.e. *meronymy*) and creates text bound meanings.

These types of meanings are produced all the way in the other classification task and this orientation enables to infer the use of semantic style realizing explicit meanings but embedded within the text.

In contrast, Yuri realizes interpersonal meanings which are not cohesive with a written genre as they are based on ellipsis by which he avoids a full repetition of the previous clause (i.e. *a wife is..*) as it is implied in the pre existing text. As ellipsis is more typical of oral conversation than writing as the message with ellipsis is formally incomplete, this indicates that Yuri activates a genre with a feature of face to face interaction at the level of *tenor* (interpersonal meanings).

While Yuri does not make use of modifiers in the nominal group, however, at the ideational level, he uses a class inclusion taxonomy hierarchy of a high level of abstraction. (i.e. *hyponymy*). This semantic style it is used for all other classification. This means that the written definition, although implicitly realised, produces universalistic meanings detached from the immediate situation, typical of generalised scientific-educational knowledge.

These two examples, realized with different patterns of language at the lexico-grammatical level, demonstrate that the two pupils have established different ways of reflecting on reality, expressing different mental dispositions, reverberating into words and meanings. As both styles have semantic relevancy, it remains to analyse them in connection to the formally of meanings as required by educational knowledge.

The text of the first example is embedded in everyday cultural activity even if it is realized explicitly. To Hasan everyday activities:

...are overwhelmingly culture maintaining, since their efficient performance depends on routinisation, which means a suspension of reflection. This encourage the tendency towards preserving existing templates. (Hasan 2005:206)

To this statement it must be added that form and content often are cohesive and the way of explaining is likely to be tied down to the level of material actions without expressing explicitly the underlying abstract principles of that actions.

In this connection it can be useful to analyse pupils' value systems to investigate on what type of link exists between of pupil's aspect of social system related to their verbal realisations. This will enable to throw light on different sociocultural histories of semiotic mediation to be acknowledged in our sample of pupils.

Example 2: pupils' system of values

Mattia

WIFE	:	must prepare things to cook for her husband
HUSBAND	:	must work to bring money home
FIANCE	:	must love his girl friend
BOATMAN	:	must drives the boats well
WISEMAN	:	must remain silent for several days

Yuri

WIFE	:	to trust the husband, not to betray and to serve the man
HUSBAND	:	to serve the woman not to betray
FIANCE	:	can be free, get married, stay engaged or become free
BOATMAN	:	always to be available, serve humbly and get paid well
WISEMAN	:	to help other people

From the two examples, it appears that Mattia's system of values is based on actions of everyday activities types such as cooking, working, driving the boat, etc. Also the form of action expressing the 'sphere of activity' is a material one and semantically is expressed in verbal group realizing the transitivity system, in a material process which does not lead to symbolic processing of information. This semantic choice implies that the meanings call upon knowledge referring to the notion of *scripts* (Nelson 1986), with activity sequences fixed in cultural recognisable patterns. Besides, the connection between events is linked by means of causal conjunction, modulated by obligation expressed in the verbal form of *must*.

Here experience and interpersonal relations are conceived as predetermined, occurring on the basis of the nature of things.

To Hasan (2005:202) saying of this kind depend on community beliefs as they are taken for granted uncontested truths treated as self evident.

This example is an account of how membership in a certain type of sub-culture can filter communally recognised beliefs affecting ways of life and also ways of saying about behaviour and attitudes. Besides, as meanings are communally oriented, it must be added that they do not presuppose alternative choices to the sociocultural model from which they originate, conceived as implicitly prescriptive to forms of social behaviour.

If one connects Mattia's verbal definition to his system of beliefs it is possible to infer a coherence of semantic style predictable by reference to the formal patterns of the linguistic expressions. Mattia's meanings are predominantly social, bearing a clear characteristic of a role system structure, communalized rather than individualized oriented. This orientation is reflected in the lexico-grammatical forms of language and allow prediction to be made with respect to oral discussion and meanings to be elicited in that context.

Yuri's system of values appears to be rather differently oriented. First of all he produces a plurisemantic choices of values by providing several options with reference to each category, testifying a less predefined orientation towards socially conventional rules of dispositions and behaviours.

The choices of the verbal groups are predominantly realized with mental process such as trust, betray, help, suggesting an orientation towards symbolic processes which include semiotic resources.

It is also interesting to point to the values attributed to the category FIANCÉE'; referring to such condition Yuri is not prescriptive by presupposing the usual propensity towards love or affection to the girl friend, i.e. pre-categorised by reference to communal beliefs. Instead it envisages several possible outcomes of such condition: i.e. the fiancée' *can be free* (as not yet married), *get married in future, remain engaged* or *become free*, as the affective bondage may be broken in future. This attitude, expressed by verbal meanings, extends significantly over the characteristics of a communal moral order and coincides with the characteristics of a personal relations and with some of the consequences of personal propensities.

This means that underlying these choices, it exists a mental capacity of speaker to analyse and distinguish different social situations corresponding to different types of needs and motives guiding social behaviour. This recognition may derive from different types of experiences and knowledge that speaker has

about reality which mediate the distinction between common basic property of a general characteristic of a situation to its more specific and diversified aspects. This process is based on the cognitive ability to master concepts such as generalisation, abstraction and differentiation presupposing a kind of experience leading to sensitize the speaker towards different aspects of a social relation. This is mediated by language which is a tool fit to establish new relevance between these concepts.

To conclude, even in a context specific situation such as that of two written tasks Mattia's and Yuri's instantiated choices have shown to be systematic, thus providing some hints concerning their general orientation to meanings examination. This points out that within the same type of reflection activity speakers' recognition and performed criteria are rather different, depending on sociocultural factors. As a matter of fact, semantic styles of the two pupils seems differently oriented: respectively, in Yuri case, they are communally oriented, and individually oriented in Mattia's case as their meanings realized different choices at the level of lexico-grammar. In these meanings the level of explicitness connected to definitions appear to be a non relevant feature in achieving taxonomic hierarchical relations of lexical items. Rather, the crucial relation pointing to semantic variations should be described at different level, in terms of general mode of organisation of the verbal actions, arising from different interpretation of the activity types, affecting speakers's verbal realisations. Thus, in semantic variations the social dimension is central as to Hasan this is the site 'where organisation, social context and language are related to each other in a non-ad hoc manner' (1989: 271).

The relationships between verbal accounts and types of activities are featured in speakers' talk as functionally related at different levels of description, analysed in terms of contextual features of field, tenor, mode and respective metafunctions.

It remain to be seen how discourse meaning potential can develop in a joint collaboration with others. The analysis of this dynamic process is the topic of the next chapter.

6.5 Discussion

Discussion will concern both levels (I and II) in this section analysis.

Analysis of level I was concerned with socio cognitive items elicited by two individual tasks; these referred to category classification and value productions, since these two dimensions are conceived to be significant mediational factors in verbal activity. More specifically, the former refers to understanding verbal thinking productions and the latter involves the manifestation of different experiential realities in pupil's social values affecting mental life.

Findings of data at level II refer to multifunctional linguistic meanings produced by pupils in the two individual tasks. Both levels of analysis are based on the belief of the unity between thinking and language, as described by Vygotsky (1934/1986:95).

The understanding of semiotic differences produced by pupils in their individual tasks demands an analysis of the individual as well as the collective aspects of their responses.

Individual results have shown that our sample, like society at large, is not homogeneous, for individual pupils in various groups have different sets of value priorities and different ways of experiencing the world.

From a sociocultural perspective, this indicates that different types of semiotic mediation are at work in society, reverberating on our sample, giving rise to different ways of thinking and to different community based norms and values. These values, originally transmitted within the family, mediate educational relationships associated with pupils' motives, attitudes and goals.

Thus, individual pupil responses are socialised through activities across settings and are mediated by sociocultural models (*scripts*) in different contexts. Continuity of those models can be found in socially homogenous pupils associated with similar antecedent patterns of social mediation.

In considering the collective dimension, the most homogenous results in our sample were mixed achievement girls and immigrant boys. Results referred both to the classificatory task as well as to the production of values.

In the classificatory task both groups produced a greater percentage of responses falling in the *category type* and on *moral values*.

The similarity of results within each group can be explained by the fact that both groups may be classified as recognizable community 'sub-cultures', i.e., the culture of genre in mixed achievement girls, and local regional culture in the case of immigrant boys coming from the South of Italy.

However there are also some other factors which need to be considered, namely, whether or not pupils' different sociocultural responses are culturally situated or depend on the task employed, or both.

The classificatory task by means of verbal language must not be interpreted as presenting an exhaustive representation of the pupils' world view, for the task is limited by the variables of the experiments. The pupils' verbal definitions are conceived as resources or tools to be used when perceived as relevant in certain situations, and set aside when not. This means that there is no hint of a coherent cultural system of knowledge in pupils' definitions, but only choices of semantic options of a different culturally shared organisation of meaning, i.e., a meaning potential to be produced or activated for the performance of a particular task in a given situation. Moreover, cultural uniformity in the task responses is not only a matter of the pupils' conformity to their social activities originating from sociocultural knowledge, but also satisfies socially required behaviour that is inherently motivating for individuals. Thus it appears that cultural uniformity often realizes cultural norms or internalised values of the group. In fact cultural knowledge is a key to understanding higher-order mental structures which embody values and goals, which in turn direct pupils' actions towards the desired outcome of the given task. The production of everyday/scientific concepts in the classificatory task originates from the goal of action linked to the pupils' cultural understanding of the task. This is founded on tacit assumptions, but it is realized through verbal explicitness consisting of referential meanings and of semantic and lexico-grammatical structures of language. Word meaning (i.e. referential meaning), however, is not enough to reconstruct the cognitive model of pupils' verbal classification, as this requires a richer and multifunctional linguistic data than those provided by labelling or classifying a verbal task to elicit pupil's judgements and beliefs. It follows that a more comprehensive type of discourse analysis is needed in order to provide a wider spectrum of meanings based on social interaction between pupils as well as on the basis of their cultural knowledge and their own introspection.

This discourse model is represented by M.K.A. Halliday's Functional Systemic approach, as described in the section to follow in chap.VII.

6.6 Summary of results

Results of this section attempted to explicate three different but interrelated issues:

- a) the role of literacy in the production of linguistic features of decontextualized speech;
- b) the relationships of these linguistic features to higher level semantic meanings such as scientific concepts;
- c) the relationships of these features to the sociocultural background of pupils.

In this chapter I tried to highlight these connections in interpreting the data results of this section. The activity setting required the production of a written genre to classify and describe agents of the story. To identify a genre, it was important to focus on the key features of the text type in question, which in the two written tasks of this research required the production of explicit definitions realised in terms of decontextualized speech as instantiations of ideational meanings as part of the task requirements.

In the task of word definitions, meanings had to be described explicitly and synthetically as this was the way capable of capturing the relevant traits of socially defined categories. This competence implied the use of language in terms of taxonomic relationships, operating at a high level of abstraction through the lexico-grammatical features of speech.

Results demonstrated that sociocultural background was an important variable in defining pupils' orientation to linguistic meanings, as these showed similar patterns clearly linked to sociocultural groupings of pupils. In fact clear differences appear to exist among groups of our pupils but not within each group. For this reason individual written performances were described also collectively and not only individually. Thus, I shall refer to findings in terms of pupils' belonging to a sociocultural group, mentioning individual productions only in the exceptional breaking of collective patterns of results.

Linguistic decontextualized features of speech were analysed at the lexical-grammatical level of language as identified in the transitivity system referring to nominal group, reference and verbal group.

In general, decontextualized speech was produced more extensively by mixed achievement groups (boys and girls) and to a much lesser extent by immigrant and rural boy groups. As pupils were grouped also in terms of scholastic achievement, findings suggested that different pupils have acculturated differently to the process of educational requirements and to scientific discourse. Furthermore, as the two written tasks have been performed within the classroom setting as school activities, linguistic realizations of the same educational situation suggested that institutional setting was not interiorized by all pupils for its specific socio-institutional requirements.

This posed the problem of pupils' different internalized orders of relevance in activating individual psychological tools (i.e. decontextualized written language), to achieve the institutional outcome of the given task. Furthermore, results have shown that the written task and pupils' use of literacy were not necessarily linked to the production of decontextualized knowledge, leading to specific forms of abstraction as originally postulated by Vygotsky.

In fact, immigrant and rural groups of pupils, made use of written definitions producing respectively context-bound meanings, implicitly realized in the case of the immigrant boys and realized explicitly by the rural boys group.

This finding points out that surface linguistic forms may vary with respect to degrees of explicitness, but they do not vary with respect to pupils' semiotic orientation towards the situation. In fact context-bound meanings (implicit or explicit) are always realizations of a social situation implying a reduced distance between speaker and setting, and it is this type of social relationship which eventually defines the semiotic modality of a speech production (Adlam 1977).

The progressive freeing of speech from the external material conditions of the situation is generally conceived to be typical of written language (Bernstein 1971; Wertsch 1985), as it requires the contribution of both linguistic and cognitive knowledge to make sense of the setting. To Vygotsky this is a symbolic function which arises developmentally with words serving to categorise reality in terms of generalised categories.

These results may orient towards the claim that the relationship between literacy and decontextualization is not straightforward, but is more complex than the one conceived by Vygotsky who defined it as a universal and a-historical process (Wells, 1999). Rather, the explanation had to be sought socioculturally, at the level of

mediational means and in the way in which those means were mediated by language at the inter-psychological level.

This finding seems to confirm the claim that, like oral speech, literacy is not a homogenous phenomenon (Wertsch, 1985); instead, like other human activities, it is linked to different social functions and motives in individual lives and in their society.

With respect to the content of written definitions, results were re-coded and regrouped according to Systemic Linguistics categories.

In SFL view the production of taxonomic relationship were coded in terms of *hyponymy* and *meronymy* relationships.

Data have shown that in all groups the production of these relationships was rather low, but a certain frequency of taxonomic meanings proved to be present in all groups. This finding pointed to the fact that all children, individually, were potentially able to produce definitions in terms of paradigmatic relationship, but some of them spontaneously did not do so. It also showed that both concepts must have been originally appropriated from culture during the specific forms of inter-mental activity. However, in the educational setting provided by the given task, only pupils of mixed achievement level were able to activate such knowledge and to encode the requirements of the task as an educational one.

These findings pointed to the differences in the origin of scientific/everyday concepts and the situations of their use, which are learned in terms of a particular individual trajectory. It also confirmed results of the previous section where groups of pupils proved to be not homogenous in terms of cognitive competences, but similar in terms of use of their verbal tools.

Once more, results indicated a complex relationship between written knowledge and higher mental functions, as the two are not necessarily related (Wertsch, 1985). Similarly, with respect to reference, mixed achievement groups used non-phoric pronouns indicating that the participant's identity was *presented* to the addressee, while immigrant boys and rural boys used more phoric groups, thus *presuming* a participant's identity. These refer to two different referential perspectives or modes of presentations rooted in the individual sociocultural history, implying differences at the inter- and intra-psychological level, and both are linked to differences in situation definitions.

Also, analysis of transitivity (verbal groups) were realized with different semantic options by different groups of pupils. Results showed that those processes were realized more with material categories by immigrant and rural boys; cognitive, verbal and relationship categories were respectively realized by mixed achievement boys and girls.

The section on pupils' values provided results slightly different from the previous analytical model of previous socio-cognitive section (level 1). Such differences can be adduced to the more sophisticated linguistic classification applied in the linguistic section to capture meanings of written sentences. It is interesting to remark that the sub-category *social esteem* was chosen in a high percentage by all groups of pupils except the Immigrant boys, indicating a preference for interpersonal means of control rather than intrapersonal modes of control, as indicated by the *social sanction* sub-category. This latter was chosen only by immigrant boys group. Like results in the previous section, this result indicates a different sociocultural orientation to values and moral order of this specific group.

6.7 Conclusion

Because of the small size of the sample, no definitive conclusion can be drawn from results, which can therefore be only suggestive.

Differences found in the pupils' individual responses suggest the presence of different semiotic orientations in pupils' written realization of classificatory and value system.

This was so especially with reference to the construal of context where differences between groups were found in connection to production of linguistic choices (i.e. nominal groups, reference, and verbal groups) conceived in terms of context-bound and decontextualized meanings. These items were also conceived as meaning potential leading to scientific concepts as required by an educational activity.

Context was an important variable in the production of linguistic meanings.

In this respect, groups realizing context bound meanings (implicitly or explicitly), such as immigrant and rural boys, showed that their speech was predominantly mediated by the social context (i.e. extra-linguistic factors).

Conversely mixed achievement groups, boys and girls, produced linguistic results which were decontextualized. since their meanings in word definitions were

associated predominantly by the abstract linguistic features as required by the task-situation.

Results may indicate that in our groups of pupils linguistic formal variations were semantically oriented towards the production of different types of meanings, bearing the characteristic of semantic styles. These referred to decontextualized/context bound speech, realized in the transitivity system. However, no association was found between linguistic variations of explicit/implicit form and cognitive functions realised by taxonomic relationships the use of speech in our samples of pupils.

In all sections the analysis of semantic meanings based on SFL added a further specification to previous socio-cognitive analysis to coding definitions and values.

By providing insights into specific aspects of pupils' linguistic system, SFL analysis enhanced understanding of conceptual development in the light of pupils' sociocultural background, suggesting a link between the micro and macro aspects of society.

Chapter VII. SOCIOCULTURAL INTERACTION

The previous chapter was concerned with the analysis of pupils' individual sociocultural knowledge based on everyday concepts, relationships and values. The present chapter focuses on the operationalization of these cognitive and motivational aspects through pupils' collective construction of knowledge in dialogic exchange. The central interest is on language as a potential tool in learning and in promoting intellectual development.

In particular, I shall examine how pupils as members of a group engage in a discussion. My focus will be on the meanings that are jointly constructed and also on the semiotic strategies and social identities made possible through the use of language as a tool.

The oral task reported in this chapter was designed in order to elicit argumentation on cultural values, behaviour and practices. It was intended to promote pupils' use of verbal reasoning and problem solving to achieve exploratory talk, with points of support and counter arguments expressed in moves and strategies in the pupils' discourse.

Progression was conceived as occurring through development in the ZPD, objectified in verbal externalization (Daniels 2001:44). From the discourse point of view, in this task, it was anticipated that such progression would transform the text from a narrative genre to an argumentative one.

The framework of the oral task was devised in order to explore the initial research questions, indicated in chapter IV and summarized here as follows:

- How is verbal action socialized collectively in different groups of pupils?
- What is co-constructed developmentally within each group to account for predictable variations?
- To what extent is individual verbal action subject to developmental changes in group interaction?
- Which are the relevant social interactions to produce higher mental functions?
- What developmental learning cycle is produced within groups to achieve and transform individual knowledge?

(research questions 6, 7, 8,9,10, Cap IV) .

The Analysis of interpersonal meanings that follows in this chapter will focus on the following aspects:

- the type of social relations to be generated between pupils of different groups, revealing the implicit rules of their verbal actions sustaining socially defined inter-subjective experiences (i.e. communalized/individuated);
- the nature of the socio-psychological process allowing to describe deliberate conscious goal orientation on the part of speakers leading to the production of higher mental functions;
- the mode/genre of discourse realized in pupils' production of textual meanings with goals and rules underlying them.

The outcomes from this task, reflected in the pupils' talk, will be discussed in two different sections. The first section will describe the data qualitatively, with examples drawn from the group discussions and analyzed on the basis of SFL coding. The second section will present some quantitative analyses of various, selected features of their discourse.

I will begin the qualitative analysis by comparing different types of interactions resulting from pupils' exchanges and by following their negotiation of meaning expressed in the moves and semiotic strategies of their discourse. Through these comparisons, I will explore whether the quality of interaction, and the type of inter-subjectivity it creates, mediates higher mental functions.

Situating different types of pupils working within groups may highlight how they jointly cooperate to achieve inter-subjectivity.

A key question is whether the heterogeneity of pupils' texts/discourses, characterized by dialogical interactions, provides a thinking device, stimulating the production of alternative meanings and new perspectives. Does foregrounding the dynamics of language learning through social interaction highlight the potential for pupils making meaning, activated through extended forms of their use of language?

A further area of interest is that the examples and their interpretations, will allow us to explore what I have called the pupils' *cycle of learning*, where building argumentative knowledge unfolds as a process with progressive understanding of the original question to be debated. In the task that had been set them, the cycle of learning was a process activated by pupils and adult/researcher working in the Zone of Proximal Development. It was process of understanding which showed up in the presentation of pupils' views within their sequential flow of their discussion. It

occurred at different stages and with different pacing within pupils' discourse structure (i.e. at initiating, responding, follow up moves of discourse). There are issues here related my final research questions (n. 9 and 10, Chap IV).

In the second section, results of most relevant findings will be illustrated quantitatively, in order to give weight to previous qualitative data. The average lengths of the researcher's and the pupils' spoken contributions were quantified, and statistical evaluation was undertaken on the data. In particular, quantitative measurements represent indexes of the forms of pupils' participation and of the degree of their involvement in the discussion. These represent important factors, as the appropriation of discourse requirements is necessary to participating in the discursive practices implied by the task.

7.1 The semantic system of the task -text in context

As the focus is semantic in the analysis that follows, it will be relevant to identify the semantic features of the task as text- in - context.

Here context refers to the discussion of a story (*field*), the role relationships (*tenor*) and language realizations (*mode*), which together establish directives for the verbal actions of pupils. In addition they constrain the type of predictions and expectations that are pre-supposed.

The text is the unit of a semantic process and its linguistic features display patterns of relationships with the situation (Halliday 2002:63). A textual description of the given story is therefore the point of departure for understanding the generic meaning potential of semantic styles, realized by pupils.

The story to be discussed is expressed as a fable myth type realizing a narrative genre. The narrative is based on information about cultural values, behaviour and practices of the story's agents. These may be conceived as providing semantic resources for the pupils in their production of experiential views though language as tool for developing knowledge about the world.

The story bears generic properties realized as such:

Orientation: *Paul and Mary were married and were living in a little house by the river*

Goal: *Mary wanted to get across the river to see John*

Problem: *John did not want to live with a married woman*

Resolution: *Mary threw herself into the river and drowned*

The narrative text type bears cohesive elements based on temporal features realized with the following lexico-grammatical options:

<i>Myth like story:</i>	Finite tense in narrative are in simple past tense
<i>Theme:</i>	Human relationships and implicit moral order
<i>Transitivity:</i>	Material processes
<i>Researcher as recounter:</i>	Mood every clause is in a narrative (declarative statement)
<i>Textual cohesion:</i>	Reference is exophoric , embedded in the narrative
<i>Genre:</i>	Narrative

To change from narrative to argumentation, a shift of genre is required. This implies also a change of semantic style which involves to all semiotic features of the situation.

At the level of *genre*, the ideational function is particularly relevant in addressing questions of making evaluations and hypothesis, as required by the oral task.

The symbolic organization of ideational mode is 'represented by definitions, taxonomies, ordered progressions and logical relations' (Halliday 1988b:1).

As all metafunctions are related and impinge on one another, the activation of ideational meanings entails consequences for the interpersonal system as shifts in ideation mode imply also a variation of tenor in a given context. This type of discourse is based on speakers' mastering practices of enquiry. It implies adopting a goal- structure which results in specific ways of saying and meanings, leading to specialised semantic orientations characteristic of higher mental functions.

At the same time, pupils should activate a process of negotiation of meanings between themselves, implying a high level of participation to the dialogue in understanding each other's perspectives. Pupils should be able to pose questions, to elaborate their meanings in answering those questions and to challenge other speakers' statements. This process implies a planning initiative adjusting goals of action to attune with meanings produced while the discussion unfolds. This entails the recognition of the activity as constituted by reflection.

In this achievement pupils should activate a goal orientation focused on the discussion as object of discovery, leading to possible worlds and unknown realities.

The realization of the story's meaning potential conceived as an argumentative genre should lead to the following semantic features:

Discussion: Problem solving task

Theme: Underlying principle in human relationship as explicit moral order

Transitivity: Mental processes and Verbal processes

Pupils as creators: Mood: clauses are in hypothetical and logical reasons
(conditional statement)

Self sufficiency of text cohesion: Reference is endophoric (within text itself)

Genre: Argumentative

The process of re-contextualization of the text into an argumentative one is conceived dynamically and inter-subjectively, taking place in a cycle which can result in a progression of 'logogenesis'. This implies to move gradually towards a capacity to use language to achieve new knowledge and understanding (Halliday and Martin 1993).

Differences in the realization of the story's meaning potential by different groups of speakers may account for semantic variations of pupils' interpretation of the task.

7.2 The cycle of learning

In the discussion task presented to the pupils, the aim was to make available for study the learning of different groups -of and through language- guided by the interaction between pupils and between pupils/adult-researcher. We have called this process 'the cycle of learning'.

Following Vygotsky, this process refers to guidance during the discussion, (adult-pupil) concerning mediation with more capable peers (pupil-pupil).

This process is referred to as ZPD, which regulates the task performance of pupils in their group discussions. It implies that language can be an object of interaction as well as a mean for reflection, as it is organized by means of textual metafunctions, using the resources of ideational one in interaction with the others.

In the discussion gathered for this research, the process of understanding and the production of building shared knowledge were activated both by the adult/researcher's probing and by pupils mutual support in raising the quality of individual contributions.

As discussions took place within the school, the exchanges between participant speakers were analysed initially as if reflecting the teacher's conventional genre

consisting in a sequential pattern typified as Initiation-Respond-Follow up moves (IRF) as described by Mehan (1979), Sinclair and Coulthard (1975).

In the light of this enquiry her probing was differently structured, adjusting to the groups requirements based on different degrees of pupils' self regulation along the unfolding discussion. However, for the pupils, the process of dialogical learning implied by the notion of the 'cycle of learning', invokes extended talks and joint activity, requiring speech genres which foreground the dialogic rather than the univocal functions of language.

To take up the opportunity offered by the task, required speakers to be able to speak at length in order to create heterogeneous texts. This implied learning how to use language and ,in particular, being able to think and inter-act in one and the same operation (Halliday 1986:4).

While the activation of the three meta-functions is involved in every semantic operation, the meta-functional balance varies, according to different 'fashions of speaking', according to different speaking styles. This implies that the balance between the interpersonal and the ideational metafunctions varies from one style or register to another (Halliday 2001;Matthiessen 2006). For the speaker to vary discourse may depend on recognition of the activity setting, i.e. regulative texts are more interpersonally oriented, while argumentative or imaginative ones are more ideationally oriented.

In analysing the 'cycle of learning', as a further focus in the analysis that follows, the aim was to explore:

- whether defining a semantic style implies the definition of the macro-semiotic space of a given culture;
- whether semantic styles constrain the meanings that are likely to be produced in different activity types within society;
- whether it was the case that not everybody would have access to all types of semantic styles in the given task-context; and whether this would be linked to the specific tool-kit discourse repertoires of pupils within different groups.

7.3 Sociocultural interaction: a qualitative analysis

We may turn now to the pupil's discussions directly.

It will be recalled from chapter IV that for research purposes pupils were organized into four different groupings (mixed achievement boys, mixed

achievement girls, immigrant boys and rural boys). They were presented with an invitation to discuss a key question arising from the story: 'Whom would you blame for Mary's death and why?'

The discussion sessions, lasting 30 minutes each, took place in a small room within the school premises. The setting was informal, with pupils and researcher sitting around a table, or on the floor. The different group discussions were recorded and transcribed. Transcriptions will be presented here in a non technical manner which often omits pauses, overlapping speech, verbal emphasis and non verbal items in the communicative exchanges (i.e. gestures and postures). These features of the pupils' talk were conceived to be not strictly necessary to the semantic analysis undertaken with the data, focusing on content of meanings within the structure of discourse.

Verbal data were analysed according to a coding scheme based on SFL functional model, set out in chapter V.

Building on a theoretical multifunctional discursive perspective, a typology of pupils' talk was developed according to Halliday's three metafunctions (i.e. interpersonal, ideational and textual). This typology underlies both the qualitative and the quantitative analyses presented in what follows.

I begin with a qualitative analysis of the data gathered in the discussion task. The examples selected for the qualitative analysis illustrate how verbal action is socialized collectively in different groups of pupils. The focus of exploration is on how individual speakers realize the discourse meanings and how collectively these meanings vary in the flow of the discussion. This process refers to progression in the ZPD, which may be due to both adults' contributions to the discussion as well as to dynamic exchanges between speakers. It is, however, the dialogic exchange between pupils which was fore-grounded in the setting which form the centre of attention in what follows. The researcher was very careful to avoid inhibiting pupils' dialogic potential by imposing her own constraints over the flow of the discussion. The researcher's guidance was based on a dialectical relationship between pupils' different developmental zones.

It might be supposed from the nature of the setting, dependent on the adult's initiation of proceedings, that an IRF structure might predominate within the discourse that resulted. But while the initial move to the discourse suggests the IRF structure, with adult/researcher leading the conversation, in the unfolding of the

discussion pupils rather than researcher were expected to be engaged in each other's evaluative activity. When pupils expanded their ideas the IRF structure was overcome and developed into I-R-R-R-R-I structure.

The unfolding of pupils' ideas redefined the role of adult instructor familiar from analyses of classroom discourse. In some instances, though, as we shall see, pupils reproduced the IRF structure between themselves by probing each other and questioning each other arguments.

Given that the focus of attention here is on the quality of pupils' sociocultural interaction and on their ways they responded to the initiating question, how pupils first responded is likely to be illuminating. We shall begin, then, by focusing on these moments of initial response in the different groups, and follow this by looking at some key moments in their ongoing interaction and at their framing of hypotheses.

7.3.1 Initiating exchanges: taking up the option of discussions

To take a closer look, first, at the manner in which pupils initiate their discourse provides a relevant move in understanding the approach taken by different groups to the discussion task. The initial probe by the researcher sets up the *field*, leading pupils to participate independently in the discourse proceeding. The initial moves and exchanges within each group's discussion reveal how pupils position themselves with respect to the task and to the adult. In what follows, we may look at the groups in turn, attempting both to mark specific features and to and to analyse these comparatively.

Mixed achievement boys

The example illustrates boys in the mixed achievement group starting the discussion of the story. It presents the opening passage of their conversation:

Extract 1: Initiating exchanges to create collaborative knowledge (problem solving action goal) (Mixed achievement boys)

Initial researcher probe: We have six people all together: Mary, Paul her husband, John her lover, the boatman and the wiseman. Whom would you blame for Mary's death and why?

1- *Marco:* to me it's the husband because he shouldn't have left her alone
may be he should have made an effort to take her with him
or come back to her sometimes, and not leave her alone..

2- *Mattia:* if you go to work..

3- *Mario:* if he was working she should have waited for him

- 4-Marco: I know but for such a long time.. may be
 5-Mattia: and then the wiseman was right, in order to give advice, especially..
 6-Mario: he goes against her husband..
 7-Simone: the certain way in which he behaves
 in this situation.. he washed his hands up,
 in short he cannot give advice also because of this,
 because most probably he wanted Maria to think for herself.
 8-Marco: also the fisherman
 9-Researcher: the boatman
 10-Marco: yes,.. the boatman
 because.. he practically blackmailed her
 because to take her on the other side for all her belongings,
 is just too much in my opinion..
 11-Mario: to me she shouldn't have accepted
 12-Mattia: she was not very clever though,
 if she gives away her house to get to the other side..
 13-Mario: she could have tried another way..
 14-Mattia: or otherwise she should not have gone there
 15-Mario: should have stayed at home
 16-Marco: she could have also asked the wiseman,
 instead of asking him what to do, which means..
 if he will come back,
 bedsides the wiseman.. he didn't tell how to cross the river
 which is asking yes or no,
 besides telling her if there was another way
 she could have asked him what to do,
 if she wanted to go or not..
 17-Simone: logically if this person,...
 if the wiseman already had an idea about this person..about Maria,
 probably this woman, she would have been influenced in a certain way
 to make such decision,
 which probably was not what she expected,
 instead, she could have done it by herself,
 18-Mattia: if she wanted to go to the wiseman
 it meant that she wanted to be conditioned
 otherwise she wouldn't have gone with him,
 she would have decided by herself
 19-Simone: this is also true..

In this sequence, pupils start activating several role functions. In particular speakers engage in elaborating new meanings in critical consideration of their own ideas. This takes place in the expression of opinions, hypotheses and reasons established from an individual perspective, signalled by expressions such as *I know* (move 4), and *to me* (moves 1 and 11). In so doing pupils are able to negotiate their individual point of view in a process of joint activity. This is testified by their elaboration of each others' sentences (move 2, Mattia: *if you go to work*, unfinished; move 3, Mario: *if he was working she should have waited for him*). Through these moves they achieve shared collective perspectives. This means that speakers are able to focus on interpersonal relationships with a shared frame of reference.

At the same time they also disagree with each other, and this yields immediately features of argumentation. These include explicit use of hypotheses, reasons, disagreement as well as agreement, in constructive exchanges based on the elaboration of ideas (moves 13 to 19). These functions are conceived to enhance the development of discourse towards the creation of new meanings. In fact this type of talk leads in the end to the meta-level understanding of the nature of the task, as an activity which can be interpreted in many ways, with many different perspectives (extract 2, move 2).

At a higher semantic level, the strategy predominantly used by this group is that of exploratory talk. This is based on both interpersonal and ideational meanings, leading to generalization and abstract hypotheses. The generic structure is that of argumentation, giving priority to cognitive processes, focused on explicit language, as required by educational reflexive activity. This is clearly evident from Simone's opinion in move 17, starting with an appeal to logic in order to discover reasons, conditions and circumstances affecting the behaviour of Mary and that of the wiseman as agents of the story.

This implies that Simone, like other pupils of his group, has understood the activity as a problem solving one. This requires a goal of action oriented towards the elaboration of differences in points of views, as well as responsiveness to each others' beliefs.

At lexico-grammatical level, pupils' statements analysed in terms of the transitivity system are based on mental and verbal processes. This is shown in Marco's move 16: '*she could have also asked the wiseman.*'; or in move 17 by Simone: '*if the wiseman already had an idea about this person..*', as opposed to the material process given by the narrative structure of the given story.

Pupils of this group are able to re-classify the given text/discourse from a narrative genre into a more abstract argumentative genre typical of educational knowledge.

The role relationship established between pupils is also reflected in the dynamic of the ongoing conversation. From the start, pupils fully participate in the discussion in an active and constructive manner. This competence is based on externalisation of talk but also on the internalization of the instructional function. In fact, from the beginning, speakers do not ask questions to the researcher, but engage in addressing questions to themselves. The intervention of the researcher is requested only for

seeking information, as from the start pupils acknowledge the role of the adult /researcher as provider of basic facts.

The orientation toward discussion that we have noticed in this group is marked also in the manner with which speakers formulate questions and requests for information.

Ways of questioning are important means to understand pupils' semantic orientations towards the task. Different types of investigations reveal how far pupils are acquainted with educational ways of saying in order to acquire information. Moreover pupils' questions have a vital role in indicating the interpersonal function in the clause.

Extract 2: Generic enquiry: information seeking on meta-task knowledge
(Mixed achievement boys)

-
- 1-Marco: Do they say if the story takes place in modern time or?...
- 2-Researcher: no they don't say it...
- 3 -Marco: it's a story which can be seen in many ways..
- 4-Mattia: ... in many ways..
- 5- Marco: I mean it can be seen.. may be one may blame the husband, or one may blame the girl or even the wiseman because he didn't give advice to her or to John, is he John? because first he gets out with her and then he left her. He didn't want her anymore, it's difficult, it's really difficult..
- 6-Researcher: for this reason I want to know your opinions, because everyone can have a different opinion ,which can be equally right.

At the initiating stage of the discourse, Marco poses a question in order to locate the story in time and place. In so doing he presupposes the adult/ researcher to know the answer, even if he poses his question impersonally (*do they say if...*) instead of personally (i.e. *do you know if...*). This may imply that Marco does not conceive the researcher as one with the full state of knowledge, but only as one who is in a position to provide further information about the story. In that case one would expect Marco to pursue this implication by relying on the adult only to some extent, for specific and limited purposes.

In this exchange the researcher provides an answer in terms of an explanatory move to confirm what Marco has already hypothesized, i.e. that the story can be seen in many ways. She does not add any new information, but provides a feed back on the task confirming in some way what Marco and Mattia already know.

After a few exchanges, another speaker in the same group, Simone, asks a question on a meta-level, as illustrated below.

Extract 3: Specific mode of asking: information seeking on educational activity
(Mixed achievement boys)

-
1. *Simone:* ...but why did you call just us?..
2. *Researcher:* not only you, last week I interviewed Another group, at the moment I'm choosing all male pupils of a certain age born in Asciano with parents born here..
3. *Simone:* ah ..yes..
4. *Researcher:* I am interested to know you opinions ..
I am interested in Asciano because I already worked with your teacher on a project and I thought it would be more interesting than Siena. It's a smaller town, people are born here and it's a more homogenous place.
5. *Simone:* I understand..

At this point of the discussion, Simone feels confident to address a specific, personal question to the researcher; this implies that he acknowledges the role of power of the adult in choosing participants pupils. Simone's enquiry does not invoke a cultural convention but he seeks an explanation of the criteria for the choice of his specific group. Simone has perceived the situation as being different from that of the classroom. His question reflects his concern to achieve educational effectiveness. In this effort he poses a clarification question reflecting an exploratory approach towards the task as a whole.

The formula '*do we know..?*' is a signal for instructional discourse to follow, as a result of information giving. In these ways, the role of the adult researcher is limited to giving meta-statement explanations or to providing information. Also the meta-statement by Simone: '*I understand*', reveals that his question was used to gain more knowledge.

These examples show how pupils of mixed achievement groups were knowledge seeking, operating independently from the researcher in establishing individual and collective perspectives on the story.

Mixed achievement girls

In the group of mixed achievement girls, the opening dialogue was very different from that of the mixed achievement boys. Initially, participant speakers produced their own points of view not related to any collective discussions. In fact shared communality was reached only after a while. Through the whole discussion, the role

of the researcher was minimized as girls often sought information by posing and answering the questions between themselves.

Extract 4: Initiating move: individualized knowledge (problem- task goal of action)
(Mixed achievement girls)

Initial researcher probe: We have six people all together: Mary, Paul her husband, John her lover, the boatman and the wiseman. Whom would you blame for Mary's death and why?

- 1- *Carolina:* I think that only Mary is to blame
because, anyhow John (*she meant Paul*) had gone away
and no one obliged Mary to do it
and in any case she could also have objected to it

if she liked John (*Paul*)
or otherwise she should have said: 'You go away,
don't come back because I do not like you'
because I think it is,
otherwise she would not have gone to John nor to..
I made a mistake..
or if she liked him she should have gone with him
because.. in any case John is too clever,
for a start he kept her for a while,
he too should have known from the a start
if he liked. to...Mary
to me Alan is not to blame,
the wiseman was right to tell her
because not a decision which should be made by a wiseman
it was only Mary who had to take it,
and so for the boatman..
also the boatman did not help Mary,
it's not that he told her.. he didn't force her
he only said I will take you across if you,
I underlie *if* you give me all your things,
and also Alan is not to blame
because in any case Mary went to him but she said nothing..
it's not that..
he didn't think she would commit suicide for such..
however, seeing how desperate she was..
her husband went away..
John who first took her in
and then he told her to go away,
the last.. the last hope was Alan
and Alan slams the door in her face,
however if I were Alan
may be I would have given her a bit more hospitality,
I would have talked to her
I would have found her a job
I would have helped her to buy the house again..
2-*Francesca:* but.. to me... yes, Mary is to blame,
but also John is to blame because in any case..
if a married man leaves his wife to go to work abroad
and yes, in a family there are many expenses
but in any case they were only two,
the money he would bring home would have been enough.
-

In her initial move, Carolina expresses her point of view by discussing all agents in her evaluation of the story. In so doing it appears that she is enacting the ritual of the 'recitation script'; this is revealed by her answering the researcher's initial prompt by trying to display all her knowledge in one go. At the same time she asserts her opinion by making direct questions and answers without any collaborative exchange with others.

This process is characterised by stressing her own perspective as an agent of her own discourse. She starts with: *I think* (move 1), repeated in move 8 and again she says *to me* (move 16), to stress her personal view.

Despite the length of her intervention, the level of her evaluation is based on meanings pre-given in the text, articulated in hypotheses and rationales which do not go beyond the given facts. Her opinions were not produced after critical joint exchanges with other speakers who might have challenged her point of view, providing new hypothesis and alternative outcomes for the story. Caroline concludes by taking on Alan's perspective by saying: *if I were Alan*, etc. in the last move of her initial intervention. Her explicit identification with Alan reveals a difficulty in exploring general principles, as she does not draw general inferences from the story. Rather she remains confined to its particular meanings, re-contextualized in a self-presenting and self-revealing, experiential mode expressing her intimate emotions and feelings.

Similarly the following speaker, Francesca, starts by stressing her point of view (*to me*), providing a moral evaluation in terms of right and wrong, referred to the behaviour of the agents. Sara, the third speaker, starts on a similar basis by expressing a moral point of view (*to me*).

It clearly appears that, initially, the mixed achievement girls wanted to express themselves on an individual basis, by addressing their talks to an 'imaginary internalized other', in order to gain power and approval. The 'other' was most probably the adult-researcher interpreted as an evaluative figure. The pattern indicates that speakers have internalized a discursive positioning typical of 'teacher-pupil' interrogation in schooling; it was from this that they began.

Only after several exchanges do the girls start to refer to each other by taking into account their different points of view. This new attitude produces a dialogic enquiry, with shorter moves but more related to each other. It seems, then, that as their conversation progressed, the girls were able to learn a new goal-oriented genre

structure. This raised the level of their semantic orientation integrating their different perspectives (extract 9).

Immigrant boys

In the immigrant boys group, the adult's collaboration in the ZPD is of a different kind from that which we have seen obtaining in the groups so far considered, where the researcher's role was predominantly based on guidance to support speakers in eliciting their meanings within the group. The discourse exchanges between researcher and immigrant boys were based on constant probing of the adult and on her clarification of task goal. This pattern is apparent in the opening exchange.

Extract 5: Initiating exchange: cumulative knowledge (social structure-action goal) (Immigrant boys group)

Initial researcher probe: We have six people all together: Mary, Paul her husband, John her lover, the boatman and the wiseman. Whom would you blame for Mary's death and why?

- 1-Antonio: to me Alan is to blame
 because if he let her in
 may be perhaps he would have avoided her death no?
- 2-Angelo: on the contrary to me Mary is to blame
- 3-Luigi: to me is also Mary really
- 4-Angelo: because instead of her going to John
 she should have stayed at home
- 5-Luigi: exactly
- 6-Antonio: and she should have waited..
- 7-Angelo : she should have waited for her husband
- 8- Luigi: to me it's also Mary
- 9-Antonio: the boatman has been the most clever of all
 because he took their money and he kept silence
- 10-Luigi: to me it's also Mary
 as she had to remain at home, Mary

(They look at researcher whispering something)

- 11-Researcher: you have to discuss it together I will say nothing
 do you all agree it's Mary?
- 12- *(all together)* : yes

Antonio makes the first move but his opinion has not been accepted by others. As the group discussion proceeds, the exchanges are characterized by a communality of ideas, with an uncritical building on common values. This is also due to pupils' submissive attitude to the adult, a factor which made them less confident than the previous group in expressing personal judgements and ideas for group scrutiny. In

consequence, the speakers' initial approach to the discussion is one based on group identification, reflected in shared agreement concerning each other's opinions.

The initial semantic exchanges of this group provide a key for interpreting pupils' reading of the task. Later in their discussion, their disputes increased but their interaction never reached the handling of decontextualized meanings, beyond the given facts of the story.

Rural boys

Where the meanings of the immigrant boys seem bounded by their lack of confidence and adoption of group values, adult guidance for the rural boys predominantly reflects the pupils' difficulty in taking up the task. This is illustrated in the rural boys' initial exchange.

Extract 6: Initiating exchanges: procedural and cumulative knowledge (social structure action-goal) (Rural boys group)

Initial researcher probe: We have six people all together: Mary, Paul her husband, John her lover, the boatman and the wiseman. Whom would you blame for Mary's death and why?

- 1-Francesco: how did the story go?
 where has Mary gone?
2-Researcher repeats the whole story
3-Yuri: it's a desperate story..
4-Francesco: (unclear)
5-Researcher: I cannot hear your voice...
6-Francesco: nobody is to blame,
 she entered into the situation by herself..
7-Yuri: she liked so many boys
 and in the end she had no one..
 Silence
 Laugh
 Silence
8-Martino: she could have stayed at home
9-Francesco: the cleverest thing..
10-Martino: if she had stayed at home it would have been better
11-Researcher: but she felt lonely..
12-Martino: should have bought a dog..
13-Researcher: that is a good idea
14-Yuri: she was all right to go away from home..
15-Francesco: but not to sell everything
16-Researcher: was she wrong to sell her house?
17-Francesco: yes, if she was sure to be taken in.
 if she had remained in the other house..
 she didn't do anything wrong but..
18-Yuri: in this way she had lost everything,
 she also lost her life..
19-Researcher: and her husband?

20-Yuri: the husband, if he was earning more
 he could have had a different schedule,
 he could have helped his wife..
 21-Martino: but if he was earning more
 he would have done all right
 22-Francesco: and he had remained by himself
 23-Martin: he could have taken her too..
 Silence
 24-Researcher: if they had no money may be he could not take her with him
 .. and Alan who didn't want to let her in?
 25-Yuri: he was all right
 26-Francesco: he was right laugh
 27-Researcher: why?
 28-Martino: why? Was he a toy?
 29-Researcher: and John?
 30-Yuri: he was right

Initially, boys of this group ask the researcher to repeat the story a second time. This indicates that they did not understand what it was required by the task or that they considered it as a routinized activity to which they did not pay enough attention.

In either case, it is clear that the situation is interpreted by the rural boys as an ambiguous one. In fact their pupils' discussion is based in an atmosphere of laughs, giggles and whispering between peers. They often pose the question '*why?*' to the adult in an assumptive way (i.e. Martin: *was he a toy?*, move 28) where the answer is obvious and unnecessary. These are typical expressions of everyday discourse, indicating a shared mental habit between the group's participants, based on a common system of beliefs and feelings (Hasan 2005: 203-204).

The reduced formality of the setting masked implicit relations of power and control on the part of the adult/researcher. This created an initial confusion which lead Yuri to say '*it's a desperate story*', a statement whose meaning may signify that he was implicitly rejecting the task. Also Martino's proposal (move 12) that Mary should have a dog was said as a provocative joke which the researcher did not pick up.

As it appears, pupils of this group found the story task irrelevant, a factor which reinforced the group communalized identification. This resulted in orientation towards context-bound meanings and everyday type of knowledge. At the same time, the researcher was continuously probing speakers and this resulted in the classical IRF structure of discourse, typical of school instruction within the classroom.

Given the irrelevance of the task for this group of pupils, it would be important to find out if their orientation to the educational setting could be changed under

different contextual circumstances (i.e. change of topic, change of addressee, change of context), and if so to what extent.

7.3.2 Interpersonal meanings: responding exchanges (adult/pupils, pupils/pupils)

This section represents a further step in our enquiry, attempting to illustrate pupils' abilities in achieving inter-subjectivity and sustaining their discussion. The examples that follow will show pupils' expanded meanings during the flow of their conversation. In particular the meanings produced within these sequences may be considered stages in a developmental process in pupils' further understanding of their collective task.

Our focus will be on the progressive cycles in the discourse, seeking to understand which moves realize progression within the sequential structure of conversation. This process is conceived to be a result from learning in the ZPD.

The examples will illustrate the group discussions and their responding exchanges, within the sequence of their discourse. They pick up group discussion after several interactions, when pupils have established some discourse rules and have negotiated different types of goals of actions during their discussions.

We begin with an extract from the mixed achievement boys group. It is interesting to compare this extract, with its similar reference to '*buying a dog*' with that from the rural boys group (extract 6) considered earlier.

Extract 7: Responding exchanges: exploratory knowledge (problem solving action-goal) (Mixed achievement boys)

-
- 1-Mattia: was she faithful?
2-Simone: well, for example, If I love one person for a while
I wouldn't get fed up with her and go to another person
or I would not be coherent..
3-Marco: well I would like to see what you would do
I mean in an isolated house in the middle of a wood
with no one, really no one who would stay with her,
what would you do? What would you do?
one can die of loneliness..
4-Mario: she should have bought a dog.
5-Marco: eh yes..
6- Researcher: she should have bought a dog'
7 Mario: no I was kidding...
8- Researcher: oh she should have bought a dog!
9- Mario: to keep her company
10-Marco: but it's not right, may be one can resist for one or two months
but then you start getting bored
and begin living life as a hermit!.

The discussion swings between experiential and ideational meanings as Simone explicitly mentions his personal values, objectively validated (Simone move 2: *If I love a person...I wouldn't be coherent*). This point of view is rejected by Marco who makes appeals to emphatic feelings in order to advance a different perspective (move 3: *I would like to see you what you would do*).

Mario provides a third possibility (moves 4 and 7) but he is aware of making a joke when he says: '*she should have bought a dog*'; most probably he knows that the discussion should be kept at a different level. In fact, he further qualifies his proposal by adding: '*to keep her company*', a statement which makes his intervention relevant to the situation. Nevertheless Marco objects by disagreeing with him and in so doing he produces a general principle leading to decontextualized knowledge. This exchange clearly illustrates that disagreement can be a necessary step to mediate ideational meanings; however it must be based on speakers' ability to contrast each other's utterances, in order to provide a rationale in terms of a well formed linguistic argument. This is a double encoding in the discourse, as it links interpersonal and ideational meanings leading to exploratory strategies and to negotiation of meanings, in a manner typical of an argumentative genre.

Verbal features of responding moves within the mixed achievement girls group are significant for indicating development from their initial interchange. During the course of their discussion girls did not challenge openly each other's proposals. Instead they continued to develop the same theme (i.e. loneliness and poverty), by expanding each other's moves. In this effort, they moved from their initial individualized discussion towards a joint enquiry. This is witnessed by their semantic focus on a higher level of the discussion, leading to well formed hypotheses and rationales. This shows that a developmental shift has occurred after some exchanges and marks their learning to discuss together as a group.

Extract 8: Responding exchanges: exploratory knowledge (problem solving action-goal)

(Mixed achievement girls)

- 1-Francesca: if he leaves her without money what will she do?
 either she dies because of starvation.
 she kills herself or she goes with someone else..
 there are three things..
.. another one who works and can bring her some money at home
 because he hasn't,

- there aren't other ways out, what will she do?
 ... for me she is to blame because she shouldn't have gone to those two
 because in any case one should try to survive by oneself
 may be you could try to find a job,
 one could have tried to find a small job..
- 2-Carolina: after all what Mary has done was justifiable
 it's true she should have remained there
 but you can imagine the type of life..
 to be alone, not to have anyone who loves you..
- 3-Francesca: nobody who loves you
 but it could also be a friend,
 mean in any case she had a husband,
 he wasn't there however..
 but a friend, I mean I believe that also a friend could help i
 I do not know if you can understand me..
- 4- Carolina: she also is clever..
 she married Paul and she likes John eh,
 you should have thought a bit before getting married
 because it means that if she thinks of John
 she wouldn't truly and deeply love Paul..
- 5-Sara: also Mary I mean before marrying she also wanted Alan..
- 6-Carolina: she goes with anybody..
- 7-Fancesca: no Alan has been her last chance,
 she had remembered he has been her last chance..
-

In this example, inter-subjectivity is clearly expressed in the mood options of speakers' utterances. Carolina (move 2) starts by saying: *you can imagine what type of life...'*. Here not only does she clearly address herself to others but she also introduces a mental process which is taken up by Francesca. She continues on the same line, providing a new alternative element to reach a solution,(i.e. to find a friend, concluding with a statement such as: *I do not know if you can understand me*).

These themes have been taken up and further elaborated by other speakers and the discussion proceeded in elaborating relations of love- loneliness -faithfulness. In this discussion the idea that Mary could find a job to support herself, proposed by Francesca (move 1: *one could have tried to find a small job*), has not been further elaborated by the rest of the group. As a matter of fact girls' topics of discussion focused more on affective-emotional values than material-economical ones.

Girls start to activate a dialogic enquiry leading to interpersonal and experiential meanings. These are expressed in their mood choices, realized in mental processes, raising the level of discourse to formulate new hypothesis and general principles. The examples above illustrate that the use of mental processes leads to explicitly exploring internal states of characters (i.e. Carolina's move 1: *you can imagine what kind of life.'*) so construing the possibility to project and to explore further meanings.

In the immigrant boys group, after the initial researcher's probing noticed earlier, Luigi produces a clarification move, with a meta-statement about the task (move 7).

Extract 9: Responding exchanges: meta-task knowledge

(Immigrant boys group)

-
- 1- *Angelo*: Mary was to blame but perhaps,
on the other hand, if she fel lonely..
2-*Antonio*: or her husband could have taken her with him
3- *Angelo*: eh. he could have taken her with him..
in this case also her husband was to blame
because he didn't' take her with him
it's all mixed up...
4- *Researcher*: yes it is not easy to make a decision
everybody can say what he thinks there is not a right answer.
5 *Researcher*: so in your opinion if a husband goes away at work
the wife has to remain at home?
6- *Angelo*: yes may be before her husband had to go away to work
she could have called (*unfinished*) as before may be if she had called some
friend to stay with her.. suggest
7-*Luigi*: yes, but if the text does not mention it..
8-*Angelo*: eh but she could have called some friend no??
9-*Luigi*: but if the text does not mention it..
10-*Researcher*: do you agree?
11-*Luigi*: first Mary is to blame
-

As is apparent, the researcher's move (4) tries to advance the discourse to an hypothetical mode. However, Luigi (move 7) with his statement: '*the text does not mention it*' stresses the maintenance of boundaries within the given constraints of the original story. He insists that the discussion must remain confined within the domain of the given facts. Re-contextualizing the story events was not envisaged by the genres of these pupils, strongly based on the perception of power and control on the part of the adult/researcher. In fact this group did not reach any decontextualized knowledge, as speakers produced only cumulative and disputational strategies.

We turn now to a last example of responding exchange, from rural boys group.

Extract 10: Responding exchanges (context- bound knowledge)

(Rural boys group)

-
- 1-*Researcher* :... and the boatman?
2-*Francesco*: the boatman was the cleverest of all..
 Laugh
3- *Francesco*: the wiseman remained silent..
4-*Yuri*: the boatman is the only one who earned something, he has taken everything...
5-*Martino*: .. the fox..
 Laugh
6-*Francesco*: the wiseman remained silent, so..
7-*Martino*: ... but if he was a wiseman he could have said something,
 otherwise what sort of wiseman is he?
8-*Francesco*: ..but he was already old and he might die too..
 Laugh
9-*Researcher*: so?..
10-*Yuri*: this story is a disaster!
 and the husband when he comes back, what does he do?
 she is not there anymore...
11-*Martino*: is there a follow up?
12-*Researcher*: no, there is no follow up
13-*Martino*: then it had to go that way
14-*Yuri*: not precisely..
15-*Francesco*: if she got mixed up by herself..
16-*Martino*: well, if her husband would have stayed at home..
17-*Yuri*: may be he should have had a different schedule, the husband..
 they should have tried to make a compromise
18-*Francesco*: she is to blame
-

Here, the discussion is based on given meanings of the story. The whole conversation proceeds with laughs and metaphors (i.e. Martino in move 5: *the fox*) and with taking for granted the outcome of the story. When Martino asks if there is a follow up (move 11) and the answer is: *No*, he concludes that *it had to go that way* (move 13). The possibility of making a different hypothesis never crosses his mind, while Yuri, the more capable peer, had envisaged such possibility. However his attempt to give alternatives was soon blocked by Francesco who closed the discussion down by saying: *she is to blame*. (move 18).

A further comment is necessary with respect to immigrant and rural boys groups.

The selected examples concerning those groups are shorter than those referring to mixed achievement groups. Besides, the selected extracts do not fully illustrate how immigrant and rural boys engage cooperatively in their discussion. As it appears from the nature of their discourse exchanges, these pupils do not engage in their joint task in a more involving and constructive way. That being the case, the groups'

typology may be considered through the short examples extracted from their discussions; in fact other sequences do not differ considerably in terms of pupils' meaning productions within discourse.

Such a finding opens up a series of questions such as: Is it that pupils do not activate their linguistic functions (in particular the interpersonal one as a specialized mode of interaction giving rise to ideational meanings) to be elicited in the task context of the story? Or, is it rather that they recognize the contextual task requirements but they did not have the words to engage in relevant speeches and thoughts? Whatever is the case, it appears that the rural boys were totally unwilling to engage in the task while the immigrant groups did so, but remained deliberately confined within the framework of the given story.

Both situations give grounds for the hypothesis mentioned earlier that not everybody has fully access to all types of semantic styles as people have specific tool kit discourse repertoire.

Finally, we may note that in their concluding exchanges all pupils, within each group, reach consensus on whom to blame for Mary's death. However, the manner and the means, in reaching this consensus, in the speaking and thinking of the different groups, were highly diversified. Such diversity suggests the presence of semantic variations differentiating the approach of different groups of pupils to the oral task.

7.3.3 Ideational and textual meanings in higher mental functions

Decontextualized meanings within strategies

In order to assess semiotic strategies leading to decontextualized meanings and to higher mental functions, conditionals, expressed through cohesive ties (*if... then*), are important linguistic devices. They connect meaning within moves, marking logical inferences in the content expressed by pupils during their discussions.

Conditional statements such as *if... then* clauses are considered here to be important semantic patterns of thematic formation, as **CONDITION** and **CONSEQUENCES** constitute semantic relations with a high semantic potential to structure meanings above the here and now situations. Furthermore the making of hypotheses, realizing suggestions or proposals at the interpersonal level, constitutes semantic resources to explore and intervene in the experiential environment. This style can be conceived as precursor of exploratory activity (Thibault 2004: 210).

From the point of view of logical inference (ideational meanings), the evaluative views of both the rural boys and the immigrant boys are based on the given conditions of the story, mainly focusing on processes of ‘doing’.

Given that the discussion did not get going, as was the case for the rural boys, and that it did not produce shared relevant ideas, as for the immigrant boys, conditionals and their modes of functioning are relevant linguistic features to be explored in the discourse of these two groups.

For these groups, while context-bound meanings were inevitable points of departure for the discussion, it did not follow that pupils’ consequential deductions had to be associated with facts of immediate concern. Nevertheless, pupils within rural and immigrant groups produced concrete meanings, context-bound, focused on material processes, seldom realizing new possibilities and new hypotheses. This implies that pupils focused their discussions on what was given without producing new elements or possible situations in order to achieve a different outcome to the story. In this way, the objects of their evaluation were the facts themselves, embedded in the practical experience of the characters of the story.

It follows that pupils’ evaluations of characters of the story led to narrative or descriptive modes of text/discourse with oppositional or adversative options, but were always tied to the ‘here and now’ situation. This also meant that boys of rural and immigrant groups did not exploit their linguistic potential to formulate abstractions expressed by means of words. For those groups, the relevance of the task was linked to the discussion of the task as given, and not as a problem solving situation.

Extract 11: Cumulative strategy (Rural boys group)

Speaker	Move	Condition	Consequence
<i>Yuri</i>	suggest	the husband, if he was earnin more	he could have had a different schedule. he could have helped his
	extend		wife
<i>Martino</i>	rectify	.. but if he was earning more	he would have done all right
<i>Francesco</i>	extend	..and he had remained by himself	

In this example, conditional statements *if.. then* provide a reversal situation with respect to the one stated in the story. This was based on context bound meanings but it could still offer new possibilities for further elaboration. Instead the move of Martino does not add any more information and Francesco's intervention re-states the given facts, confirming the initial given situation.

Meanwhile, the exchange between Angelo, Antonio and Luigi in the group of immigrant boys, in the following extract, indicates how the potential of conditional speculation about possibilities can be blocked and limited by the manner in which they are taken up within the flow of discourse.

Extract 12: Disputational strategy(context-bound meanings)
(Immigrant boys group)

Speaker	Move	Condition	Consequence
Antonio	suggest	or also if he had to go to work abroad	Mary could have waited for him..
Angelo	suggest	may be before her husband had to go to work	she could have called.. (unfinished)
	suggest	may be if she had called some friends to stay with her ..	
Luigi	rectify / meta-task	yes, but if the text does not mention it..	
Angelo	disagree / repeat	.but he could have called some friends no??	
Luigi	repeat/meta-task	but if the text does not mention it!	

Here, in the immigrant boys group, Angelo makes some new suggestions i.e. *if she had called a friend*. Luigi reminds him that such a possibility was not stated in the original text. In this way he forbids his mate from imagining new alternative and new solutions as has to limit himself to the given condition of the original facts. This attitude leads to text bound meanings and to the closure of the hypothetical discussion. In fact Angelo is not in the position to produce a *counter argument* with his mate.

In contrast, mixed achievement groups (boys and girls) realize their hypotheses by making explicit reference to new possibilities and new events, leading to restructuring the meaning or the situational outcomes to such events. This is mainly achieved through mental processes and relational processes in the transitivity system, correlating to internal states of characters, to their motives, intentions, feelings and beliefs (extract 12 and 13).

Extract 13: Exploratory strategy (decontextualized meanings) (Mixed achievement boys)

Speaker	Move	Condition	Consequences
<i>Simone</i>	suggest suggest	logically of this person.. if the wiseman already had an idea about this person..about Maria	probably this woman would have been influenced in a certain way
	elaborate		
<i>Mario</i>	counter A	if she wanted to go to the wiseman	it meant that she wanted to be conditioned ..

Simone and Mario discuss the particular events of the story in order to provide a testable hypothesis based on rational grounds, as objectified phenomena accessible also to others. Their arguments are logically constructed, providing explicit justifications, which can be counter argued and re-validated if their argument is rejected. This is the basic language of educational knowledge based on opinions and arguments linked with explicit rationales which can be critically challenged, raising the semantic options of the collective discussion.

Similarly, the mixed achievement girls demonstrate the potential for using conditionals as part of an exploratory argument.

Extract 14: Exploratory strategy (decontextualized move) (Mixed achievement girl)

Speaker	Move	Condition	Consequence
<i>Carolina:</i>	opinion	but after all I understand why Mary..	I think when a person reaches a level of unhappiness she would do anything to get out of it and so she would have thought about it before
	suggest	if she felt so lonely..	
	extend		

Extract 14 shows how the girls' formulation general considerations in order to explore the internal states of characters and to speculate about situations which are not immediately accessible. Carolina exploits a specific use of language which mediates those functions, leading to the elaboration of principles underlying the appearance of facts and agents' immediate material conditions. In this way her linguistic system is oriented towards 'explaining the doing' in terms of underlying principles (Hasan 2005:167). It is a way of meaning linked to a reflexive activity implying a goal orientation towards problem solving. As it appears the social activity has a crucial role in the formulation of utterances of text/discourse. Elements of the situation are semiotically related to words as well as to the structure of utterances and exchanges in pupils' discourse.

Summary

Section I of this chapter has explored the data recorded from the discussions amongst different groups of pupils, qualitatively, by means of examples.

These examples have indicated different ways of constructing knowledge by pupils working together in joint dialogic exchanges.

The conversational sequences reported from extracts have shown that the process of joint construction of knowledge was realized differently by different groups of speakers. Such differences were based on language used as a tool, as a social mode of thinking and understanding.

Use of language in mixed achievement groups was directed to elicit knowledge through an argumentative mode. Boys in this group were able to produce argumentation straight away, while girls achieved it after a cycle of learning by working together in the ZPD.

The immigrant boys' discussion was based on given factual information, guiding their discussion towards a descriptive mode. The rural boys group based their discussion on a narrative mode, with little elaboration of the initially given facts of the story.

In all groups, the researcher's intervention was defined by the conditions through which pupils interacted with each other. These were based on pupils' progressing in the ZPD.

7.4 Selected discourse features: a quantitative analysis

To complement the qualitative analysis of pupils' handling of discussion, a quantitative analysis was conducted of selected features of the discourse in the different groupings. As in the qualitative analysis, the aims were in part to comparative: to explore differences in the discourse of the groups which might be significant for learning. It was hoped that this analysis of specific features might extend and also support the insights from the qualitative reading, reported earlier. In addition it was conceived that a more sustained attention to linguistic features would support the recognition that multiple levels of language as a system are held together in discourse processes.

In this section the unit of analysis are moves and their typology.

These are defined in terms of macro categories of discourse structure (IRF) and in terms of the specialized role functions performed by pupils in the discussion.

Amongst these features , the following were selected:

- i) Types of moves between speakers within structure of discourse. Drawing on the well established IRF categorisation of classroom discourse, it was felt that proportions within these categories, for the adult as for pupils, might be indicative of the extent to which the potential of discussion had been taken over and set free from conventional classroom constraints.
- ii) Role functions and inter-subjectivity within moves. Comparison across the groups, of the adoption of different moves and role functions, as well as semiotic strategies might further illuminate differences in inter-subjectivity between pupils, significant for their learning.
- iii) Textual meanings: analysis of cohesive ties within strategies might show selections made and tell us more about the semiotic strategies employed by different groups

For ease of reading, each of the above points of entry in the analysis of different features will be described in terms of:

- a) Hypotheses
- b) Results
- c) Summary

7.4.1 Types of moves among speakers

This section illustrates results concerning the typology of moves referring to the structure of the discourse. These are codified in terms of macro categories of discourse structure such as *initiating, responding, follow up* (Sinclair and Coulthard 1975).

It is conceived that these structures will be significant in the possibilities of producing relevant role functions such as opinion, answering, responding, elaborating etc. in the content of the discussion. As unit of analysis are moves and their structural typology, figures and their percentages refer to moves of speakers taken out of the totality of moves within discourse.

Table 24 and 24.1 Typology of speakers' moves within discourse structure

RESEARCHER TO PUPILS

Mixed ach. boys GROUP 1	%	Mixed ach.girls GROUP 2	%	Immigr. Boys GROUP 3	%	Rural boys GROUP 4	%
Initiate	13 50%	---		21 81%		19 76%	
Respond	11 42%	5 100%		4 15%		5 20%	
Follow up	2 8%	---		1 4%		1 4%	
Total	26 100%	5 100%		26 100%		25 100%	

PUPIL TO PUPIL

Mixed ach. boys GROUP 1	%	Mixed ach.girls GROUP 2	%	Immigr. Boys GROUP 3	%	Rural boys GROUP 4	%
Initiate	3 2%	4 5,5%		6 9%		2 2%	
Respond	159 97%	62 90%		56 80%		105 95%	
Follow up	1 1%	3 4.5%		8 11%		3 3%	
Total	163 100%	69 100%		70 100%		110 100%	

Although no statistical test was carried out, it is still worthwhile to point out some of the differences found between groups.

INITIATING MOVES

Researcher

In all groups, initiating moves were predominantly produced by the researcher.

The exception was the group of mixed achievement girls (group 2) where no initiating moves were produced by the researcher. The higher percentage of initiating moves was produced within the immigrant boys group, (group 3), followed by the rural group (group 4).

Pupils

Among all groups, the higher percentage of initiating moves was produced by the immigrant boys (group 3), followed by the mixed achievement girls group (group 2).

RESPONDING MOVES

Researcher

The percentage of this moves were similar across all groups. However in the mixed achievement girls (100%) and in rural boys group (20%) it was slightly higher while in the immigrant boys group (group 3) it was lower than in other groups (15%).

Pupils

There are no substantial differences in the productions of responding moves among all groups.

The highest percentage was found in the mixed achievement boys group (group 1) and the lowest among the immigrant boys group (group 3).

FOLLOW UP MOVES

Researcher

In all groups this type of moves recorded very low percentages.

Pupils

The immigrant boys group (group 3) produced the highest percentage of these moves (11%), followed by the mixed achievement girls group (group 2) (4,5%).

Discussion

Findings confirmed our expectations. The researcher's moves production was higher with immigrant and rural boys groups and this consisted mainly in the production of initiating moves. In contrast, within mixed achievement groups, the researcher's

moves production was much lower in the boys group. In the mixed achievement girls the researcher's initiating moves were totally absent. In these groups, the researcher's production fell into the responding move categories group.

These findings provide support for the initial hypothesis that mixed achievement groups on the whole can initiate the discussion without the probing of the adult. In these groups, the researcher's role was often the same as the one of other speakers.

Finally, in the immigrant boys group there was the highest ratio of initiating and follow up moves, when compared to other groups. This finding may point to the fact that there was more listening among members of this group.

Summary

The production of researcher's moves was higher within immigrant and rural boys groups and this consisted mainly in the initiating move category.

In the mixed achievement groups (boys and girls), the researcher's moves consisted mainly in the responding category and her role was similar to other members of the group.

Finally, among the immigrant boys group there was a higher ratio of follow up moves. This may signify a higher degree of acceptance and listening among speakers.

7.4.2 Inter-subjectivity: moves and strategies

This section aims to investigate the degree of inter-subjectivity among speakers within groups. This will be realized in terms of types of moves with relevant role functions leading to different interpersonal semiotic strategies within each group. Role functions is a category used in connection to semantic style variations, and it is more abstract than function used with respect to register (Hasan 2005:186) (chapter V, Coding of discourse).

In discourse it refers to the type of semantic functions linked to social interaction available to members of a community. They will vary according to whether role is communalized or individuated.

Types of moves and their role functions are expected to have a different meaning potential to elicit progression of the discourse.

Moves exchanged between researcher and pupils were expected to vary very little among groups. For this reason I shall only refer to moves which have proved to

be relevant in enhancing the discussion between pupils. As shown from the qualitative analysis development in discourse was achieved through the use of moves such as *elaborating*, *disagreeing*, *counter argument*, and *extending*; these role functions were more likely to elicit argumentation in the discussion, leading to inter-subjectivity within pupils.

i) Relevant role functions within moves and strategies

Moves in discourse are considered unit of discourse as are the smallest contributions of one speaker to an interactive exchange. Each move forms an independent clause serving specific linguistic functions which are connected by *exchanges* between speakers within the dialogic interaction. Different role functions within moves give rise to different focus of meaning in the discourse defined in terms of communalized and individuated.

Expectations

Our expectations in terms of realization of relevant role functions within moves are as follows.

Between groups comparisons

Expectations and hypothesis about move functions were related to pupils' overall orientation towards the semantic features of the discourse activity.

Even if we cannot compare statistically the two mixed achievement groups with rural and immigrant because of their different type and number composition, yet we expect differences between them.

Mixed achievement groups are expected to produce a greater amount of moves than immigrant and rural groups. In particular it is hypothesized that their moves would be in high proportion of *extending*, *elaborating* and *counter argument* types, playing an eliciting role within the group.

It is also expected that in both mixed achievement groups (boys and girls) there would be a fairly equal number of *answering* and *elaborating* moves, *initiating* and *responding* ones. Also the amount of *accepting* or *checking* moves is expected to be low. Immigrant and rural boys' groups are expected to produce a greater number of *answering*, *accepting* and *checking* moves. Among those groups the amount of *elaborate/ extend*, *justify/request/ explain* and *disagreeing* are expected to be low.

From a sociocultural perspective, different semantic choices in terms of role functions within moves were considered important markers for interpreting discourse variations between pupils with a different background.

Within groups comparisons

No differences within groups were expected within groups comparisons.

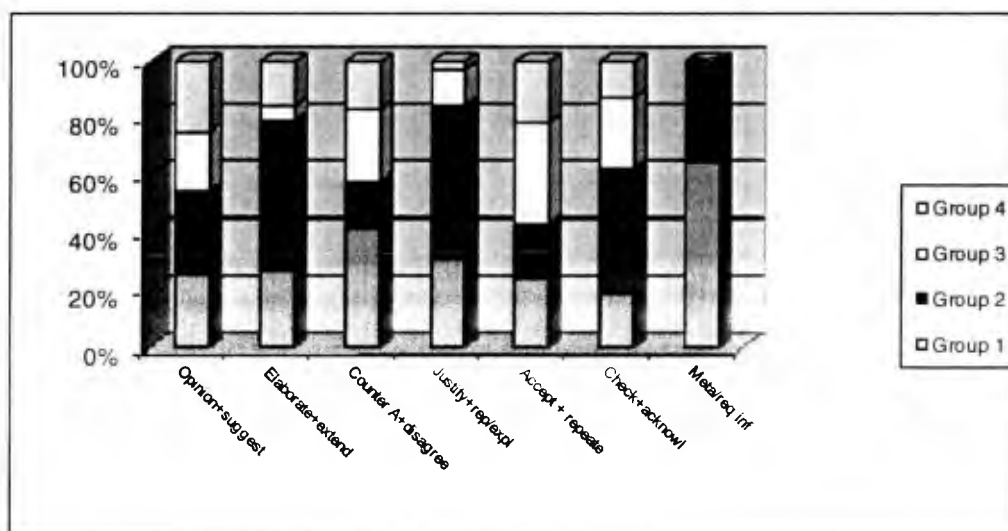
Table 25 shows number of occurrences of relevant role functions within moves produced by pupils in their discussion groups.

Table 25. Relevant role functions within groups of pupils

RELEVANT ROLE FUNCTIONS	GROUP 1 Mixed ach. Boys	GROUP 2 Mixed ach. girls	GROUP 3 Immigr. Boys	GROUP 4 Rural Boys
Opinion+suggest	73	82	58	69
Elaborate+extend	56	107	11	32
Counter + disagree	15	6	9	6
Justify+ req/expl	20	35	8	2
Accept+ repeat	9	7	13	8
Check+acknowl	3	7	4	2
Meta-Req/inf	13		-	
TOTAL	189	144	113	119

Percentages calculated on total of all groups on each role function are shown in table 26.

Table 26. Percentages of relevant role functions within groups of pupils



Legenda: Group 1=Mix ach boys ;Group 2= Mix ach. girls; Group 3= Im. boys ;Group 4=Rur. boys

Results show differences between groups concerning relevant functions of moves between groups. These findings do not concern all utterances produced by speakers in their discussion but only a selection of moves conceived relevant for the development of discourse.

In the mixed achievement groups, the amount of *elaborate/extend* moves is the highest, when compared with other groups. Similarly the ratio of *justify/request explanation* and *opinion/suggest* is higher than in other groups.

In the mixed achievement boys' group, all moves are fairly homogeneously distributed; however the *counter argument* and the *meta/request information* moves are far more numerous than similar moves of other groups.

Among the immigrant boys' group, the *accept/repeat* moves are more numerous than in other groups.

A Chi2 comparison, applied to the data, shows a significant difference between groups.

Comparison of mixed achievement group 1 and 2 show significant differences at 16,8%

Comparisons between immigrant and rural groups are significant at 12,5%

ii) Semiotic strategies

Different strategies within the discourse sequence were conceived to be discursive devices to provide different means for knowledge building. These types of knowledge stemmed from discourse meanings realizing in different modes of thinking; these are reflected within sequences of discourse giving rise to strategies distinguished into cumulative, disputational and exploratory

Expectations

Differences in the production of strategies are expected within and between groups. Among mixed achievement groups, it is expected that there would be a fairly equal number of moves distributed within their discourses. In particular the mixed achievement boys are expected to produce more exploratory strategies with *counter argument* and *disagreement* moves, as this group is expected to lead to

argumentative talks than girls with respect to the task. In this group, *acknowledgment* and *checking* moves are expected to be low.

Mixed achievement girls are expected to produce more disputational strategies than boys, realized with *elaborate/extend* moves, *suggest/opinion* but also with *check/acknowledge* moves.

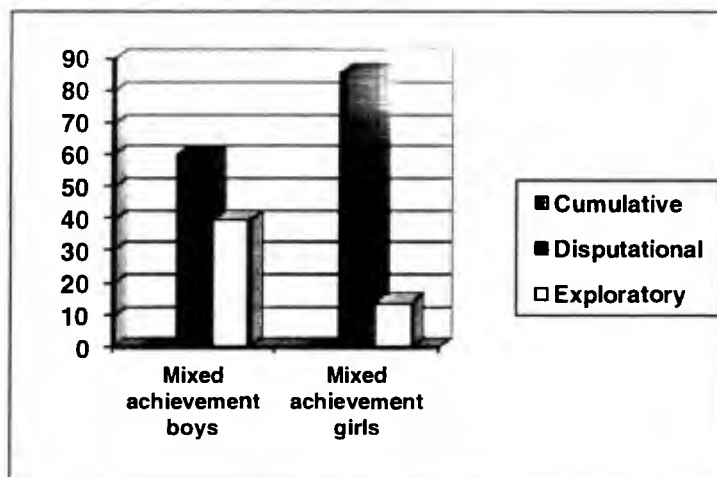
Rural and immigrant boys groups are expected to realize more cumulative strategies realized with *accept/repeat* moves and to a lesser degree of disputational strategies with *counter argument*, *request/information* and *disagreement* move.

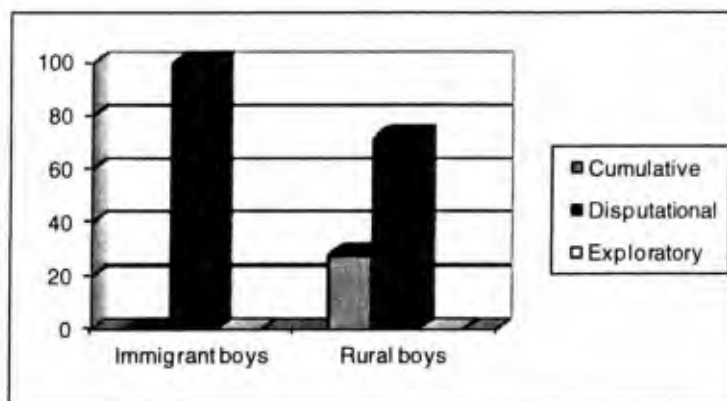
Table 27. Employment of semiotic strategies within groups

STRATEGIES	Mixed ach. Boys GROUP 1	Mixed ach.girls GROUP 2	Immigr. Boys GROUP 3	Rural Boys GROUP 4
Cumulative	--	--	--	7
Disputational	12	19	10	18
Exploratory	8	3	--	--
TOTAL	20	22	10	25

Tables 28 and 28.1 below show employment of semiotic strategies within each group.

Table 28 and 28.1 Percentages of semiotic strategies within groups





Discussion

Results confirmed our expectations.

Mixed achievement groups realized more disputational and exploratory strategies. Among those groups, girls produced more disputational strategies than boys, while the latter produced more exploratory strategies than girls.

Among the boys groups, the immigrant group produced only disputational strategies, while rural group produced a greater number of disputational strategies followed by a small number of cumulative strategies. This is the only group which produced cumulative strategies.

As strategy productions were linked to goal directed actions, results suggest that different groups pursued different goals during the discourse activity. More precisely, mixed achievement boys and girls groups realized a goal of action with problem task and problem solving goals.

Immigrant and rural boys groups realized a goal of action oriented towards social structure and problem task. We may suggest that such differences are due to socio-cultural variations in interpreting the given task.

Summary

Mixed achievement groups (boys and girls) realized more disputational and exploratory strategies.

Immigrant and rural groups realized respectively more disputational strategies, and rural boys groups more cumulative and disputational ones. This also suggests that mixed achievement groups realized a goal oriented towards problem task and problem solving while immigrant and rural were oriented towards social structure and problem task goals

7.4.3 Textual meanings: cohesive ties within strategies

Cohesion refers to textual meanings and to the set of resources for constructing logical relations in discourse which transcend grammatical structure (Halliday 1994: 309).

In this study cohesive links express logical meanings within pupils' texts. They reveal different ways of organizing knowledge, signaling continuity of the text with respect to the subject-matter in the unfolding discussion. Sentences, conceived as the highest structural units of text/discourse, are related to each other by cohesive relations, expressed in the grammar by conjunctions. These are not cohesive in themselves, but they express types of meanings presupposing different semantic components in the discourse (Halliday and Hasan 1976). Thus they are indicating the way in which what follows is systematically connected to what had gone before.

Following Halliday and Hasan (1976), we distinguished conjunctive relations as follows:

- i) additive (*and, or*);
- ii) adversative (*but, yet, however*);
- iii) causal (*as, because, hence, thus*);
- iv) conditional (*if then, in consequence*);
- v) temporal (*and, then*).

They represent language resources revealing the textual nature of different semiotic strategies described in the present study.

Expectations

Hypothesis are focusing on the nature of cohesive ties within each strategy. As verbal cohesion reveals ways of thinking realized within the text, differences are expected with respect to textual and ideational functions in the realisation of logico-semantic relationships.

At the textual level, the rural boys group is expected to produce more additive, casual and temporal conjunctions as these are typical markers of the cumulative strategies produced at the interpersonal level.

The immigrant boys group is expected to produce more additive adversative causal and conditional conjunctions, more typical of disputational strategies. Within the mixed achievement groups, boys are expected to produce more causal,

conditional and temporal conjunctions, typical of exploratory strategies. Mixed achievement girls are supposed to produce more additive, adversative and causative strategies, typical of disputational and exploratory strategies as produced within their moves and exchanges.

Employment of cohesion ties in each group is indicated in the table 29 below.

Table 29. Employment of cohesion ties within groups

COHESIVE TIES	GROUP 1 Mixed ach. boys	GROUP 2 Mixed ach.girls	GROUP 3 Immigr. boys	GROUP 4 Rural boys
Additive	23	35	17	7
Adversative	30	45	13	7
Causal	14	46	15	5
Conditional	32	24	8	19
Temporal	18	9	4	9
TOTAL	117	159	57	47

Results of cohesive ties of conjunctions are in accordance with those referring to the production of strategies within each of these group.

Table 29 shows that immigrant boys have produced more additive, adversative and causal conjunctions; rural boys produced a high percentage of conditional, followed by temporal conjunctions.

On the contrary rural boys produced cumulative and disputational strategies where consensus and disagreement being equally distributed. In this groups conditional conjunctive link represent pupils' hypothetical cases on avoidance of the outcome of the story, which they critically discriminated in the absence of argumentation among themselves.

Mixed achievement groups produced a rather equally distributed percentages of all types of conjunction. However boys produced more conditional conjunctions while girls more causal ones. These results are in accordance with their strategies productions as boys produced a high percentage of exploratory strategies expressed through conditional clauses, while girls produced more disputational ones, with a low percentage of exploratory strategies.

7.5 Discussion

Analysis of the data on verbal interactions has shown significant differences between groups in the production of verbal moves. My discussion of these results will focus on the implications of the qualitative and quantitative analyses that have been reported earlier in this chapter. Reviewing these implications, I dwell briefly in what follows on differences in adult/ pupils' talk and in the ways that pupils in different groups interacted with each other. We will consider too the different constructions of educational knowledge and different orientations in discourse, together with the implications for learning and instruction.

7.5.1 Adult/pupil talk

To start with the semiotic relations of the activity as a whole (*field*), the talk between adult and pupils is relevant to understanding how speakers of different groups positioned themselves towards the task. Such positioning oriented their learning goals, often based on different assumptions from the one implied in the task.

As outlined earlier, pupils of mixed achievement groups initiated the discussion without the probing of the adult. In these groups, the researcher's role was considered by the groups as collaborative and not as an evaluative one, as all speakers were similarly engaged in the process of understanding.

In contrast, in the immigrant group, the adult was conceived as in a traditional teaching role, as scrutinizing and assessing their verbal contributions. More precisely, despite the possibilities inherent in the open dialogic enquiry, these pupils conceived the situation as a closed one, where it was not possible to reproduce new communicative possibilities among themselves. In fact they produced a 'recitation script', where the adult-researcher was attributed an evaluative role, typical of school instruction. In this context, pupils limited themselves to answering her questions and produced a type of discussion limited to the given content of the story. This attitude justified the constant probing of the researcher to elicit progression in the discussion, which often needed verbal scaffolding to provide guidance and support.

Finally, the rural boys group treated the adult's contribution as irrelevant, just like the story to be discussed. This fact affected their motivations and inhibited further development of their discussion.

In addition, results obtained through quantifying and comparing linguistic features confirmed the validity of qualitative interpretations by providing data in support of the characteristics of the different groups identified above.

7.5.2 Group differences in dynamic interaction

Group differences in the production of exchanges were indicative of pupils' level of participation in the discourse. A high level of interaction was conceived as a sign of learning activity directed toward appropriating new information, through appropriate strategies utilized in the given communicative context.

In the oral task, the learning goal was that of 'reciprocal learning', or 'dialogic enquiry', whereby pupils learn to express themselves, as the adult is not perceived as an evaluative figure. This leaves pupils cognitive and social space in which they can interact and create their own knowledge (Formisano and Zuccheromaglio, 1987). This process was linked to pupils' different interpretations of the goal of action, resulting in different dialogic interactions within each group.

In the oral task, the dialogic structures and transactions between speakers revealed semantic differences systematically at work across all meta-functions, i.e. interpersonal, ideational, textual. This implies that pupils from different groups were differently attuned to the task- context, providing different types of inter-subjectivity with different semiotic mediations to their dialogic enquiry.

In this respect, social meaning-making, with patterns of connection across functions, presented both the typical ways of construing the discourse of a given community as well as individual aspects of meaning and connections created in terms of their life experiences. These double aspects were realized differently within the groups, with interpersonal functions in the fore-ground to mediate other functions of the discourse.

Pupils interacting together within groups displayed different ground rules for interacting between themselves and with the adult/researcher.

The rural boys group as a whole realized patterns of interaction based on communality, relying on solidarity and shared identities. Within the group, the researcher was perceived as 'the other', an outsider who triggered off the oppositional dynamics of *in-group* versus *out-group*. These dynamics were externalized by the ineffectiveness of the researcher's contribution and by the implicit and often overt opposition towards the task as a whole.

The immigrant boys group realized individual interactions within their group. These were often based on conflicting and dominating patterns among speakers, with a difficulty in reaching consensus among themselves. This attitude did not allow the group to reach inter-subjectivity, as pupils made few attempts to pool their resources together. As a result of such dynamic, pupils perceived the researcher as a strong reference point to provide information on facts and task-procedures. Their interaction with the adult culminated in the typical classroom situation, with an IRF structure of the discourse between pupils and researcher.

By contrast, the mixed achievement groups, in particular the boys' group, created patterns of interaction which were simultaneously individual and collective. In fact they were individually participating in the interaction and communally searching consensus through knowledge. While this process was almost immediate for the boys, girls started the discussion by interacting with implicit conflicts and attitudes of domination. With progression of their discussion this pattern was gradually replaced by a newly achieved communality and consensus among themselves.

In both mixed groups, the adult/researcher's role was that of being integrated in the group's dialogic exchanges. Her role served mainly to focus pupils' attention on facilitating negotiation, in the common interest of consensus building.

In these groups the classical IRF structure was enacted by pupils themselves; inter-subjectivity resulted from their shared actions in developing thoughts, opinions and new ideas.

7.5.3 Knowledge production through verbal interaction: group differences

The recognition of the relevant linguistic features of the activity was a crucial operation, as it activated the ground rules to achieve inter-subjectivity among speakers. The quality of this interaction mediated higher mental function in terms of abstract and decontextualized language.

Recognizing these features allowed pupils to activate specialized patterns of discourse functions. These features were realized through linguistic resources which were capable of enacting and sustaining social relationships (interpersonal function), expressing ideas in the construction of experience (ideational function) and presenting them coherently, constructed as a flow of information (textual meanings).

The possibility of quantifying role functions of relevant moves within group discourses was the prior essential condition enabling the researched to assess the

quality of pupils' interaction. This was also relevant to describing the type of their semiotic strategy originating from them.

Quantitative results revealed that a greater percentage of *opinion*, *extending* and *elaborating*, *justification*, *counter-argument*, and *disagreement* were the relevant discourse features leading to the argumentative genre.

When these types of meanings were produced systematically and cohesively across multiple sequences of the discourse they gave rise to the exploratory strategy, as was the case for mixed achievement groups.

Differences in moves of discourse found between groups were statistically significant. Comparison between mixed achievement groups showed significance at 16,8% level; comparison between immigrant and rural groups showed significance at 12,5% level.

Such findings indicate that between groups there was a high differentiation, but within them homogeneity prevailed. This implies that individual speakers within each group pursued similar goals during the discourse activity, resulting in similar types of verbal actions.

Within groups, interaction allowed collaboration, with no dominant speakers deployed as more competent in the verbalisation of knowledge. The way in which speakers tackled a particular task depended on the type of identity they created as learners, and as members of a group, within specific cultural and historical conditions.

In this respect, group discourse must be viewed also from a socio-cognitive perspective; each understanding of the task is rooted in individual experience, with cultural values and motives located in a particular geographical and historical setting.

In mixed achievement groups, where pupils had a more diversified origins and identities, group's collaboration was raised above group's communality as well as individuality. Speakers were working together towards a collaborative problem solving goal, implying a specialized interaction as required by the activity setting. This led to the production of exploratory strategies.

In the immigrant boys group, the nature of their social relations, both among themselves as well as with the adult, mediated a different type of discourse knowledge, when compared with the mixed achievement groups. Immigrant boys shared similar sociocultural conditions, externalized in a commonly shared wish to

understand the rules for being included in the new culture (within the school and within society at large). Such a situation often required the enactment of assertive behaviour in the expression of speakers' individuality. In school this was devised to gain support and attention from teachers.

The disputational strategy produced by this group arose out of an interaction where conflicting ideas were not resolved linguistically but through individuals attempting to overcome each other by disagreeing and counter asserting.

This type of dialogue, resembling to some extent the one of mixed achievement girls, was a highly individualized one, where conflict and competition came to the fore. This attitude was reflected in the meanings of the discourse which never reached a high level of abstraction typified in higher mental function and decontextualized meanings.

When a speaker of this group, Angelo, attempted to make a new hypothesis (move 6), Luigi indicates that one had to remain confined within the constraints of the given story (extract 9, moves 7 and 9). This attitude reveals that the power and control implicitly inherent in the setting, was perceived by Luigi (the most assertive speaker but not necessarily the most capable one) as one providing boundaries and rules which must not be altered.

Thus the framing of the story was interpreted by Luigi as superimposed from above, and he imposed his own view on the task over the whole group. In this way re-classification of context did not take place, as the semantic orientation of discourse, neither individually nor collectively, did not rise above a higher semantic level. It remained confined within the group's social experience, reducing learning in the Zone of Proximal Development.

Finally, semiotic mediation in the rural boys group was oriented towards the maintenance and reinforcement of the social structure of their own community membership. This factor gave rise to a language orientation typical of close knit peer groups (i.e. jokes, giggles, laughs, metaphors and assumptive answers). Results of the rural boys group, despite the numerous probing of the adult/researcher, were mainly realized across all sequences of their discourse in terms of context-bound meanings, leading to a cumulative strategy. As we have seen earlier, Yuri, the most capable peer in that group, did not activate development within the group dynamic.

As language learning is not a skill that can be enhanced without experience and motivation, the verbal data of the rural group was associated with pupils' negative

perception of the relevance of the task. It is within the arc of what is relevant or irrelevant, known or unknown, signalled by patterns of language use, that cultural differences emerge to the full (Wells 1993: 85). Relevance, in the educational context of the oral discussion, was not associated to the rural boys' reality, as the story did not elicit any particular motivation to engage in the discussion. However other factors merged from this group which need consideration.

From the discussion, it appeared that Yuri had the potentiality to elicit the discussion above the given facts of the story, and to produce decontextualized knowledge (also shown from the results of the written classificatory task in Chap VI). Nevertheless he did not do so, as his despising attitude to the task revealed its irrelevance in his own eyes and voided it of social value.

In the group, Yuri produced several messages and hypotheses which had the potentiality to enhance meaning working in the Zone of Proximal Development (extract 6, move 3; extract 10, moves 17). However, his meta- statements were not further elaborated by his mates, leading to discourse closure in the light of an irrelevant discussion, soon followed by long silences on the part of all speakers. In such a situation the group's communality prevailed over an individual speaker, constituting constraints in Yuri's possibilities to create new meanings and develop new connections in the dynamic of the discussion. Here, rather than inability of speakers to produce meanings relevant to the task, it is the cultural element which orients them towards perceiving the story as irrelevant and without any meaning.

Under such conditions, the task-context did not mediate the specific psychological and linguistic tools required by educational activity. In practice the effect on context designed as an informal one produced a semiotic mediation in the group's verbal activity which *coherently* instantiated a communalized semantic style orientation in pupils' discourse. In fact, speakers chose to inter-act and talk as members of their community, integrated into the practices of doing and saying in their own group. It was this latter dimension that finally provided rural boys with the symbolic resources for deciding what to say and how to speak to whom, and when, *as members of their group*. According to this orientation they realized everyday knowledge and collective experiences based on common values and beliefs. In this situation, the conversational ground rules established solidarity and intimacy between speakers who mutually supported each other over and above the construction of knowledge and understanding.

Results with regard to strategies provided further understanding of pupils' orientation to the task. Quantified data indicated that exploratory strategies were produced only by mixed achievement groups (40% in the boys group and 14% in the girls one), that a disputational strategy was the main characteristic of the immigrant boys' discussions (86%) and that only the rural boys group produced cumulative strategies (28%). These results pointed to the relationship between genres of discourse and the sociocultural and historical background of speakers.

This finding indicates that some groups of the school population have not fully internalized the rules of educational discourse. As a consequence, they are not positioned in the school environment as individual pedagogical subjects, acting and speaking to elicit scientific knowledge.

7.5.4 Goal orientation and culture

The above findings were related to another important issue: that pupils' linguistic outcomes typified in terms of semantic styles and genres were found to be coherently related to their goal orientations towards the tasks, culturally, psychologically and linguistically. This indicates that, within each group, meanings and learning were mediated by the type of interaction functional to the genre of discourse realized by pupils in their discussions.

Such findings address directly the question to the notion of culture, a concept often dissolved in sociolinguistic domains, where cultural units are often defined in terms of intertextuality and interdiscursivity .

In the light of my enquiry it is legitimate to ask: What is culture?' and "In what circumstances is culture produced by participants as a relevant category which empowers or impairs dialogic interpersonal communication?

From a sociocultural perspective, which is also a sociosemiotic one, the focus on mediated verbal action is the dynamic conceptualisation of culture, as conceived by the present research. However this approach should also typify the social conditions which allow sociocultural change, witnessing the presence of learning and development.

In the present study, such conditions were to be found in the mixed composition of the two groups of pupils (mixed achievement boys and girls). Due to the mixed variables of these two groups, differentiated by culture, gender and school achievement, social action was directed to construing the group conceived as a

community of learners and not as a social community of people with similar sociocultural and historical background.

This process was observed at work in connection with gender differences between mixed achievement boys and girls. In streaming pupils into groups, it resulted that the girls had a higher level of educational achievement than pupils of the boys group. When compared to them, girls produced more taxonomic classifications in the individual written task, a result in accordance with their educational level. However, in the oral discussion girls produced mainly disputational strategies with very few exploratory ones, while boys produced many more exploratory talks than girls, alongside disputational ones. This was reflected also at the level of ideational/textual meanings with girls producing more rationales with causes while boys produced more hypotheses with conditions and consequences (table 38).

With respect to discourse meanings, conditional statements are more likely to elicit decontextualized knowledge as they permit the imagining of virtual worlds and enable speakers to negotiate their meanings with logical inferences leading to new proposals, agreements and/ or disagreements. Conversely, rationales are explanations of facts (given or hypothetical) often responsive to one's social positioning (Bernstein 1982, 1987b); the social positioning of the girls' discussion was based on reasoning focused on social order and social conventions. Moreover girls focused their discussion most exclusively on the topic Mary; this was partially due to their gender identification but also to the reference made to a moral values system and to affective states, which typified the girls' results on classification of values (see Chap VI).

Thus girls' discourse was often grounded in the social nature of facts, appealing to social reasoning and social conventions, often reproducing stereotypes in acts of behaviour between men and women. These were linked to roles and social status. Generalizations were provided by means of examples based on identification of feelings and circumstances and on experiential meanings (extract 8, move 2), predominantly concerned with providing descriptions and not explanations of events. These findings were similar to those of immigrant boys; however these latter groups realized formulations based on concrete and local facts, with no attempt to achieve generalizations.

By contrast, mixed achievement boys were the most innovative and creative group, as their orientation was based on a problem solving goal of action, directed to the exploration of individual characteristics of agents, predicating internal motives and hypotheses to legitimize the agents' behaviour beyond their roles and status. In any case, mixed achievement groups realized an individualised semantic styles, girls with reference to experiential meanings and boys referring to logico-ideational ones.

In this perspective, it is important to understand how the learning cycle has taken place and developed as a process of adaptive value, concerning advancement in the Zone of Proximal Development.

7.5.5 The learning cycle

In Vygotsky's account, the transfer of knowledge from a more capable peer to a novice takes place in interaction through the process of semiotic mediation, emphasising the transition from the social to the individual/psychological dimension.

Results have shown that variations exist in sociosemiotic mediation, quantified through moves and strategies, and that these variations are responsible for pupils' different degrees of appropriation of cognitive and linguistic tools. In addition such variations are also linked to 'school performances, sociocultural background and gender.'

Thus, within groups of my sample, the cycle of developmental learning depended on the different degrees in which interpersonal and ideational functions were activated by speakers in their inter and intra-mental functioning during the unfolding of the discussion.

Despite the clear evidence that all groups were in possession of such potential, nevertheless only mixed achievement boys and to a lesser extent mixed achievement girls managed to fulfil the specific and privileged features of these task requirements. These factors affected their cycle of learning during the discussion, suggesting that the development of mental tools leading to educational knowledge is based on the mastery of specific ways of acting, speaking and thinking evolving as part of speakers' systems of motives, goals, values and beliefs bound to specific context of practices (Minick *et al.* 1993:6).

In the absence of this mastering, invisible semiotic mediation, leading to communalized semantic styles, is often learned as a tacit mode of cultural reproduction. This mode gets reinforced by the collective elements of group

membership overriding the operation of visible semiotic mediation based on individualized semantic styles, with explicit meanings as acknowledged by schools and educational institutions.

In conclusion, results pointed toward the understanding that different semantic mediations realized in terms of communalized and individuated styles are relevant issues concerning pupils' engagement with educational practices and scientific knowledge.

7.5.6 Learning and instruction

In the light of my approach to learning mediated by discourse, my last consideration must provide some further reflection, focusing on the nature of the learning activity in a sociocultural perspective.

Results showing that pupils' construction of discourse knowledge was coherently related to goals of action, social relationship, and textual meanings point to the fact that learning activity is not a task specific knowledge but rather is a process of task specific activity in all its complexity. Reported data from this study have shown that learning activity is a product of socio-historical conditions (clearly evident in immigrant and mixed achievement girls considered as cultures in transition), with development arising according to pupils' psychological pre-requisite (ZPD).

For these reasons, effective learning should be enhanced through creating the conditions which make a sense of relevancy for the pupils; the implications are that learning activity should be based on a unity of motives, goals and actions to be appropriated by pupils and learned through instruction. This also means keeping in sight pupils' learning potentials resulting from their socio-historical conditions, (i.e. their previous learning tools such as actions, strategies, material objects) promoted in such a way that pupils can actively engage in conscious goal and learning actions to be reached through their own initiative. In this way pupils' own learning actions must be used not as a final point but as an initial one, focused on understanding the learning task or the material to be used in that task.

In this perspective, the reaching of higher mental functions can be achieved through effective instruction as well as through the quality of new knowledge and competences to be acquired. This process can facilitate conceptual changes and learning linked to the domain of the activity as a whole; the result of this type of

learning is rather different from the mere acquisition of competence towards a task in a specific domain.

7.6 Summary of results

The meaning potential of the story-task was based on a narrative structure which had to be re- contextualised into an argumentative mode/genre by pupils' interpretation of the situation as a reflexive activity leading to specialized educational knowledge.

However, the identity of the activity setting was conceived as 'meanings at risk' (Hasan 2009:194), as pupils' perception of the situation was expected to be subject to variation in terms of speakers' understanding of the setting. In so doing pupils provided a picture of how they build their sociocultural knowledge by transforming a material situation setting into a socially significant context such as that of a reflective activity; this process allowed then to enact their social relations and to perform a social process of semiotic mediation. In this way, pupils were dually constituted, i.e. as social beings (pupil - pupil), and as a socially positioned pedagogical subjects (pupils-researcher).

The focus of discourse analysis lay predominantly on the outcome of such mediation, understood primarily as a cultural tool mediating verbal actions in terms of different types of interactions (interpersonal function). In Halliday's model, these meanings result from the semiotic relations between the situation and the linguistic forms which it realises, as contextual language in use is organized semantically in a multifunctional way.

Context

Results at a more general level have shown that, in the light of the oral task, the dialogic structures and transactions between speakers revealed semantic differences between them, systematically at work across all meta-functions (interpersonal, ideational, textual). This implied that pupils from different groups were differently attuned to the task. In particular, data in this section confirmed that semantic variations between groups were attributable to differences in interpretation of contextual variables. Linguistically, these interpretation led to different realizations of the three meta-functions, with lexico-grammatical features conceived as options in pupils' identification of context.

Social interaction

Social interactions, within the groups of pupils, mediated patterns of meanings across functions, leading to different linguistic realizations of pupil discourse. The findings of this section confirmed Vygotsky's claims that social interaction shapes mental functions through the mediation of language as a cultural tool. However this mediation is not a universal one as conceived by Vygotsky, but presents patterns of variation reverberated in meanings at all linguistic levels.

Results indicated that in rural and immigrant boys groups there emerged typical ways of construal of meanings of their sociocultural community. In mixed achievement groups (boys and girls) there emerged more individualized meanings co-constructed in their groups conceived as community of learners.

These findings confirmed the presence of two different semantic styles, communalized and individualized, with different specialisation of move functions within them as predicted by my initial hypothesis.

Ideational and textual meanings

Different styles in group interactions realized different qualities of meaning within the moves and exchanges of discourse, leading to different textual strategies within pupils' textual productions.

In this connection, the rural boys group realized their discourse meanings based on everyday knowledge, selecting context-bound options, confined within the given facts of the story. These were realized predominantly with the goal of action reinforcing social structure based on the interpersonal function. These meanings produced cumulative strategies within their text/discourse.

The immigrant boys group interpreted the story-task as superimposed from above with their individual perspectives. In this way re-classification of context-meanings did not take place and the semantic orientation of their discourse did not rise to a higher semantic level. Their meanings remaining confined within pupils' experiences, leading to disputational strategies based on context-bound interpersonal functions.

The mixed achievement groups, and in particular the boys group, was able to re-contextualise the given meanings of the story into context independent meanings (ideational and textual functions). In this endeavour they generated patterns of intersubjectivity capable of sustaining high level semantic options, mediated and negotiated between their moves and exchanges.

This pattern of interaction, which included the wider option of speech roles dynamically changing between speakers, gave rise to disputational and exploratory functions and realized both interpersonal and ideational functions, leading to decontextualized knowledge within discourse.

The cycle of learning in the ZPD

This process is referred to as progression in the ZPD, assessing the adult's guidance during the discussion (adult-pupil) and/or pupil to pupil relationships, concerning mediation with more capable peers (pupil-pupil). Results from this section pointed to the fact that these two aspects were not interrelated.

The rural boys group did not rely on adult's probing and collaboration as they found the task irrelevant, coherently they did not progress in the ZPD as no developmental learning was achieved within the group.

The immigrant boys group relied heavily on the adult's probing to seek information; however this intervention did not enhance their verbal performances. The multifunctional perspective applied to the discourse analysis suggested that in order to be effective the semiotic process inherent in the ZPD should be based on speakers' actions oriented towards a problem solving achievement based on ideational functions. This process is linked to the degree of collaboration among speakers, working together to achieve a sociocultural perspective as a way of making meaning valued by their own culture. Instead the immigrant boys activated a goal oriented to the task context; they remained confined within its boundaries and discussed the story individually and competitively. As they were not able to change their goal of action in the course of their peer interaction, they did not appropriate the linguistic tools to achieve decontextualized knowledge and they remained with context- bound with little progression in the ZPD.

Mixed achievement groups were able to work together with little probing by the researcher who was consulted to gain more information about the factual knowledge. In particular, the boys group was able to express in the ZPD, with peer collaboration, as a constant, step by step developmental learning, enhancing the pupils' perspectives through discussion of the meanings of the discourse.

The girls group, unlike the boys, achieved progression after they had discussed together over a span of time. In so doing they shifted from an individualized approach, based on a goal orientation to the task, towards a collaborative goal

problem solved oriented. In this way they learned from each other progressing in the ZPD.

Results showed that different degrees of progressing in the ZPD were linked to different cycles of developmental learning within groups of pupils, typified by different linguistic outcomes in the discourse meanings. This process witnesses the dynamic features of learning and of the semantic styles produced by different pupils, characterized by different degrees of change in the flow of the interaction.

7.7 General summary on empirical tasks

The design of two different tasks to elicit pupils' knowledge through language were intended to provide evidence for the understanding of differences in activating genres, since learning to participate in generic forms was understood to be typical of people's activity in culture. Both the written and the oral discussion task prompted and required reflexive activities. Results from these tasks provide evidence for pupils' sociocultural views of reality, expressed by meanings related to words, in their written and oral discursive constructions.

Methodologically, Halliday's categories of discourse analysis offered the possibility of understanding how their knowledge of reality was defined by participating pupils; the associated discourse analysis focused on differences between groups of pupils.

As a point of departure, the study of pupils' basic knowledge, explored in the individual written task, revealed pupils' conceptual understandings of words and their system of values, linked to underlying forms of social behaviour. Linguistically, this was related to *field*, realising the ideational meanings conceived to be typical requirements of educational activities. Since the discourse analysis was essentially of a semantic nature, the verbal definitions supplied by pupils' offer insight into their ways of thinking, implicitly related to types of knowledge, revealing what pupils knew with respect to a particular task.

Analytical descriptions were conducted of the meanings of the *transitivity system*, exploring experiential statements about who is what, what is the case, how things are done.

The initial research question was based on *how* pupils constructed their meanings in two different contextual settings and was concerned only secondarily with *what*

they construed in those settings. This implied the understanding of how versions of events were produced in context. This was a two-fold process, related first, to pupils' sociocultural interpretation of the activity in order to instantiate relevant meanings, and second, to how those meanings were verbally realized in context. It followed that when pupils' semantic variations occurred, these could be taken as indicative that different social actions were going on in a similar situation.

The relations between language, thinking and reality are clearly expressed in Halliday's theory, where language is considered as 'the essential condition of knowing, the process by which experience becomes knowledge' (1993: 94). In this account, factual knowledge in its scientific and everyday versions is expressed through language and via language. It follows that when linguistic categories vary between speakers and their communities, language as a resource of making meanings can be conceived as a cognitive tool with grammar as a privileged part in construing those meanings.

From the standpoint of discourse analysis, this occurs through grammatical metaphor which in the SFL view construes events by addressing cognition, leading pupils to a higher level of linguistic capacities, achieved by expanding their meaning potential in using language in different situations. The interpretation of results of the written task in our groups of pupils was focused then on their use of grammatical metaphor, which stood also for a logical metaphor in their realization of textual meanings (Halliday1994a). As written tasks were performed in the classroom, pupil variations were attributed to pupils' different sociocultural abilities in using their language within a clearly defined educational activity.

Results were in accordance with initial expectations as differences were linked to pupils' general scholastic achievement. The only exception was the pupil Yuri, a member of the rural boys group, who produced taxonomic definitions by using grammatical metaphor. This has been further discussed, in relation to results in the oral discussion task. In these aspects, data from the pupils' oral discussion tasks resembled individual responses in the written task, suggesting a strong relation between the two tasks, confirming our expectations.

The oral discussion task dealt with an oral genre where the focus of analysis was predominantly the *tenor*, i.e. the interaction between pupils and other pupils, and between pupils and researcher, involving interpersonal meanings. As this task was intended to investigate pupils' learning potential through the use of a dialogic

discussion, ideational and textual functions were involved as well. Pupils' interactive participation in the discussion was one of the factors considered to be important, not only as an indication of capacity for interaction but also of their ability to meet criteria for achieving argumentation. By looking at how interpersonal functions of moves such as *agreement* or *disagreement*, *evaluation* or *extending* were arising or were resolved, evidence was offered of different principles involved in discourse practices. Such principles were linguistically evident in the semiotic strategies, which simultaneously linked the way in which pupils formulated their knowledge (ideational meanings), how this occurred through interaction (interpersonal meanings) and how it was realized within the text (textual meanings).

Variability of types of strategies, and their further transformation in sequences of discourse, made it possible to understand how learning was developing and how goals of action were changing, on the basis of reciprocal influences of speakers upon each other's talk. Thus rather than concentrating on the text, the analysis focused on *how* interaction realised such text.

This approach made it possible to link results to semiotic variations in pupils' individual responses but also to the nature of the groups' composition. When socially not homogeneous groups, such as mixed achievement groups, were working together on a shared task, a more capable peer led the activity towards a culturally appropriate practice. Through argumentation, pupils perceived the task as a problem solving one resulting in the production of scientific knowledge. In contrast, within socially homogeneous groups, such as immigrant and rural boys groups, this process did not occur.

Results showed that individual differences among these pupils did exist but collectively these were not significantly relevant in terms of their production of educational knowledge. These pupils, when discussing in groups, produced low level orders of meanings, realizing everyday knowledge expressed in cumulative and disputational strategies, based on goals directed towards the maintenance of their social relations. This factor was considered a relevant element for assessing their semantic style which was oriented towards communalised meanings.

Mixed achievement groups, however, conceived the task as problem solving, with goal orientation leading to individual discussions and argumentation, pointing to an individuated semantic style. Both styles, communalized and individuated, were reflected at lexico-grammatical features of pupils' discursive productions. The

linguistic options selected revealed a non-random correlation with a style variety (Hasan 2009: 84). From the results of all groups it appeared that wordings and language are not arbitrary with respect to speakers' community's life and experience (Hasan 2009:371) but reflect pupils' sociocultural values, goals, attitudes and beliefs.

In particular, this sociocultural dimension was responsible for differences in pupils' cycles of learning, since it affected the mutual and reciprocal influences and led to different inter-subjective dynamics between pupils in the group. It appeared that in order to achieve an effective transferral of knowledge between peers, a disposition towards the task was required, which achieved reflexivity in the activity by means of language as psychological tool.

Such a process mediated specific types of reasoning, and a particular relation towards external reality, through which things and people were classified in a way distinguished from that of everyday experience in the immediate contexts of one's living.

Chapter VIII. CONCLUSIONS

In this concluding chapter I set out my reflections on the history of my empirical enquiry. In so doing, I highlight the data relevant to my initial research questions which reflected issues important for informing pedagogy in an intercultural perspective.

The discussion here will illustrate the most relevant implications arising from this study as well as noting its limitations. Reflecting on these shortcomings will, I hope, enable me to point toward issues for further enquiry.

Initially, I will evaluate how far the work has helped to supply substantive answers to my main research questions and sub questions. Thus, I will begin by relating the data to the initially-stated theoretical background, based on a sociocultural approach to verbal discourse. These observations will include reflection on the two combined theories that were applied to analyse the data of this enquiry, i.e. that of Halliday and of Vygotsky. In commenting on my results, I will foreground areas of complementarity between the two approaches, which were originally selected to impart validity to my results.

I conclude with some observations connecting the design to its forms of implementation; this is in order to give weight to my data and also to inform pedagogy on issues which appear important from an intercultural perspective.

8.1 Introduction

The initial drive which brought me to deal with the subject of my enquiry was the need to gain a better understanding of discourse variations (oral and written) of Italian pupils with different sociocultural background engaged with the requirements of the Italian educational setting. Such a need originated from current pressures to adopt an intercultural pedagogic policy within the Italian school system. In so doing, I hoped to set out new paths for teachers to meet the requirements of an intercultural pedagogy dictated by the multicultural environment of the classroom.

Multiculturalism implies the need to understand pupils' diversities and to tackle them with appropriate educational policies. In this respect, in Italy, large differences among the school population have been always present and pre-existed the arrival of

foreign students within the country. Such differences, due to historical factors, were not recognized by past educational policies, attempting to level up pupils and aiming to reduce regional, economic, and status differences between them. This was done by encouraging educational policies based on the ideology of 'sameness', an attitude which was a residual consequence of the unification of Italy and of the more recent influences of Fascism and of the Catholic Church.

Nowadays, these attitudes are highly dissonant with the requirements of modern schools and society, which are more visibly multiethnic and multicultural.

Consistently with my initial aims, I investigated pupils' discourse knowledge in relation to sociohistorical and sociocultural factors choosing only Italian pupils for my investigation. The composition of the sample was defined in terms of social class, gender and context; these represented the sociocultural variables which are often responsible for the educational failure of marginal groups within the Italian school population. This latter is still characterized by strong differences between the South and the North parts of the country.

The planning of the research was consistent with this approach. It aimed to promote a theoretical sociocultural framework capable of sustaining my initial hypothesis, method, and interpretation of results. This was based, theoretically, on a semiotic perspective analysing verbal interaction within discourse, leading to sociocultural knowledge.

My initial point of departure was Bernstein's theory of codes. However, I soon realized that this paradigm would not meet the full requirements of my interests in the relationship between culture, language and thinking informing educational policies. In fact Bernstein was concerned more with linking macro issues of language and society to micro issues in social contexts. In his approach, the cognitive and cultural aspects as well as the dynamic of the interpersonal relationships have been more presumed than empirically proved.

As an alternative, the combination of Halliday's SFL with some aspects of Vygotsky's cultural historical approach seemed the most effective theoretical basis to provide empirical answers to my initial questions. A combined framework enlarged the possibilities of my empirical enquiry and proved to be useful in the educational setting of Italian society.

Halliday offered the possibility of linking pupils' semiotic tool of language to the capacity to mean, providing insights that 'educational failure is primarily a linguistic

failure' (Halliday 1973:3). The use of SFL allowed me, as researcher, to analyse data systemically and in a multilayered manner, providing grounds for linking micro aspects of lexico-grammar to macro aspects of the sociocultural background of pupils.

Vygotsky complemented this view, making it possible to reveal the potential of individual mind working in a cooperative environment, integrating the biogenetic to the sociogenetic dimensions. In particular, with respect to my data, Vygotsky proved useful in assessing dynamically the unfolding of pupils' discourse, with a developmental view of learning within the Zone of Proximal Development. Moreover it sensitized me to a cultural historical analysis of pupils thinking; this implied that the situation of pupils' development had to be placed within their own history as well as within their culture typified in their verbal action aided by language as cultural tool.

In summary, the semantic features of pupils' discourse and their individual variations constituted the points of departure for my analytical investigation of individual performances and group comparisons. As the validity of such approach had to be proved empirically, my research questions were based on theoretical and methodological grounds, concerning many aspects and sub-aspects of my empirical analysis of sociocultural discourse. The main focus of my analysis was the role played by culture in the educational system where pupils were learning and acting. In this respect, I assumed that a sub-system of the school, i.e. the classroom, would reflect the typicalization of pupils' culture in their use of language and could be analysed through a linguistic theory of learning.

8.2 Methodological contributions to a sociocultural perspective

The main focus of attention in my research was the process of semiotic mediation of discourse, historically, culturally, and contextually situated, involving both written and spoken language. The framework or activity setting in which such mediation was created and took place, was the socially interactive and co-participatory learning environment in which pupils' opinions were presented, discussed, argued and negotiated in oral discourse. To capture the role of culture at work required conceptual tools able to define it at various interrelated levels of discourse analysis. I will briefly illustrate the steps of my methodological contribution to a sociocultural approach to discourse.

In Vygotskian terms, culture involves psychological tools conceived as mediational means. However, while Vygotsky identified culture with semantic mediation, he did not capture all the features of pupils' socio-semantic discourse. Halliday provided better solutions to understand the semiotic relationships between language and context. In SFL terms, meanings and wording (lexico-grammatical items) are semiotically linked to the situation of the eliciting task(s). This approach conceptualizes language in terms of strata where each level is embedded into a higher one, providing the means to link different levels of discourse in terms of micro and macro dimensions, referred to context of situation and context of culture. The implementation of these interrelated aims was a complex analytical process taking place in several systematic steps involving social, linguistic, and cognitive aspects of the enquiry. It was only through the interrelation of all these aspects that the notion of culture was fore-grounded in the context of the discursive production of different types of speakers.

My first methodological step was based on sociocultural grounds. These led me to the pupils' allocation into groups according to criteria able to elicit responses on the basis of an intercultural relationships. Groups were divided into homogeneous and heterogeneous ones; such differentiation was aimed at observing how discourse knowledge was mediated to individual pupils by collective group experiences. Hence the focus of my enquiry was on sociocultural as well as on historical development. In particular, the transition from collective to individual forms of verbal behavior was supposed to promote individuality as opposed to communality, in the achievement of cooperative learning based on inter-subjectivity.

Linguistically, in order to describe the multilevel features of discourse, and in order to understand contextual variables in terms of semantic styles (context of situation) and genres (context of culture) was made of Halliday's three concepts of *field*, *tenor*, and *mode*.

The concept of *tenor* concerned the description of different interactions in discourse; in particular it allowed the possibility of understanding pupils' different types of interactions as a basis for creating inter-subjectivity. In this respect, Vygotsky's theory contributed to assessing the dynamic of discourse through developmental joint-activity with pupils' progression in the ZPD. The notion of *field* implied the analysis of the relation between language and culture mediated by cognition; this allowed an understanding of why speakers behave the way they do.

The notion of *mode* implied a relationship between forms of interactions and modes of discourse (or discourse genres); this permitted understanding of the differences between the spoken and the written medium of discourse knowledge.

The possibility of analysing discourse in different layers allowed for the multiple sociocultural variables interconnected in discourse to be individuated, bringing into focus the process of language teaching and learning especially in connection to multicultural education.

8.3 Empirical results

The general aims of the thesis were based on the following main research questions:

- Do sociosemantic variations exist in discourse options and psychological tools?
- Are they consistent across tasks?
- What psychological principle can be inferred to allow pupils to appropriate the tools to mediate higher mental functions?

Clearly there are crucial interactions between these fundamental questions. However it may be useful to distinguish them analytically as they refer to different levels of the general enquiry.

Overall results have shown that pupils speeches were consistent and that there was a cohesive relationship between the three strata of language. These refer to all aspects of discourse: semantic, graphologic, lexico-grammatic as well as metafunctional. In fact all levels together contributed to an understanding of pupils learning how to mean. This finding confirmed Hallidays' belief that pupils learn language stratally and multifunctionally (1996).

With respect to my enquiry, results gave answers to my fundamental research questions, providing grounds for:

- the existence of semiotic variations in pupil's productions of text/discourse within an educational setting;
- consistency of variations across task settings suggesting the presence of genre and semantic styles linked to sociocultural condition of the sample of pupils;
- social interaction as the most important factor mediating variations in the production of higher mental functions;

- a psychological principle was inferred to allow pupils to appropriate the tools to mediate higher mental functions.

In this respect I will briefly comment on the relevant results of the empirical tasks, which provide responses to the set of research questions.

8.3.1 Existence of semiotic variations in pupils' discourse

The first set of results on which I want to comment along these lines refers to the data of the section and sub-sections of individual written tasks.

Pupils' individual tasks responses fulfilled my initial expectations. Verbal data was primarily linked to their social background, correlating responses between verbal meaning, values orientation and social class. In this respect pupils within heterogeneous groups (mixed achievement) produced words definitions oriented towards decontextualized meanings, while their social values were intra-psychologically oriented (i.e. category of *social esteem*). Conversely, pupils of homogeneous groups (immigrant and rural) were oriented towards context-bound meanings (implicitly or explicitly); they expressed social values inter-psychological oriented (i.e. category of *social sanctions*). Such findings may bear some significance from a developmental perspective.

Word definitions and values are not identical, as they refer to different linguistic and mental spheres, which may develop in different stages. Nevertheless our data pointed to the existence of a parallel development between pupils' verbal conceptual definitions and their values-motives system. Such findings appear to be in line both with Vygotsky as well as with Halliday.

In particular, Vygotsky has often acknowledged the fact that development has a pluralistic nature (Vygotsky 1998), pointing to sociogenetic influences on children's development which are at the same time cognitive and emotional. To Vygotsky both factors are internalized by pupils in their sociocultural practices.

Similarly, Halliday recognizes the multiform aspects of a family cultural transmission. In his view children are exposed to ordinary events of their culture, and in this way they acquires 'its mode of thought and action, its beliefs and its values' (Halliday 1978: 9).

In this respect both Vygotsky and Halliday acknowledged the strong link between language and culture conceived as part of children's social reality.

In particular, features of primary socialization environment are essential to shape children's knowledge; this process occurs through the interrelation of concepts, values, language and emotions and not through isolated functions alone. This is a complex process pointing to the fact that language, as a symbol system, is best understood when investigated in a multifaceted perspective. This is concerned with the whole language in the context of its use, in the light of historical and sociocultural development of speakers.

In the written task, the data was quantitatively limited due to the small number of items falling within linguistic categorizations. This was one of the basic limitations of my enquiry, where further research would be needed to validate its findings.

In the oral discussion task, the story was devised to elicit pupils' perspectives on a regulative function, based on a moral order implicitly linked to pupils' value systems. However, as the semantic coding was more oriented toward typifying the role function of pupils' interaction rather than the content of pupils' moves, such perspective did not allow comparison between the two tasks with respect to content of pupils' values produced in their discussions. These issues should also be considered in further enquiry.

However, even if task results were not compared, making it impossible to claim a direct causal relationship between social values and content meaning choices, it appeared that a relationship between the two seems to exist. This factor, correlated to the overall cohesiveness of pupils meanings within their text/discourse, across tasks and semantic levels (*field, mode, tenor*), was a sociolinguistic aspect hinting that pupils' discursive resources were subsuming all forms of being, doing and saying, as Bernstein has invoked in his concept of code (Bernstein 1982, 1986, 1987b).

8.3.2 Consistency of semantic variations across tasks

Results have shown that pupils' responses to written and oral tasks were consistent across the two settings. This confirmed that pupils' semantic orientation was coherent across meanings and domains, pointing to the presence of semantic styles.

However the issue of values production in the individual written task was relevant in connection to another, unexpected, result in comparing the written and oral tasks.

Yuri was the only pupil within the rural boys group producing responses similar to middle class groups. This fact pointed to the presence of individual variations within groups of our sample, besides variations between groups. However Yuri's verbal responses, when assessed across tasks in order to check continuity linked to his general language-learning abilities, validated the hypothesis that his use of language was highly conditioned by his social background. In fact, his responses were mediated by his group experience rather than by his own individual agency, achieved by interacting within the group. Such a finding deserves some reflection for what it indicates with respect to individual agency formation in groups, as well as for its educational implications. Furthermore, it is important to stress that this finding was brought to light only by analysing Yuri's performances in two different task contexts.

In this connection, both Halliday and Vygotsky have claimed that development should be tested in a plurality of contexts. In fact, the achievement of subjectivity is not a constant but it is more or less pronounced according to the social system in which the individual is located.

Extremely homogeneous groups, as in the case of the rural boys group of my sample, restrict the degree of creativity and of the meaning potential inherent in the setting, which the individual might achieve. In the sample studied here, rural and immigrant boys' responses were generated by reference to their immediate environments; these types of responses were much more common in these groups than in the mixed achievement groups. For these latter, experience was mediated by verbal information indicating a form of experience assimilated from psychological tools such as communication, instruction, books and overall cultural influences (Luria 1930/1978).

We may add, drawing upon psychological research, that homogenous behavior is particularly marked in adolescence where peer groups present strong means of identification and imitation (Brown 1989). Often context is the variable which determines the extent to which pupils' subjectivity is activated, individually and collectively. This fact is often forgotten by teachers and educators who do not pay enough attention to the contexts in which pupils performances take place.

Streaming pupils in heterogeneous groups and observing their behaviour in different tasks setting, proved to be important pedagogical principles, especially in intercultural education. Heterogeneity allowed the development of different psychological tools, as different speakers contributed differently to the enhancement of knowledge. This could be achieved through diversified actions among speakers employing different psychological means and possessing different goal orientations to the task at hand. In this process it will be more possible to achieve higher mental functions through the orchestration of a variety of means (i.e. tools and discourses) to contribute development in the ZPD.

8.3.3 The inference of a psychological principle mediating higher mental functions

In the attempt to understand the origin of different types of semiotic mediation in pupils' discourse, resulting from verbal data of this research, I have focused on the interpersonal function, i.e. the variable of *tenor*, with reference to the context of the oral discussion. In particular I was interested in the interplay between the two metafunctions, ideational and interpersonal, as my strongest interest was in the relationship between language and cognition. In this respect, results were meant to provide answers to one of the basic research questions: how different groups of children would advance their language learning through their interactions.

The *tenor* perspective, in my linguistic analysis, was related to the notion of semiotic strategies. These strategies were conceived as multifunctional units of discourse defined as *cumulative*, *dispositional* and *exploratory*, with sequential meanings organizations, realized stratally (i.e. relating both to situations and to culture), and multifunctionally (i.e. displaying different internal balances between functions of discourse). Strategies allowed for understanding how meaning was mediated between pupils in the context of discourse; in particular they showed how the most fundamental aspect of semantic development was linked to the quality of pupils' social relationships.

The high degree of inter-subjectivity found in the mixed achievement groups, in particular boys, related to their predominant use of the exploratory strategy in discourse. This fact pointed to the fact that these groups realized the interpersonal function as a highly specialized tool to express their arguments. For this reason the exploratory strategy acted as a tool- resource for transforming the initially given text-

bound meanings into decontextualized texts. This process was considered a factor correlating highly with the multifunctional organization of meanings in the context of situation.

These findings highlighted the correlation between forms of meanings and types of interaction. At the same time, they provided evidence of different uses of functions within discourse, pointing to a great use of ideational functions by the mixed achievement groups. On these grounds, it was possible to make the distinction between specialized and unspecialized forms of interaction, visibly and invisibly mediated. An unspecialized interaction occurs often in the domain of everyday activity, it is often routinized as does not require conscious reasoning to be fulfilled. In contrast, specialized activities are not extended to the all community and are typically performed by some and not others (Hasan 2005:199). For such reasons a certain amount of experience is required for their fulfillment combined with reflection and voluntary attention.

Finally specialized interaction, in connection with discourse meanings, corresponds to wider options of choices in the three metafunctions, which are equally balanced within the discourse. Such a balance in the collective discussions implied that pupils were able to sustain their interaction not only in order to socialize but also to express their own opinions, to argue and sustain them.

In analysing pupils' patterns of interaction, it appeared that when the interaction process was based solely on socialization (as was the case with the rural group), pupils relied more heavily on their own communal linguistic resources. The fact that the rural boys' group produced cumulative strategies predominantly based on agreement, and on consensus seeking on their own values and beliefs, was indicative that language was playing for them an auxiliary role directed to maintain and sustain their social relations. It followed that their exchanges were likely to be based on a low goal awareness as their object-outcome was not reflection but the interaction itself. In this situation the object mediated through language was not knowledge in terms of understanding but natural mental dispositions or naturalized values, as speakers treated their meanings in terms of everyday situation leading to a narrative/descriptive mode of discourse; this confirmed that the task goal orientation of pupils' speech varieties was related to everyday knowledge. In fact, invisible mediation (Hasan 2005:197) realizes context-bound meanings and common sense knowledge.

Conversely, mixed achievement groups recognized the activity in specialized terms; this implied enacting their interpersonal relations through exploratory strategies and tackling the meanings of discourse as problem solving, leading to scientific concepts of educational knowledge through argumentative modes of discourse.

To understand why speakers behaved the way they did it was necessary to move analytically toward a higher level of abstraction, i.e. from the context of situation into the domain of culture. This required analysis at the level of *field* (mode-genre) making it possible to relate speakers' verbal behaviour to their goals of action.

At a theoretical level heterogeneity of metafunctional organization in speakers' discourse was a feature testifying to the presence of different semantic styles as envisaged both by Halliday (2001) and Matthiessen (2006). From a goal orientation perspective, the verbal activity of all groups was coherent both with their culture as well as with their own interpretation of context.

However, for some groups of pupils such as the rural and the immigrant groups, contextual understanding was not attuned with the requirements of the educational tasks. In this respect, features related to the understanding of the social nature of the activity are not indicative of mental categories *per se*. Rather they imply that pupils' experiences have sensitized them towards certain orders of meanings, that were *mediated* by culture, becoming relevant for pupils in particular settings. On similar grounds the fact that mixed achievement groups responded to all empirical with higher mental functions was informative about their verbal conceptual development related to the nature of the task setting but *not* of their cognitive capacities as a whole. This implies that it should be more correct to interpret pupils' linguistic performances in terms of unresolved demand on pupils by the educational setting.

Reflection on these issues requires shifting of attention from pupils' performances to the school domain. The evident effects of sociogenetic factors on some groups of our sample suggests that some pupils lack of experience with educational task activity, which does not activate to the full their mental functioning. Schooling has not sufficiently mediated a reorganization of their mental potentials into the new abstract thinking modes, capable of meeting the requirements of education. Alternatively, as a further hypothesis, it may also mean that pupils have not fully internalized them into specific modes of discourse. Internalization is not an

automatic process; it involves change in the mode of operation requiring visible planning, goal awareness and volition with underlying problem solving goal and linguistic argumentative outcomes.

It follows that among the aims of a language based theory of learning is the need to inform pedagogy through linguistic applications to education based programs, to adjust such linguistic imbalance especially in the light of an intercultural perspective. In this respect a systemic functional approach can instruct teachers on how to socialize pupils into modes of meanings directed to construct their experiences, to enact social roles and present meanings (written and oral) in a consistent manner.

Pedagogical directions based on SFL theory might help teachers pupils and educators with an understanding of the nature of language as a tool leading to cooperative interactions, through which to achieve thinking and to develop understanding through reflection on experience.

8.4 Reflection of educational policies and school instruction

The acquisition of scientific concepts is often conceived as one of the main underlying goals of current systems of school instruction. In Italy this policy is often reinforced in secondary school by the requirement of a new pedagogical directions oriented to elicit critical thinking skills, with analysing and problem solving seen as basic competences in pupils' educational achievements.

Systematic instruction is oriented to elicit learning, presupposing the creation of theoretical knowledge as a result of school education. In fact the providing of instruction eliciting the expression of information seeking on the part of some pupils implies the seeking of objective phenomena which can be shared and discussed by all. Moreover, this implies speaking about the matter at hand which is generally the topic initially introduced by the adult. This means laying the foundation for theoretical thinking and rules for argumentation.

In a pedagogic ideology, arguments must be objectified, justification must be objectively validated, and rejection must be justified (Hasan 2005: 239).

The theoretical assumptions which guided my enquiry were partly based on a dialogic enquiry (Wells 1999), and on a guided discovery approach (Brown & Campione 1990; Tharp & Gallimore 1988). These studies belong to social constructivism perspectives, stemming from a post Vygotskian tradition.

However, findings in oral task have thrown some doubts on the efficacy of this paradigm with respect to sociocultural issues leading to educational outcomes.

Results of my empirical enquiry have shown that pupils' discourse features are closely linked to their communicative purposes and that they stem from a set of interrelated factors including cognitive affective and contextual aspects of communication.

Halliday has argued that human language is the way it is on account of the social use that it serves to the community. It follows that speech as a semiotic resource has evolved to mediate experience, bearing features which are relevant to some community of practices. These features are interrelated in a complex manner, reflecting forms of social actions into which pupils are positioned and required to act as agents of discourse. If adult's instruction in schooling takes into consideration only one aspect of pupils' discourse features (i.e. the content of knowledge, isolated from values, motives and goals of action) it will not be effective and in addition it will reinforce the type casting of some pupils with respect to their community membership. This makes the behaviour of those pupils more resistant to change.

In this research, it also appeared that these children were capable of achieving scientific knowledge in individual items but they did not use it collectively. This implies that eventually, under the right circumstances these pupils would be able to perform according to the educational requirements but they do not do it spontaneously and this will require time besides effort.

This finding proved our initial hypothesis of the relevance of sociocultural differences to schooling and education connected to the need to devise a theory of instruction able to fill the gap between different groups of children.

There is also another important issue which was raised by our findings. This is concerned with the relevance of the school culture, which is often disconnected from the needs and expectations of pupils with a low sociocultural background; they often reject it not only individually but mainly collectively, with strong negativism as a reaction of the school situation.

Vygotsky pointed out that children develop the interests of their socioeconomic group and explored the importance of class in the formation of consciousness, even if not in schooling. He says:

‘...social environment is class-based in its very structure insofar as, obviously, all new relations are imprinted by the class basis of the environment...Consequently, class membership defines at one fell swoop both the cultural and the natural orientation of personality in the environment’(1997a: 211-212).

Nowadays in Italy, the pressure to level up new comers to general national standard of learning is very high, and methods of teaching should be devised in such a way as to reduce educational differences in a limited amount of time while at the same time preserving pupils’ cultural features. Sometimes slow learning is a different type of learning. In my sample this was shown by immigrant boys, representing a group in cultural transition, whose discourse features presented different semantic orientation both interpersonally as well as ideationally in tackling the written and oral tasks of my research design.

A dialogic enquiry is based on the idea that students should construct scientific knowledge themselves by discussing and sharing personal experiences. This process should be a new elaboration of their spontaneous concepts leading to the appropriation of scientific concepts as socially derived forms of knowledge. Results of my data illustrated that this occur only in situation when pupils have already accumulated the essence of knowledge in their past educational history. For all the others this achievement is a very slow process which may or may not lead to the desired learning outcome.

In groups where activity is perceived as a daily event, a regulative discourse is needed not only to elicit pupil’s participation but mainly to start shaping their consciousness in order to transform them as pedagogical subjects. In this group learning was very limited with minimal innovation of meaning within discourse.

This does not mean going back to traditional methods of teaching but to specify ‘techniques of mediation’ (Kozulin 2003:20), able to facilitate the first step in learning as well as to organize mental capacities in their full potentialities. This may imply at times directive teaching strategies for those who do not already master these techniques or at others a more soft approach whereby teachers are only monitoring pupils’ development in constructing their own learning discoveries. This approach does not imply only acknowledging the multifacets and multivoices within the classroom all in need of their own specific response; it also requires teachers to be able to use differentiated codes in response to their pupils’ demands.

As Vygotsky has pointed out, research has shown that learning and mode instruction are closely related; similarly Halliday's conception has confirmed this and shown that in order to be effective, verbal instruction requires a particular approach envisioning developmental stages which address different aspects of language. These include:

a) a clear, explicit specification by teachers of what is involved teaching and learning, in order to identify what is to be learned and evaluated (Bernstein's visible pedagogy, 1990:73).

b) the awareness that each learner has two levels of development: a level of independent performance (individual) and a level of potential performance (collective and dialogic).

The potential space between these two is represented by the Zone of Proximal Development; however, engagement in the ZPD does not necessarily advance learner's possibilities as conceived by Vygotsky. Such advance is made through a semiotic process which requires a specialised use of language to transform the 'natural' mental development into cultural development. This implies a competence in language use as interaction as well as a means of reflection.

8.5 Limitations of the enquiry and directions for further research

Through conclusions on my study I hope to have provided new perspectives on a sociocultural approach to discourse. These necessarily need to be further explored because of the limitations of my enquiry.

In this respect, the limited size of the sample and the quality of groupings had to be negotiated with the teachers, according to the characteristics of the school population and after observations of the classroom dynamic. This means that, to a great extent, these factors are tied up with the social conditions of the setting and to the features of the local culture. Furthermore, pupils' achievement was evaluated according to the standard of the Italian educational requirements. This implies that results accruing from this sample are provisional, offering opportunities for reflection, subject to these limitations. However, even if data are not intended as definitive, they opened up fields for further enquiry.

To this end, I point out directions for further research, stemming from result of the present study. These are based on the following research questions:

-To what extent schools are able to activate different choices from habitual ones?

- If pupils' orientation to meanings is often resistant to school instruction what type of instruction would be most effective in a classroom with pupils whose discourse is regulated by different semantic styles and code orientations?
- What role is played by values and motives in learning both individually and in a group?
- If social interaction is different within groups of the same society, what would it be like among individuals of different ethnic cultures?
- What should be the role of language learning in schools with multicultural classrooms?

8.6 Conclusion

Through my research findings I have attempted to provide some implications for what education should do to promote effective programs to reduce marginality and to empower linguistic and mental abilities as priorities in the mastering of psychological tools. The purpose of my intercultural inquiry was precisely that of highlighting the complex relations between education, language and society without necessarily emphasising one of these aspects over another.

In this attempt, to explore the use of language was the instrument for achieving my initial aims, and SFL linguistic theory provided the tools for this enterprise. The integration of Vygotsky's paradigm permitted understanding of the dynamic features of the discourse, linked to different modes of semiotic mediation among different groups of pupils. Both theories provided the means to understand semiotic mediation through the use of language, demonstrating how this latter can be used as a tool for reflection to achieve knowledge and understanding.

In this endeavour, research results indicated that language use, learning and cognition, conceived in terms of appropriation of psychological tools, can arise when pupils are understood with a full awareness of the complexity of the issues, as culturally and historically situated. This possibility is well described by Moll (1992)

when he states that:

...[in] studying human beings dynamically, within their social circumstances, in their full complexity, we gain a more complete and... a much more valid understanding of them. We also gain, particularly in the case of minority children, a more positive view of their capabilities and how our pedagogy often constraints, and just often distorts, what they do and what they are capable of doing. (1992:239)

In trying to promote a meaningful way of learning based on language and knowledge construction, I am fully aware of the limitations of my approach; this inevitably implied incompleteness, as my object of study is in continual evolution, with new perspectives leading to new theoretical and methodological directions.

A final quotation from Hasan best concludes this work, by interpreting its central sociocultural expectations:

It is not too fanciful to suggest that a theory is like an artefact: it justifies itself if its different parts hang together coherently so that the inner logic of the structure is not disturbed and the total bears some viable relation so the 'reality' to which the artefact of theory stands in a symbolic relation. If a linguistic theory can achieve this, it will have made a positive contribution.(2005:193)

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APPENDICES:

Appendix A.

Appendix B.

APPENDIX A

The linguistic approach in the light of Common European Framework

The present approach to speech and discourse is in line with the approach stated by Council of Europe's language programme focusing on plurilingualism, that is to say the knowledge of language used in different contexts. This is also based on multiculturalism as a means of access to cultural manifestations as its definition emphasises that :

‘ as an individual person's experience of language in its cultural contexts expands, from the language of the home to that of society at large and then to the languages of other peoples (whether learnt at school or college, or by direct experience) he or she does not keep these languages and cultures in strictly separated mental compartments, but rather builds up a communicative competence to which all knowledge and experience of language contributes and in which language interrelate and interact.’(Common European Framework, 2002 p. 4)

From this perspective the aim of language teaching in school education is not to achieve mastery in one or more than two languages, but that to build up a linguistic repertory in which linguistic abilities have place. Educationally this implies that language used in scholastic institutions should be highly diversified in order to provide students with a plurilingual competence, as stated by European Language Portfolio (ELP). This approach will provide a format in which language learning and intercultural experiences can be acknowledge and fully recognised.

In line with ELP, the approach adopted here is an *action* oriented one, viewing learners and speakers as social agents that is to say members of society who have tasks (not exclusively language related) to accomplish in a given set of circumstances...in a specific environment and within a particular field of action . While acts of speech occur within language activities, these activities form part of a wider social context, which alone is able to give them their full meaning.. The action based approach therefore also takes into account the cognitive, emotional and volitional resources and the full range of abilities specific to and applied by the individual as a social agent.

In this respect I refer to the following definitions as stated in the Common European Framework (p. 9)

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

In the Common European Framework *Competences* are the sum of knowledge, skills and characteristics that allow a person to perform actions.

Communicative language competences are those which empower a person to act using specifically linguistic means. It comprises the following components:

i) linguistic; ii) sociolinguistic and iii) pragmatic.

Linguistic competences include lexical phonological syntactical knowledge and skills and other dimension of language as a system

It comprises speakers cognitive organisation abased, among other things on the cultural features of the community in which the individual has socialised.

Sociolinguistic competences refers to sociocultural conditions of language use including rules of politeness norms governing relation between generations, sexes, classes and social groups.

Pragmatic competences are concerned with the functional use of linguistic resources (production of language functions, speech acts) drawing on scenarios or scripts of interactional exchanges. It also concerns the mastery of discourse, cohesion and coherence and the identification of text types.

Context refers to the constellation of events and situational factors (physical and others), both internal and external to a person ,in which acts of communication are embedded.

APPENDIX B

Speakers' discussions with interpersonal coding
Legenda: I=Initiate; R=Respond; Follow up.

IMMIGRANT BOYS GROUP

Speakers: *Researcher; Luigi; Antonio; Angelo.*

I-14 (move) <i>Researcher: and Paul the husban?</i>	<i>Req/opinion</i>
R-15 <i>Antonio: Ah yes Paul her husband , because if he has stayed a bit more with her he could have stayed more with her instead of going to work abroad..</i>	acknowledge suggest suggest
<i>silence</i>	
R-16 <i>Angelo: also for me</i>	agree
I-17 <i>Researcher: So Paul had to remain at home?..</i>	
R-18 <i>Luigi: and stay closer to Mary</i>	extend
R-19 <i>Angelo: or also if he had to go to work abroad Mary could have waited for him instead of going to the boatman and instead of going to Alan and John</i>	suggest suggest extend extend
R-20 <i>Researcher: Alan was the last one..</i>	<i>inform</i>
R-21 <i>Angelo: the one who chucked her out..</i>	inform
R-22 <i>Antonio: Alan could have let her in because in that way he could have avoided her death he could have avoided Mary's death</i>	suggest justify repeat
I-23 <i>Researcher: and the wiseman?</i>	<i>Req/opinion</i>

R-24 <i>Angelo: to me the wiseman is not to blame</i>	opinion
R-25 <i>Antonio: he could have given her some advice.</i>	suggest
R-26 <i>Angelo: ...as he was a wiseman.</i>	extend
R-27 <i>Researcher: .. but he didn't</i>	clarify
I-28 <i>Researcher: So first of all who is to blame?</i>	Req/opinion
R-28 <i>Luigi: Mary, she should have stayed at home, Mary.</i>	opinion
I-29 <i>Researcher: Even if she was unhappy?</i>	Req/justification
R-30 <i>Angelo: she was wrong to sell her house and all her belongings</i>	opinion
R-31 <i>Antonio: and also her husband who went away</i>	opinion
R-32 <i>Researcher: but he needed to go</i>	elaborate
F-33 <i>Luigi: but he needs to work so..</i>	repeat
R-34 <i>Angelo: but her husband has not left her. she could have waited for him..</i>	elaborate suggest
<i>Luigi: exactly, to me Mary is to blame</i>	agree opinion
I-36 <i>Researcher: So the husband was not to blame?</i>	Req/opinion
R-37 <i>Everybody: NO</i>	neg. Answer

MIXED ACHIEVEMENT BOYS GROUP

Speakers: *Researcher; Simone; Mario; Mattia; Marco.*

I-20(move)

*Researcher:.. and John , was he right in what he did?
what do you think of him?*

req/opinion

R- 21

Mario: he had to earn money..

opinion

R-22

*Researcher: no that one was her husband..
her husband was Paul, John was her friend..*

rectify

R-23

Ah ..

Mario: yes he did all right he did all right he did all right..

*acknowledge
opinion*

R-24

Marco: he was on the other side

inform

R-25

Mario: otherwise he would have gone against her husband

justify

R-26

*Simone: exactly, he would have put himself in a
compromising position*

agree/ elaborate

Mario: then maybe her husband would have come back

suggest.

R-28

Simone: oh no

disagree

R-29

*Mario: if she would have waited longer..
her husband would have come back..*

suggest

R-30

*Marco: maybe,
instead of chucking her out of his house
he could have let her stay
because they were living together,
even though they were not married or engaged
or something like that they could. have...*

suggest

*suggest
justify
elaborate*

R-31

Mattia: oh but she had a husband eh..

counter A

R-32 <i>Marco:</i> All right, but if she sold her house for him he could have been a bit more grateful, she did sell all her possessions..	counter A suggest extend
R-33 <i>Mattia:</i> .. someone could have come to your house after her husband left and you show her a bit of gratitude...?	counter A elaborate question
R-34 <i>Marco:</i> oh but she made a sacrifice..	counter A
R-35 <i>Mario:</i> her husband comes back and she goes away..	elaborate /comment
R-36 <i>Marco:</i> certainly not, but where could she go? without a house, without anything..	agree req/elaboration extend
R-37 <i>Mario:</i> he is right, oh but did her husband earn any money? Did her husband s earn any money?	opinion req/information req/information
R-38 <i>Marco:</i> oh but if he was a good friend he would have take her with him.	elaborate suggest
R -39 <i>Researcher:</i> for a while he took her with him, but not afterwards	inform
R- 40 <i>Mario:</i> instead of loosing her money to get to the other side I would have bought something to get an aeroplane and I would have gone to my husband..	suggest suggest
R-39 <i>Mattia:</i> something to get an aeroplane ?	req/explanation
R-40 <i>Mario:</i> a ticket for the plane, all right.	reply/suggest
R-41 <i>Marco:</i> what if he was living in place that you couldn't take a plane?	counter A req/challenge
R-42 <i>Mattia:</i> oh he was really in a bad situ	