

TOWARDS UNDERSTANDING ACADEMIC ABILITY: A SOCIO-CULTURAL
APPROACH TO THE DEVELOPMENT OF THE CONCEPT OF ACADEMIC
ABILITY

by

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A dissertation submitted to the Graduate Faculty in Developmental Psychology in partial
fulfillment of the requirements for the degree of Doctor of Philosophy, The City
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Abstract
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The socio-cultural perspective is employed in this study as a different theoretical perspective to investigate children's understanding of academic ability where the focus was on the social context of cognitive development. This study describes social interactions that mediate the development of the concept of academic ability and explains how these social interactions lend themselves to a developing concept of academic ability.

Observations were conducted in a 5th grade classroom of whole class interactions. There were 9 open-ended interviews which involved questions of what it means to do well in three distinct ways, referred to as contexts. Analyses revealed that children defined academic ability in complex ways using categories of behavior, grades or scores and achievement. Children's understandings of academic ability were shown to be context sensitive and socio-culturally rooted. In the three different contexts, classroom,

imagination and personal students used the categories in varying degrees. Behavior was the dominant category used in the classroom context, while grades or scores was used in the imagination and personal contexts in different degrees.

Results indicated several social interactions posited to mediate students' thoughts resulting in specific definitions of academic ability. That is, the interactions of public critique, moments for social comparison and the valuing of individualism were identified as helping to construct students' thoughts of academic ability. Analyses further identified discourses of evaluation and motivation and an organizational arrangement practice that might be considered psychological tools mediating ability concept development. Students' understandings were explained in the context of the increased testing mandated by The No Child Left Behind Act (2001) and the period of testing in which they were engaged.

This study highlights that students' concepts of ability are socially constructed. It shows the importance of using the socio-cultural perspective to investigate processes involved in academic ability concept development. The use of the socio-cultural perspective highlights that students' understanding of academic ability is inextricably linked to their cultural context occurring first on the social level before being internalized.

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<i>Abstract</i>	<i>iv</i>
<i>Acknowledgements</i>	<i>vi</i>
Chapter 1: Introduction	1
The Structure of this Dissertation	10
Children’s Conceptions of Academic Ability	12
The development of the concept of ability –processes and theoretical perspectives	12
The Meaning of ability in context	23
Discourses and Organizational Arrangement Practice as Mediational tools in Education	29
Ability Grouping as an Organizational Arrangement Practice	31
Informal Evaluation discourse	33
Formal Evaluation Discourse	36
The Socio-Historical Context of Academic Ability	39
Research Questions	42
Chapter 2: Methods Used to Assess Socio-cultural Processes in the Development of Academic Ability Concepts	46
Introduction	46
Situating the Research	46
Description of the School and Classroom	51
The Classroom	51
My entry into the school and classroom	52
Research Design	53
Participants	53
Materials	55
Procedures	55
Observations	56
Interviews	57
Analysis of Data	60
Chapter 3: The Social Construction of the Meaning of Ability	71
Meanings of Ability in Different Contexts	72
The Meaning of and Social Interactions Constructing Academic Ability	77
Behavior Defines Academic Ability	77

Opportunities for the Social Construction of Ability as Behavior Through the Use of Public Critique	79
Grades/Scores Define Academic Ability	85
Moments for Social Comparison Initiated by the Teacher Which Help to Construct Ability Concepts	91
Ability Defines Academic Achievement	97
Valuing Individualism helps Construct Academic Achievement but is Tempered by Other Beliefs	98
Summary	102
<i>Chapter 4: Discourses and Organizational Practices as Mediatlional Tools</i>	106
Introduction	106
Evaluation Discourse a Tool	108
Explicit Evaluation in the Classroom Facilitating the Construction of Ability Concepts	108
Implicit Evaluation Discourse	120
Organizational Practice -Structural Arrangement as a Tool	128
Structural arrangement facilitates the construction of ability concepts	129
“Time wasters” & “Learners” Ability Groups	132
Rationale for Being Moved Supports the Construction of Ability Concepts	135
Structural Arrangement Between Classrooms	142
Differences Between classrooms made in Social Comparisons	142
Motivational Discourse as a mediational tool	146
Motivational Discourse facilitates the construction of ability concepts	147
Practice Tests	147
Appeals to Innate Ability	149
The Urgency to be Prepared and the Proximity of the Exam as Motivators to Succeed	149
How Are the Discourses and Organizational Practice Related?	154
Are These Discourses and Practice Related to Larger Discourses and Practices	155
<i>Chapter 5: Discussion and Implications</i>	157
Contribution of socio-cultural approach	157
Summary of results	161
Limitations in the research	168
Implications and Future Research	168

Reference _____ 172

List of Tables

Table 1: Matrix of research questions, participants, data sources and findings	69
Table 2: Percentage times of responses per category for the different contexts	74

List of Figures

Figure 1: Layout of seating arrangement in classroom 5A	130
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Chapter 1: Introduction

What are children's concepts of ability and how are they mediated? I investigate this question taking a socio-cultural approach to concept development as posited by Vygotsky (1978). By taking a socio-cultural approach, I focus on the processes involved in the construction of ability concepts in context. That is I focus on the everyday interactions between the students and teacher as they engage in the teaching and learning endeavor as a means of identifying social interactions and mediators that aid in the development of the concept of academic ability. These processes include the various verbal exchanges between teacher and student and physical arrangements which constitute the cultural practices of education, as they occur in a classroom.

Although researchers have explored several relevant aspects of classroom life, there is little known about how children understand evaluation and the concept of ability. To address this gap, I adopt two important premises of the socio-cultural approach. These are that (1) higher mental functioning in the individual is derived from social life and (2) human action on both the social and individual planes is mediated by tools and signs (Wertsch, 1991). In this investigation into the development of children's concepts of ability and how they are mediated I therefore situate the developing concepts of ability in social life (e.g everyday classroom teaching-learning activities). I show that the cultural practices and discourses in which children engage (interactions and other activities) help to mediate their concepts of ability. By using these two premises I am assuming that the child and his/her thought processes are part of one interacting system (where the interacting system is considered to be the activities and social interactions of which the child is a part).

Hence analyses and conclusions are not based on characteristics of the child or focused on universal cognitive processes attributed to the child. They are instead based on the interacting system of a classroom which is the unit of analysis. As a consequence, thought processes such as those involved in academic ability concept development are considered to be located in the interactions with others and with cultural tools (Hutchins, 1996) as a process of the acquisition of the particular culture (Valsiner, 1987) of school rather than to be located in the individual mind. It is only in recognizing that children's thoughts cannot be separated from the social milieu in which they operate (Wertsch, 1991) that it is possible to have a better understanding of the children's concepts of ability.

Viewing thought as inextricably linked to the social milieu means that the mediating processes involved in the development of the concept of ability are understood to be culturally, historically and institutionally embedded (Wertsch, 1991). Through participation in the culture children come to internalize the meanings that the culture affords. Therefore children's concepts may be generalized but must be done so within their particular culture and period in time. It does not make sense then to try to generalize children's concepts of ability across cultures or historical periods because the children are not participating within similar cultural and historical circumstances. Different ability concepts occur when there are different cultural groups because there are different cultural constraints and opportunities experienced by the groups (Gauvain, 1992). That is, the mediating processes that shape thought are culturally different which result in culturally different ability concepts.

In adopting the socio-cultural approach then with its various assumptions, I, (a) examine young children's understanding of ability, (b) identify social interactions that allow students to engage in an interpretation process of what constitutes ability and (c) identify dominant discourses and practices in the classroom that mediate children's ability concepts.

The way children reason about academic ability is of paramount importance because it has implications for their academic achievement goals, behaviors and self-conceptions (Covington & Berry, 1976; Dweck, 1986; Dweck & Leggett, 1988; Nicholls, 1984; Nicholls, 1989; Stipek & Mac Iver, 1989). Further having ability conceptions similar to the larger educational community (e.g. the school, nationally) could be significant for later perceptions of their educational chances (Raty, Kasanen & Snelman, 2002). It seems imperative to investigate the development of children's ability concepts from a socio-cultural perspective because it has implications for changing or maintaining those interactions that help to construct children's thoughts. Also, broadening the unit of analysis to the classroom could offer suggestions about how to improve classroom based research as a set of practices and eventually to improve educational practice.

Currently little has been done to show that the development of young children's concepts of academic ability is at least in part social. That is children's concepts are partly formed through their interactions in the institution of school, specifically in the classroom. Further little has been done to show that the development of children's concepts of academic ability is mediated by tools (e.g. language and various groupings of students in the classroom). When developmental psychologists investigated the development of the concept of ability they showed that as a trait, children's concepts

become increasingly stable with age. They further indicated that the development of the concepts of ability becomes more differentiated with age (Dweck, 1986; Nicholls, 1978; Stipek, 1981; Nicholls & Miller, 1984). These pieces of research do not show the social nature to the development of the concepts of ability, but extracts the concepts of ability from the social world in which they develop. As such the processes involved in the development of the concepts of ability are de-contextualized and disembodied (Gauvain, 1992; Clark, 1997).

Other researchers have argued that the development of children's concepts of ability is socially constructed (Rosenholtz & Rosenholtz, 1981; Rosenholtz & Simpson, 1984; Mac Iver, 1988), and Raty, Kasanen & Snellman (2002), that it is occurring as a process of social representations. Yet, these pieces of research do not state or illustrate with their analyses how the social aspect relates to the development of the concept of ability. I sought to fill the gap in my study by defining and implementing a theory based inquiry into this social concept of ability. Hence I (a) first identify children's definitions of academic ability (b) embed children's definitions of academic ability in the interactions of the classroom as a unit of analysis and, (c) define and examine relevant cultural practices in the classroom that might mediate children's thoughts of academic ability. Therefore, the main concerns in this study are that children's thought processes about ability concepts are inextricably linked to the social milieu in which they engage, socially constructed and first occurs on the social plane, and that the development of concepts of ability is socially mediated by signs & tools (Vygotsky, 1978).

In this dissertation, I consider that children's thoughts are mediated by cultural tools as defined below. As participants in school, children are socialized into the

classroom's communication system of various cultural practices (e.g. ability grouping practices) and discourses (e.g. evaluation) that may be considered psychological tools (Wertsch, 1991) which mediate their thoughts. Tools in this dissertation may be considered that which regulate, facilitate or constrict one's interaction with the environment. This is in accordance with Cole and Engestrom's (1993) definition of artifacts in which they made them synonymous with tools. They said, "cultural artifacts are both material and symbolic; they regulate interactions with the environment and with oneself. In this they are "tools" broadly conceived and the master tool is language." One such example of a mediating tool is the school report card.

To illustrate this concept of cultural tools I offer an example of how a cultural artifact, the report card operated as a tool to mediate thought. As a cultural artifact, the report card acted as a psychological tool such that it transformed the children's thought processes. In research by Rawlins (2000) she showed that children's reasoning about academic success and failure was mediated by the cultural artifact, the report card. The children were interviewed about success and failure in school in two different contexts. One context involved the report cards of three fictitious characters with fictitious grades. One character's report card indicated that the student's work was excellent in all areas at school. A second character's report card indicated that the child's work was average and the third character's report card indicated that the child's work was poor. The second context was one where the participants while playing with dolls and a school house were encouraged to talk about what they considered to be "doing good" and "not doing good" in school. She found that the participants used the attribution of effort to explain success and/or failure 35% of the times in the report card context whereas that attribution was

used only 5% in the play session. The report card as a psychological tool mediated the participants' thoughts such that the category of effort framed their responses about success and failure more so than in the play context.

Other studies have shown that cultural practices and the environment may be used as psychological tools to transform thought (for example, Lave, Murtaugh and de la Rocha, 1984; Scribner, 1985; Lave, 1988; Rogoff, 1990; Lave and Wenger, 1991). For example, Scribner (1985) found in her investigation that inventory takers at a milk-processing plant incorporated the environment into their problem solving. They used arrays of dairy cases and mentally transformed the array configurations to assess the inventory at hand. The physical array acted as a tool in helping the workers to calculate the quantity of products available.

In this dissertation I will propose that *evaluation*, *structure*, and *motivation*, act as psychological tools (Wertsch, 1991) to mediate children's concepts of ability. There is a small distinction in the three psychological tools however. *Evaluation and motivation* are discourses whereas *Structure* is an organizational arrangement practice. Discourse in this dissertation is considered to be particular ways of using words within the particular culture of the classroom that come to represent ability. Organizational arrangement practice in this dissertation is used to convey the means by which students are grouped to represent different ability levels. It is shown to occur within and across classrooms. I propose in this dissertation that the two discourses and the organizational arrangement practice of grouping students are used as psychological tools which organize the development of children's ability concepts.

Besides the condition that thought is considered to be mediated, another consequence of the application of the socio-cultural perspective in my study is in showing that the process of meaning making is not static, but is situational. Therefore, the meanings children produce, given different contexts should vary. Ceci and Roazzi (1994) noted that specificity of context allows students to process knowledge differently and the work of Daiute, Buteau & Rawlins (2001), Daiute & Jones, (2003) and Rawlins (2000) highlight ways in which students' responses vary according to context. I will theorize in this study, therefore, that children's production of ability concepts are shown to be different according to *context*.

In showing these differences and the situatedness of children's thoughts of ability, I am referring to *context* as the three distinct ways in which I asked the students to define ability. (The reference is therefore different from the historical setting in which the study is set or the general physical setting of classroom with activities and interactions). By using the three distinct ways, I deliberately provide different opportunities for students to conceptualize ability. If meaning is situational and culturally rooted, then children's answers about ability should differ according to the context in which it is evoked. That is, the three different contexts should either elicit distinctly different ways of conceptualizing ability or they should elicit varying degrees of conceptualizations of ability across the three contexts.

Additionally, these meanings of ability are further situated therefore I give some background of educational setting. For instance, I provide background of the educational policy pertaining to achievement and changes at the local education department in order to have some historical context to understand children's definitions. Providing the

historical context is appropriate because the socio-cultural perspective indicates that higher psychological functioning has its origins in history (Vygotsky, 1978).

It follows then from the above that use of the socio-cultural perspective has implications for the methods used to investigate the phenomenon. The methods used must take into consideration not only the individual but the individual in context, where context is not an extraneous variable but is inextricably linked to students' thought processes. Observations along with interviews not only capture students' subjective thoughts about ability but they are able to capture the interactions by which students' thoughts are constructed by positioning them in context. In so doing I present the development of the concept of ability as contextualized and not de-contextualized. Use of open-ended interview questions will provide spaces in which students can explore the meaning of academic ability and draw differentially on their experiences and allowing them opportunities to process their responses differently. This will help to show that meaning is context dependent or situated and will also give more insight into students' subjective understandings of ability.

Finally of note I will indicate here that development in this dissertation speaks specifically to development in context that is, children's participation in the learning endeavor of school. And so from a socio-cultural view point, to understand development of the concept of academic ability one needs to understand that its origins and changes are rooted in history and culture. According to Vygotsky (1978) in order to understand human mental functioning,

We need to concentrate not on the *product* of development but on the very *process* by which higher forms are established... 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 behavior is not an auxiliary aspect of theoretical study, but rather forms its very base. (Vygotsky, 1978, pp. 64 – 65)

Therefore my concentration in this study is not on the shifts in children's concepts of academic ability as outcome separated from their development, as is demonstrated in studies by Nicholls (1978), for example. Nicholls (1978) showed that at different ages, children's concepts of ability are qualitatively different, with older children having a more differentiated concept of ability than younger children. Instead, I take a slice of history and I study children's understanding of academic ability in context focusing on social tools and interactions which contribute and are inextricably linked to the developmental changes in some fifth graders' notions of academic ability. For example in this research I suggested that the spatial arrangement in the classroom acted as a psychological tool to convey information to the students about academic ability. I show how it is possible through the particular interactions between students and students and teachers, students come to their particular understandings of academic ability. I further link their understandings to the historical context of evaluation in education as a means of

providing the point of change in history that may be contributing to their subjective thoughts of academic ability.

In keeping with Scribner's exposition of Vygotsky's notion of the role of history in the making of mind, I suggest that the historical changes around the issues of achievement at the national and city level have implications for playing an inextricable role by which meanings of ability are created. In this dissertation I do not claim to present all the historical changes that contribute to the construction of children's academic ability concepts. However, that which I present is indeed significant as it adds to our understanding of how the historical context of testing and achievement might play a role in shaping children's concepts of ability. In effect, I am suggesting an alternative way to conceptualizing and studying children's understandings of academic ability by focusing on the notion that social interactions and social-historical contexts are intrinsic and inextricably linked to the development of children concepts of ability.

The Structure of this Dissertation

Following in this chapter I present the review of literature on the development of children's concept of ability. In that section I review literature of various theoretical perspectives used to investigate the development of the concept of ability and identify the gaps missing in the literature, the most salient being the absence of social interactions in the development of the concept of ability. After that I go into the literature on the meaning of the concept of ability showing that the research was de-contextualized and that researchers explained young students' definitions of ability as confounded. Later I describe cultural practices that occur in classroom since I propose that cultural practices may act as psychological tools in mediating children's concepts of ability.

For instance, I describe ability grouping practices, and evaluation as a discourse and suggest that these are psychological tools that mediate children's concepts of academic ability. I noted that Heath (1983) and Cazden (1998; 2001) indicated that there are particular discourses that operate in the classroom and that having or not having the particular discourse of the classroom can affect students' literacy development. Evaluations then could be considered a discourse. In this chapter I also give the socio-historical context of academic ability which shows that testing and evaluation of results have been a major part to defining ability. The idea behind including the socio-historical context is that according to Vygotsky (1978) the development of higher psychological functions is understood as partly shaped by and rooted in historical development. I end the chapter with the research questions arising from the gaps in the literature.

The second chapter details the methods which are consistent with the socio-cultural theory. I position the research in the historical context in which it occurred. That is I detail events at the local and national level pertaining to educational ability and achievement. I describe the procedures of observations and interviews used to collect the data and that are consistent with showing the social processes involved in cognitive development. The chapter outlines the analysis leading to the identification of cultural practice and discourses that act as mediational tools. Also, I described the analysis of data showing the emergence of categories defining ability.

There are two results chapters. The first gives the results of how children define academic ability and shows how ability is context dependent. I also show how students' concepts of ability are constructed by showing the social interactions that could possibly help to construct their notions of ability. The second results chapter details two discourses

and one organizational arrangement practice that were identified in the classroom and that might be considered mediational tools in the development of the concept of ability. In the final chapter I discuss the importance and the contribution of the socio-cultural approach to understanding the practice of academic ability in the classroom by children. I include limitation to the research, a summary of my results and present implications for future research.

Children's Conceptions of Academic Ability

The development of the concept of ability –processes and theoretical perspectives

Though there are several studies on children's concepts of ability (Nicholls, 1978; Nicholls & Miller, 1984; Rosenholtz & Simpson, 1984; Stipek and Tannatt, 1984; Blumenfeld et al. 1986; Stetsenko, Little, Gordeeva, Grasshof & Oettingen, 2000, Raty, Kasanen & Snellman, 2002), few of them acknowledge the social role in the process of the formation of the ability concepts. How is the concept of ability formed and how is the development mediated? Nicholls (1978) used Piaget's "method of critical exploration as a model" and a structural developmental analysis for the data in his study to explain the development of the concept of ability. The assumption in this and the other Nicholls' studies is that the processes of *organization and adaptation* (Piaget, 1952) are involved in the development of the concept of ability. The development is therefore based on changes in intellectual structures resulting from innate predispositions to organize and adapt experience in certain ways (Hetherington & Parke, 1986).

Of concern in these studies is the age at which the concept of ability is differentiated from other concepts such as effort, difficulty, and intelligence. The results

indicated that the development of the concept of ability as a stable trait occurred in four stages. Children between 5 years and 6 years reasoned at level 1. At this level, effort, ability and outcome are indistinguishable. They reasoned that people who get a higher score work harder, even if they do not, and, are smarter. Children 7 – 8 years reasoned at level 2. At this level effort is differentiated from outcome but the concept of ability is not established. Children are unable to explain how two people can have equal scores when they did not apply the same kind of effort. At level 3 children (approximately 9 – 11 years) the concept of ability is partially established. They recognize that some children are smarter and might have different scores even if the same amount of effort is applied. The last level is level 4. At this level (approximately 11 – 13 years) ability is clearly differentiated from effort and they recognize that effort and ability may both determine outcome.

The theoretical perspective adopted in these studies is the social constructivist perspective. This theoretical perspective does not deny that the concept of ability develops in part socially, however in these studies the development of the meaning of ability appears to be an individual process instead of a collective process. Additionally, for the most part there is a focus on age related changes in children's reasoning of ability. In the studies it is suggested that the age related differences in definitions are due to the individual's processing capacity. Other researchers have suggested that the nature of social relations in school change throughout the school years which might result in differences in age related changes in the development of the concept of ability. For instance other researchers have suggested that social processes, for example, organization in the classroom, evaluation practices and ability grouping practices might be related to

children's developing concepts of ability and how they reason about ability (Rosenholtz & Rosenholtz, 1981; Rosenholtz & Simpson, 1984; Stipek & Tannatt, 1984; Blumenfeld, Pintrich & Hamilton, 1986).

Rosenholtz and Rosenholtz (1981) and Rosenholtz and Simpson, (1984) who adopted the social constructionist perspective proposed that development of ability concepts is socially constructed. They suggested that the school environment and the interactions there are important to consider as playing a role in socializing students to particular concepts of ability. Rosenholtz and Simpson (1984) argued that certain classroom organizational patterns or practices make it easy for the development of children's conception of ability which would reflect that of the institution. Further that to investigate the development of the concept of ability, the social organization must not be ignored because it plays a role in socializing students toward a particular conception of ability. According to their theory, the ability formation theory,¹ the development of ability concepts should take place when the daily patterns of activities students perform and the available interpretations of those activities are congruent with the traditional conceptions of intellectual ability.

For example, if the institution identify ability as stable, consensual (i.e. reliably measurable), dispersed (there is a range of abilities in anyone classroom), then students' interpretations of ability should reflect these characteristics given the classroom organization is salient to make interpretation easy. Children therefore easily come to accept and hold the same idea of ability as the larger institution when that interpretation

¹ Douglas Mac Iver noted in his study that Rosenholtz and Simpson's (1984) use of the term "formation" is misleading. He indicated that the theory is not necessarily concerned with the development of ability per se but is about the development of self-perceptions of ability and with the formation of beliefs concerning the nature of ability. He therefore refers to it as "ability perception formation theory".

is the best or the only interpretation possible. Rosenholtz and Simpson (1984) suggested that there are several related processes which would influence the students' views as they come to an understanding of ability. These are: (1) intellectual ability will be formed comparatively as a relative concept, (2) feedback from teachers and students should influence the student's ability perceptions, (3) the way in which academic activities are organized will suggest how academic ability is structured, and (4) the way in which performance evaluations are organized and interpreted will provide a language (e.g., smiley faces, letter grades) within which students will frame their interpretations of ability.

Rosenholtz and Simpson (1984) proposed that the development of the concepts of ability is inhibited or facilitated depending on whether the practices in the classroom are salient enough for students to compare themselves. They proposed that all students are involved in the comparison process and that a large amount of their interaction will revolve around performance. There are many sources of information in the classroom. Some are obvious for instance, the display of some students' work, and others are more subtle for example those children to whom the teacher consistently offers help (Rosenholtz & Simpson, 1984; Stipek & MacIver, 1989). When such practices of ability information are made salient, students can easily form concepts of ability on inter- and intra-individual comparisons. Weinstein and Middlestadt, (1979), Nicholls, (1978) and Ruble, Boggiano, Feldman and Loebel, (1980) indicated in their research that children as young as 6 and 7 years old engage in social comparison to assess their intellectual ability and that by fifth grade children are more likely to compare themselves with a peer than someone who is younger or someone who is older (France-Katrude & Smith, 1984).

Social comparison then may be considered a means through which, given that certain ability practices are salient, concepts of ability are developed.

Rosenholtz and Simpson, (1984) noted that in order for social comparison to occur certain characteristics need to be present in the classroom. The characteristics they postulated to make a difference are; undifferentiated academic task structure, low student autonomy, ability grouping patterns and salience of formal performance evaluations. Hence, when students work on similar tasks, use the same materials (or have a very small number of different materials), have little choice in the activities they do, work as a whole class or in assigned ability groups and when grades are assigned frequently and the assignment is visible, then students can compare themselves more easily and ability differences are made more evident. A classroom in which these characteristics are evident thus leading to easy comparison is termed a unidimensional classroom.

In an empirical investigation Rozenholtz and Rosenholtz (1981) tested the assumptions that the organization of classroom instruction shapes students' and teachers' perceptions of ability by facilitating or inhibiting opportunities for its formation. They obtained 15 fifth and sixth grade classrooms which they categorized as either unidimensional or multidimensional. Data on instructional organization was taken from questionnaires administered to the teachers. Perceptions of the individual's reading ability were obtained from teachers, self (student interviewee) and classmates. Through the manipulation of various variables they found that for the individual self, the teacher and classmates' evaluations of the individual, unidimensional instruction resulted in significantly higher dispersion. That is students stratify themselves along ability criteria more. In reading instruction there was also little effect of teacher evaluation on peer

evaluations of the individual's reading ability and little effect of the teacher and peer evaluation on the individual's self-evaluation the greater the degree of dimensionality. In effect their results supported the assumption that the organization of the classroom instruction affects student and teacher conceptions of ability.

The premise of Rosenholtz and Rosenholtz (1984) and that of Rosenholtz and Simpson (1981) is that teachers and students are active participants in their construction of their concepts of ability and that its formation is a social construction. This perspective leads them to ask, what are the qualities of the classroom which have a bearing on how students construct their concept of ability? This research moves beyond individual characters and age related changes and gives broad characteristics of the classroom. What appear to be missing from their study, are the messy day to day social characteristics in practice. How are these characteristics (salience of evaluations, ability grouping practices, etc.) put into action in such a way as to facilitate or constrict ability formation? In effect, how do the characteristics mediate children's thoughts on ability? What do the opportunities for social comparison look like that might lead to the development of the concept of ability? McDermott (1993) indicated that children become involved in a humiliation ritual in the classroom which is part of the process of the construction of learning disability. How is humiliation or such forms of interactions used as a process? What other psycho-social processes are used and how do these provide opportunities for the concept of ability to be formed? Who are the contributing participants and what are the activities in which they engage in order for students to form a concept of ability? And what specifically are students' concepts of ability given these characteristics of the classroom? Research that takes these questions into consideration and describes in what

ways children's thoughts on ability are mediated can add to the literature on the development of the concept of ability as occurring through a social process. Such research calls attention away from individual characteristics and discrete variables to a focus on the children and teacher as they are engaged in the teaching and learning endeavor.

Indeed, Marshall and Weinstein (1984) proposed that by focusing on discrete variables (e.g. grouping practices, evaluation practices, similarity of or differences in tasks) the meaning of aspects of classroom structure and process might be lost. They suggested that to include qualitative analyses with all their contextual richness and to look at meaning within context might be advantageous in determining how classroom structures, evaluation practices and grouping patterns are perceived and interpreted by students and how they affect the development of students' evaluations and ability perceptions. My research seeks to determine the practices that operate in the classroom that create meaning around ability concepts and to situate those practices as they are enacted and perceived by the classroom participants, consistent with the contentions of Marshall and Weinstein (1984). Furthermore it is necessary to locate the processes within the particular historical setting in which the research was carried out, as my premise is that the concepts are socially and historically produced.

Another study focusing on the development of children's conception of ability but that moved away from focusing on the individual and age related changes was that carried out by Raty, Kasanen & Snellman (2002). These researchers investigated children's conceptions of ability as social representations, as constructions whose contents are formed through the child's participation in the various practices of school.

Social representation theory assumes that all representations are based on concepts and assertions that are socially shared and accepted (Moscovici, 2001). The representations are constructed at the societal level, socially elaborated and collectively shared (Deaux and Philogene, 2001). Therefore the theory proposes “that individuals do not form thoughts in isolation but by influencing each other and on the basis of collectively shared reification of objects that make up their reality. These shared representations shape our beliefs and attitudes so as to give meaning to things and help us understand each other. The proposed processes by which we construct our reality are *anchoring* and *objectification* (Deaux and Philogene, 2001). *Anchoring* is the process by which unfamiliar things are made familiar. *Objectification* is the process by which an object is reified (Deaux & Philogene, 2001). In the study by Raty et al. (2002) it is assumed that particular things in the school community have been imbued with the meaning of ability and that through anchoring and objectification children have come to particular understanding of the concept of ability.

Raty et al. (2002) began from the premise that children get their explanations of ability from experiences obtained in the context of school. They investigated how children acquire the criteria for the concept of ability represented by the school by doing a comparison of reasons given in peer assessments of children at different ages. In order to carry out their study they obtained the permission for 112 children; preschoolers, and children in the first, second, third and fourth graders. All the students were interviewed and as a part of the interview they were presented with two tasks; first a familiarity task in which students were asked to say which two of three classmates identified were similar to each other and why; then a team selection task which involved a hypothetical situation

where there was a math contest and the student was asked to select who would he or she want on his or her team and why.

The students' answers were categorized and they found that there were significant differences in the use of the categories behavior, work habits and competencies as criteria for ability among the grades in the similarity task (Raty et al., 2002). For instance, the school children more than the preschoolers made reference to behavior and the fourth graders used explanations pertaining to competences in academic subjects more so than the preschoolers. In fact behavior and work habits were referred to by 5% of the preschoolers, 43% of the first graders, 44% of the second graders, 68% of the third graders and 48 % of the fourth graders. The preschoolers referred to appearance more often than pupils of higher grades especially the third and fourth graders. In the selection task they found that preschoolers and first graders did not refer to speed or correctness criteria whereas second graders emphasized reading speed and fourth graders the correctness of the answer given by the hypothetical student.

In general, Raty et al. (2002) concluded that school does exert a real influence on the pupils' conceptions of ability as demonstrated by increasing use of institutional like criteria for ability as you move from preschool to fourth grade. Fourth graders have had more experience in the school context than first graders and therefore they are more socialized into the social representations of ability than the first graders. Preschoolers have no experience with the context of school and hence their concepts of ability have little institutional criteria. Raty et al. (2002) also indicated that the students' conception of ability was manifested in their choice of team selections for competitions pertaining to school subjects in particular. They reasoned that this too was an indicator that children's

concepts of ability were social representations gained from the children's experiences in the school as the school embodies the same or similar concepts.

The study by Raty et al. (2002) argues that concepts of ability are social representations, and implicitly that children have acquired these concepts of ability through their social interactions in school. Though the study is quite compelling it failed to show the social process involved through which the students came to their concepts of ability. Students do not come to a belief system by themselves. As they interact with others in a setting which has particular meanings they come to internalize and reconstruct their knowledge in the social milieu. It is necessary to show in future that cognition is mediated and the social interactions by which students' concepts of ability are formed. A detail of the school context, interactions with others and the activities in which the students are involved will give more knowledge and will make public in what ways concepts of ability are socially constructed. Doing so therefore underscores and is in keeping with the developmental premise that cognition is inextricably linked to the kinds of activities in which people are engaged and the situations of which they are a part. It also furthers the position that the development of ability concepts is a social process.

In summary, the previous research on the development of children's concepts of ability does not adequately show the social nature to the development of the concepts of ability. It provides room for different questions to be asked and the need for a new theoretical approach. Therefore, what is needed is a theoretical perspective which has at its core that cognitive development, and in this case the development of the concept of ability is derived from social life and is a shared enterprise. As Vygotsky (1978) indicated;

Every function in the child's cultural development appears twice; first on the social level, and later, on the individual level; first between people (*interpsychological*), and then inside the child (*interpsychological*). 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. (Vygotsky, 1978, p. 57)

Also missing in this literature is that thought is mediated by tools. This theoretical concept was brought to bear on previous research which showed that cultural practices and the environment may be used as psychological tools to transform and organize thought (e.g. Lave, Murtaugh & de la Rocha, 1984; Scribner, 1985; Lave, 1988; Lave & Wenger, 1990; Rogoff, 1990). Rosenholtz and Simpson (1984) and Blumenfeld et al. (1982) indicated that given certain teacher practices which increase the salience of ability information, students are more likely to go through a process of social comparison that may help to facilitate the social construction of ability concepts. Mehan (1979) indicated that the ritual that occurs in classrooms helps to socially construct the category of learning disability. It is possible that similar forms of social interactions mediate children's thoughts on ability. Hence this research will build on previous research and will identify social practices that act as psychological tools that mediate children's thoughts of ability. The theoretical perspective to achieve this objective is the socio-cultural perspective. Qualitative methods and analyses will add a rich description of the nature of cultural practices in framing students' thoughts on the concepts of ability.

The Meaning of ability in context

Although there are several studies based on the perception of ability, relatively little attention is given to children's production of ability concepts in different contexts. Examples of these exceptions are; Frieze & Snyder (1980), Stetsenko, Little, Oettingen & Baltes, (1995) and Rawlins (2000). Therefore along with the purpose of determining how children's ability concepts are formed and mediated, I am also interested in determining how they define ability and how their concepts of ability differ across contexts. As children respond to what it means to do well in three distinct ways, (1) as it pertains to them specifically, (2) their classroom and a (3) hypothetical situation of a school, they get a chance to construct knowledge of ability while drawing upon their experiences as academic students. This is an important step in gaining insight into children's ability concepts as context dependent and culturally rooted rather than as de-contextualized as previous research would seem to imply.

Further, previous literature identified categories under which students' statements of ability occur. In some of these cases researchers explained that some of the categories indicate that younger children's notions of ability are confounded. It is then important to show what students say and to situate that within the classroom context of activities and teacher comments as a means of showing how children's thoughts are shaped by the social and educational environment. In this way, the explanation for children's responses is not focused on the characteristics of the children or explained as a deficit but rather the focus of the explanation becomes the child in the environment with the interactions. Therefore, rather than students' statements being explained as "confounded" they might

be explained as reflecting the social, cultural and historical context. Such could offer more meaningful insight into children's responses.

There has been little research that has applied a methodology to accomplish the above. Qualitative methods which combine observations with interviews, which brings the historical context of ability into the analyses, and where the unit of analysis is the whole interacting system may address these deficits in the literature. First the interview questions may be structured so that participants respond to different scenarios of ability in different contexts. Second, observations of the classroom interactions will provide information about ability practices. This information may be used to situate children's responses and help to understand their responses. These methods have the advantage of having children express their thoughts unhindered by predetermined categories. At the same time since thinking is regarded as a social activity in this dissertation, it is possible through these methods to document the social and cognitive processes involved in the development of the concept of ability. Below then is a review of the literature which shows how children define ability, that the research on development of ability concepts is a-contextual, and it gives the various methods used in that research.

In the literature that provided information of how children define ability, the results indicate that various categories are used. Examples are work habits, grades, effort, specific task performance, speed and completion. There are some categories which are used more by younger children than older children and vice versa. For instance, older children use grades while younger children use specific task performance ("I can read," "I can do hard work") to judge ability (Blumenfeld, et al. 1986) and the category of work habits ("I try hard," "I finish my work") are primarily used by elementary school

children than preschool children (Stipek & Tannatt, 1984). In the study by Yussen and Kane (1985), first graders referred to conduct and social skills while the third and sixth graders tended to refer to knowledge and academic skills. The difference in the variation of categories used by the different age groups was in part explained as young children are unable to clearly differentiate between ability, conduct and effort (e.g. Nicholls, 1978; Minton, 1979; Stipek, 1981; Stipek & Tannatt, 1984; and Yussen & Kane, 1985). Yet Blumenfeld, et al. (1986) found that work habits (conduct used by Blumenfeld) was not used to judge ability. Young children's definitions of ability were considered to be confounded. In order to explain the inaccuracy of children's answers, Blumenfeld, Pintrich, Meece & Wessels, (1982) and Stipek & MacIver, (1989) argued that the academic environment (for instance ability grouping, (Hallinan & Sorensen, 1983), evaluations, tasks with a right or wrong answer) supports children's inclusion of work habits, effort and social behavior in their definitions of ability. This argument clearly points to a need to consider the development of children's concepts of ability and their understanding in the context of their educational environment. This should reveal that the interacting system of child and social environment rather than the characteristics of the child help to explain the reason for the particular answers. That need may be addressed methodologically.

One way to study children's understanding of ability and its development is to present vignettes to them which portray instances of success and failure. For example in Nicholls' (1978) experimental study he presented children ranging in age between 5 and 13 years with vignettes of unfamiliar children who were working at a number task. In the first two vignettes one child worked constantly while in the other the child spent time in

non-work activities, such as, gazing around the room. Both children were said to get all correct, 10 out of 10. In another vignette, the child who worked constantly was said to get 2 out of 10 while the child who worked intermittently was said to get 8 out of 10. Nicholls found that the younger children did not clearly differentiate ability and effort whereas the older children did.

Another methodology is to ask children directly what criteria do they use to define ability. Stipek (1981) and Stipek & Tannatt (1984) used open-ended interviews and asked children (kindergarten through third grade) directly about the criteria they used to judge their own and their classmates' abilities. They found that children at all levels frequently explained ability judgments in terms of work habits or effort. Children's ratings of their own ability declined with grade and ratings for their peers were lower than self-ratings. Stipek & Tannatt (1984) found that young children also used behavior or conduct to judge ability.

A third methodology that has been used to study the development of the concept of ability involved presenting children with a picture of a target child (Yussen & Kane, 1985). The children were then asked to rate the child's ability in academic and social domains using a 5-point scale. They found that younger but not older children increasingly view ability as stable external forces. As they progressed through school they are less likely to view ability as stable to internal forces, they view ability as controllable.

A fourth methodology that has been used is a combination of open- and closed-ended questions to which Likert scales are applied, (e.g. Blumenfeld et al.1986). Some

questions in the open-ended interview concerned the perceptions of teacher, peer and the work environment. They noted that children primarily assessed ability using criteria such as grades and specific task performance, there was some overlap in criteria to judge effort and ability, and that a general discrimination between conduct and ability is made by second grade. It is not until children are in junior high school that definitions of ability are fully differentiated and are about academic performance alone.

In these studies the methodology resulted in children's thinking of ability appearing as de-contextualized. In some cases participants were shown pictures of children with whom they were unfamiliar, in others researchers provided questionnaires with scales that limit the extent of what children say of the phenomenon. Researchers (Lave & Wenger, 1990; Rogoff, 1990; Hutchins, 1991; Rawlins, 2000; Daiute, Buteau, & Rawlins, 2001) have shown the importance of studying cognition in context that meaning is considered to be context dependent or situational. For instance, Ceci and Roazzi (1994) indicated that context should not be looked at merely as a backdrop that influences performance, but that it should be understood as inextricably linked to cognition. They showed that specificity of the context allowed children to process knowledge differently. Children were more efficient at solving problems couched in familiar contexts than in unfamiliar contexts. Rawlins (2000) showed that first grade students framed success and failure differently, given different contexts (in relation to the cultural artifact, a report card; a play situation). And, Stetsenko, Little, Oettingen & Baltes, (1995) showed that children's school performance beliefs and their relation to academic performance varied according to socio-cultural context.

The contexts then in which a response is evoked make a difference in the framing of that response. These contexts are interpretive frameworks in which specific meanings are constructed and transmitted (Bruner, 1990). Use of methodology that provides spaces in which students can explore the meaning of academic ability and draw differentially on their experiences will allow them to process their responses differently. In addition, since thought is considered inseparable from activities, the unit of analysis should be students engaged with teacher and cultural and historical practices. Such methodology and analyses will help to show that meaning is context dependent or situated and will also give more insight into students' subjective understandings of ability.

Given the context sensitivity of meaning, in a time where the success and failure of children on state and city exams are at the core of national policy (No Child Left Behind Act, 2001), students who are about to take any of these exams might express ability concepts differently than if the new policy were not in place. By fifth grade, students would have experienced taking exams as a means of promotion and as an indicator of competence. Yet if children's experience includes years of taking standardized exams and in-class exams, and additionally they are aware of the importance placed on high test performance given the NCLB Act then their expressions of ability might be reflective of that context. Children may more freely express that knowledge in a non-threatening story-telling scenario than in expressing ability concepts related to the context of the classroom or of their own ability. It is important to highlight any differences in ability representations as this will bring to the surface how knowledge is socio-cultural and therefore situated. Also placing students' thoughts in the historical context in which it occurs may show the cognitive channeling of ability concepts.

Discourses and Organizational Arrangement Practice as Mediatlional tools in Education

In this study, thinking is regarded as a social activity occurring as members of a classroom interact with each other and is mediated by psychological tools (Wertsch, 1991). This is congruent with Vygotsky's (1978) notions that thought must first occur *interpersonally* before it becomes a thought inside the child, that is, before it occurs *intrapersonally*. Therefore children's concepts of ability will reflect the culture of the classroom and the discourse of the classroom. In this study there will be two examples of mediational tools, specifically (1) discourse and (2) organizational arrangement practices that are particular to the classroom culture and have specific meaning there and which regulate children's thoughts of ability. Discourses occur in the classroom in which children and teacher construct meanings of ability while interacting with each other. Likewise, practices are heavily relied upon in formal institutions (e.g., schools) and become useful to cognitive activity (Vygotsky, 1978). They do not exist in a vacuum and so they come to be imbued with meaning as time goes on and as people interact. As such these organizational practices and discourses can become psychological tools (Wertsch, 1991) that mediate thought. As children participate in the classroom with the discourse and the organizational arrangement practices of ability, these tools may channel children's thoughts of ability. From this perspective, discourse and organizational arrangement practices are inextricably linked with the social construction of concepts of ability.

In order to understand the nature of thoughts about ability of the elementary school child, a focus on every day practices and discourses in the classroom which may act as psychological tools is required. For instance, Mehan (1979), after a lengthy study,

pointed out that evaluation (e.g. of a discourse) is an essential ingredient of the instructional sequence in the classroom. Also Heath (1983) in her study showed how familiarity with the discourse of the classroom impacts cognitive development. She showed that when there is not a match with the ways of using language by teacher and student, there is less interaction between teacher and student. From a socio-cultural perspective, the lack of interaction verbally hampers children from having optimal gains in the classroom. Additionally, Kutnick, Blatchford, and Baines (2002) noted that all pupils in classes are placed in some form of grouping (e.g. of organizational practice). Ability grouping and evaluation are prevalent in schools and may be considered as tools which mediate children's thought processes of ability.

Inherent to the socio-cultural perspective and therefore adopted in this dissertation is the premise that children's thought processes are considered to be embedded and inextricably linked to wider socio-cultural and historical contexts. Therefore it is necessary to provide in this dissertation the cultural and historical contexts which might influence the development of the concept of ability. Two such contexts are the implementation of national laws governing education achievement and changes occurring at the city level within the department of education. The laws and changes help to govern what is done in schools and in classroom. For instance, one of the mandates of the NCLB (2001) Act is that there is increased testing in the public schools and severe sanctions are to be imposed if schools do not meet the required standards. Hence it is possible that a lot of the days' activities and talk in the classroom are centered on being prepared for the various mandated tests and doing well on those exams which may in turn help to structure children's thoughts of ability.

The following sections will give a review of the literature on the practice of organizational arrangement (ability grouping) and the discourse of evaluation (informal and formal) as in this dissertation they will be considered to play an important role in the mediation of children's concepts of ability. Of note will be the deficit in the literature. Following that will be details on the larger educational cultural system as the historical context for giving some coherence to how children come to understand ability.

Ability Grouping as an Organizational Arrangement Practice

There are basically two different kinds of ability grouping and various rationales for using ability groups. Within-ability grouping is a process whereby students of the same ability are taught together in the classroom. Another kind of grouping is called mixed ability grouping; here students of varying abilities are in the same class. One rationale for ability grouping is that it is easier for teachers to teach to a homogenous set of students of the same ability therefore enhancing student achievement (MacIntyre & Ireson, 2002). Another rationale for within-ability grouping is that students are easier to manage and keep attentive in smaller groups (Hallinan & Sorensen, 1983). Students may be grouped or tracked as early as first grade by their teachers who may, for example, base the division of groups on students' maturity levels (Brophy & Good, 1974). Other means of grouping are based on IQ scores (Brophy & Good, 1974) or on city and or state-wide standardized tests. Though these groupings may be governed by the teachers, students have their own perspectives about the reasons for the groupings.

For instance, in research carried out by Babad and Ezer (1993) with fifth grade students they found that students indicated that students who performed best academically were seated at the back of the classroom, and that "teacher's pets" tended to

be seated closer to the teacher. They indicated that these results suggested that excellent students are less in need of continuous interaction with the teacher than the teacher's pets who were seated at the front. On the other hand, research by Rist (1970) [cited by Brophy and Good (1974)] and by Brophy and Good (1970) [cited by Brophy and Good (1974)] showed that the highest achieving students were seated closest to the teacher and had easier access to the teacher, while the lowest achievers tended to be seated farthest away. Though these pieces of research seem to contradict each other, what is important is that the students perceived the differences in the groups as being ability differences. This would indicate that the organizational practice of grouping students is being internalized by the students. It might be suggested that the practice mediates students' developing thoughts of the concept of ability.

Very few studies have investigated ability grouping practice as it relates to the development of the concept of ability. There has been much research related to its effects. For example, there is research related to the effects of ability grouping on self-concepts (e.g., Eder, 1983; MacIntyre & Ireson, 2002), its relation to learning (e.g., Boaler, William & Brown, 2000), and achievement (e.g., Slavin, 1990), to name a few. Rosenholtz and Simpson (1984) however, have theorized that the practice of ability grouping in the classroom which allows for easy social comparison is one practice that partly helps to construct children's notions of academic ability. An investigation by MacIntyre & Ireson (2002) with fifth and sixth graders statistically showed that there was no significant effect of ability grouping on ability perceptions. However, they postulated that, given their results, ability group type (within ability, between ability, and no grouping) may indirectly contribute to the development of dispersed and consensual

ability perceptions. Investigation into ability grouping practices in the classroom and between classrooms may give insight into how the practices acting as psychological tools are used in cognitive activity to mediate the development of the concepts of ability for children.

Informal Evaluation discourse

Evaluation in this study is considered as a discourse. Evaluation is ubiquitous in the classroom. It seldom occurs in the day-to-day discourse, yet it is an essential ingredient of the instructional sequence in the classroom (Mehan, 1979). It may occur in the form of formal evaluation, e.g. standardized tests, and/or the informal verbal comments by teachers as they conduct a class. Through a lengthy case study, Mehan (1979) mapped out the structure of a classroom lesson showing that, for the most part, classroom talk has a particular pattern. Most of the talk is initiated by the teacher, and that the talk is generally question and answer (known questions) whereby the teacher asks a question, the student responds, and the teacher evaluates the response. This is usually referred to as the Initiation-Response-Evaluation (IRE) format. During a lesson, turn taking is usually allocated by the teacher, though there may be times in which the teacher does not adhere to the rule. In general, Mehan (1979) found that in the three-part IRE discourse, if the reply called for by the initiation does not appear in the next turn of the process, the teacher will employ a number of strategies until she gets the expected answer. Further, in his research Mehan (1979) found that positive evaluations end the sequence, but that an incorrect answer may or may not be negatively evaluated and the sequence continues until the correct answer is given. What is important is that the

children are socialized into this discourse such that they understand the evaluative comments.

Cazden (1988, 2001) also reported on the kinds of communication systems in the classroom agreeing that there is specific type of talk particular to the classroom. Among other things, she pointed out that discourse in the classroom is not necessarily understood in its grammatical form, and that because of the social context it takes on a social meaning different from its grammatical meaning. One such example she gave was an exchange that occurred between her and one of her students during a lesson. “Can you come up and find San Diego on the map?” Taken in its grammatical form, this is a question with either yes or no for an answer. However in the context Cazden (2001) contends it is a directive to act – for the student to go to the map and point out where San Diego is situated. Cazden (2001) refers to this kind of interaction as a form-function relationship and that teachers are adept at using these options with the expectation that students will interpret them correctly. Though some children may enter school not familiar with the specific discourse of the classroom (Heath, 1978), they gradually come to be socialized into these discourse forms. Children are then able to correctly interpret the request in its social form and not the grammatical form. The socialization allows the children to engage more fully in the communication system of the classroom thereby providing opportunity for optimal cognitive gains. Other children enter school familiar with the discourse, prepared to engage and benefit cognitively in their interactions.

Heath’s (1983) work on language and literacy clearly showed how children’s cognitive development is influenced by being familiar and taking part with the discourse of the particular culture. In her well known work with children from three different

communities (Trackton, Roadsville and the town) she found that the children from Trackton and Roadsville communities had “different ways with words”. The language of the children from these two communities was dissimilar to that used in the school, whereas the communication system of the children from the town was similar in style to the discourse that occurred at the school. The children in this study who entered school with a “different way with words” (Heath, 1978; Heath 1983) were accustomed to using a lot of context in their speech however on entering school the work in the lower grades was de-contextualized. This difference meant that they were more likely to fail early on in school than to succeed. It was not until the later grades that the more contextualized language was used. By then the experience of failure was too embedded for them to retrieve those skills with which they came into school (Heath, 1983), with the result that many fell behind academically. On the other hand, the group of children who was already socialized into the language of school tended to succeed in school.

Heath (1978) described the classroom language as having special features, one of which is the “connected units that make up the ‘discourse’ or flow of speech” in interaction between teacher and students. Like Cazden (1988) she noted that teacher-student talk cannot be analyzed in a vacuum but needs to be investigated in the context of its occurrence and within other stretches of speech. Addressing also the implicit nature of classroom discourse, Heath (1978) showed that once the setting, the social relations between speakers, and the speaker expectations in regards to the situation are taken into consideration, certain talk between individuals could only be considered to occur in the classroom. One such form of talk is the question-response-evaluation or, as Mehan (1979) called it, the IRE sequence. The evaluation in this sequence would be considered a

part of the classroom discourse given the setting, social relation etc. Given Cazden's (1988) contention that within a communication system in the classroom some statements cannot be construed based on their grammatical form, then some statements made in the classroom, due to context, should be considered as evaluations and not on the merits of their grammatical form. These could be considered *implicit* evaluations – understood within the context of that classroom – distinguished from the more explicit type of verbal responses such as “very good” or grades given on tests. The ubiquity of the implicit evaluations as part of the “unit” (Heath, 1978) of discourse should also mediate the development of the concepts of ability as students become familiar with the discourse of their classroom.

Formal Evaluation Discourse

Other means of evaluation which are less frequent, although more formal, include testing. Standardized testing is currently the most widely used means of assessing children (Behuniak, 2003; Meadows & Karr-Kidwell, 2001). It is used to determine areas in which a student needs help and to make comparisons between students' abilities and skills (Daniels, 1999 cited in Meadows & Karr-Kidwell, 2001). It is also used for accountability purposes (Behuniak, 2003) calling teachers, students, and school districts to take responsibility for poor performance results. Finally, and most important, it is used to measure a student's intelligence. Achievement scores from standardized tests indicate the child's academic competence in the classroom (Green & Forehand, 1980). On the basis of students' performance on these standardized tests, students may be placed in gifted classes or remedial classes, or separated into ability groups. One assumption behind standardized testing is that one's level of ability is fixed across one's lifespan and

that this ability can be accurately and reliably measured in everyone at any point in development (Steele, 2004). Yet a person's score may vary from one day to another because of emotional stressors. Further, because children's answers are scored by a computer, any strayed marks on the answer sheet or faintly shaded answer, for instance, might mean that the score compiled is not an accurate representation of the student's performance (Meadows & Karr-Kidwell, 2001). In effect, standardized tests are not necessarily reliable, and what they indicate of a child's academic ability must be viewed askance. Another assumption of standardized testing is that knowledge is thought of as a possession that can be found in the individual rather than is in the relationship between people and activities.

In addition to standardized testing, there is testing that might occur in the classroom and is documented on report cards. Crooks (1988) did an extensive review on the impact of evaluation practices on students, most of which were formal testing. There were several things Crooks (1988) showed in his review but only those that are relevant to this research will be noted here.

Crooks' review showed that a large portion of students' time is involved in activities that are evaluated. In fact studies showed that anywhere from 5% to 15% on average of students' time was spent on testing. In addition, teachers considered the evaluative activities to be important to students' learning. He also found that teacher questioning was positively related to student achievement. Effects also varied according to the organization of the classroom. If the organization was set up in a competitive structure, then the success or failure of students was determined by their performance

relative to the other students in the class. Students in individualistic structures were rewarded on the basis of their own work, independent of the work of other students.

In the extensive review by Crooks (1988), there were no studies cited about the nature of evaluation as related to students' developing concepts of ability even though evaluation is so prevalent in the discourse of classrooms. Given that such a large portion of a child's time is taken up with testing, it is possible that their thought processes of ability could be mediated by evaluation. There is one study by Parsons, Kaczala, and Meece, (1982) not reported by Crooks, which asked the question as a part of the study, "Do variations in teacher-student interaction patterns affect the students' self-concepts of ability and expectations for their own future performance?" From their empirical analysis of data collected from questionnaires, they found that the discriminative use of criticism for academic work has a positive rather than a negative effect on students' concepts of ability.

More research is needed to show how evaluation is channeled, resulting in the framing of certain ability concepts. I will, through qualitative analysis, seek to show the linking of the formation of the concept of ability with evaluative discourse. That is, that evaluative discourses (even formal evaluations) act as psychological tools to mediate children's thoughts of ability. Rosenholtz and Simpson (1984) noted that when student assignments are given grades, the salience of differentiation and social comparison are increased because they are readily available to the relevant public. My research seeks to extend this by proposing that any form of *explicit* public verbal evaluation, for example, "very good", "good", "job well done" may contribute to social comparison, thereby facilitating the development of the concept of ability.

The Socio-Historical Context of Academic Ability

Above is a synopsis of some of the immediate discourses and practices which occur in the classroom and which could possibly act as psychological tools to mediate thought. It is also necessary to look at one of the larger systems that determine educational achievement as a means of understanding how ability concepts could be shaped through them as thought processes are inextricably linked to cultural and historical contexts. This is in keeping with developmental theory and the socio-cultural perspective which posits that the formation of concepts first occurs at the social level then inside the child (Vygotsky, 1978) and that culture, history and thinking are inextricably linked. From a socio-cultural perspective it might be inferred that national policies on education and other educational changes at the city level are adopted into the classroom interactions thereby regulating teacher's mode of behavior with the students and children's thoughts of ability. An outline of the history of education specifically testing shows there is an increasing emphasis on scores and grades as a measure of academic ability. It may be assumed that that definition could find its way into the classroom.

Over the years, in the USA there have been several educational policies that called for higher educational performance which mandated increased testing. For instance, the National Defense Education Act was passed in 1958 when it was thought that Russian children's education in mathematics and sciences and their teaching was superior to that of the USA. Vast amounts of money were allocated to schools to improve students in the area of math and science. In 1983, there was another report entitled *A Nation at Risk* created because of concern about "the widespread public perception that something is seriously remiss in our education system." Schools were asked to adopt

more rigorous and measurable standards and higher expectations of academic performance (<http://www.ed.gov/pubs/NatAtRisk/index.html>). Title I of the Improving America's Schools Act (IASA) in 1994 required states to develop high quality assessments aligned with state standards in reading and mathematics (Goertz & Duffy, 2003). And currently there is the No Child Left Behind (NCLB) Act of 2001. Though the other reforms required testing of students, this Act requires increased testing of every child in grades 3 through 8 in reading and mathematics by the 2005-2006 school year, additionally schools and districts are more accountable and there are more stringent outcomes if standards are not reached.

One aim behind the NCLB Act is to increase overall achievement across the USA. A driving force in obtaining this is the very demanding accountability standards for the public schools, districts and states. The system is results based and therefore all states must measure whether its public schools are making adequate yearly progress (AYP) through the annual testing of its students from grades 3 through 8 in reading and mathematics. Failure to meet the (AYP) results in sanctions and interventions which increase in their stringency every year that the school does not make the AYP. Hence it is advantageous to schools to increase the test scores of its students.

Concurrent with the implementation of the NCLB (2001) Act were changes in the New York City Board of Education which may also impact developing thoughts of concepts of ability. These changes are also aimed at academically improving student performance in the city's public schools. After a review of the performance of schools on standardized tests, it was found that, out of 4,000 schools, only 209 had met performance requirements. Changes were recommended on the basis of test scores and improvements

would be recognized by gains on standardized citywide test scores. It is possible that the changes even at this local level channeled their way into the classroom interactions with the result of possibly facilitating the development of the concept of ability for children.

A look at the history of the larger educational system governing ability inclusive of the NCLB Act and changes at the New York City Board of Education then suggest that academic ability might be defined as a score received on a test. This definition is both at the city and national level. Indeed, Geortz and Duffy, (2003) noted that test results are now the primary measure of student progress. It is necessary to determine how ability is defined by those at whom the NCLB Act is targeted – the students. Do they likewise define ability as a score? Additionally, this socio-historical context shows that ability is something considered to be evaluated. Since cognitive development occurs through socio-cultural and socio-historical processes, I contend that the implementation of the NCLB Act and educational changes at the city level indirectly impacts what goes on in the classroom and so shape children's perceptions of academic ability in the classroom.

Therefore it is possible that a lot of the discourse in the classroom relates to evaluation and to encouragement to obtain a passing score. It is imperative to study children's concept of ability as embedded in this socio-historical context because what students think about ability is not decontextualized but is connected to that larger system. Seeing its connection to the larger context of ability shows how it shapes children's thoughts of ability and that their thoughts are inextricably linked to the cultural and historical context. Further, what students think of ability is relevant to their academic achievement. As Bandura (1997) showed, children's concepts of academic ability have been shown to affect their achievement in school.

Research Questions

The literature review shows that the previous research on the development of children's concepts of ability does not adequately show (1) the social nature to the construction of the concepts of ability, (2) that the development of the concept of ability is mediated by tools and (3) the context dependency of the meaning of ability . What is needed is a theoretical perspective which has at its core that cognitive development, and in this case the development of the concept of ability is derived from social interactions. That it occurs first on the interpersonal level and then intrapersonal (Vygotsky, 1978). Previous research showed that cultural practices and the environment may be used as psychological tools to organize thought (e.g. Lave, Murtaugh and de la Rocha, 1984; Scribner, 1985; Lave, 1988; Lave and Wenger, 1990; Rogoff, 1990). In classrooms there are particular forms of discourse and practices around ability that are already in place that might mediate children's thoughts on ability. It is necessary to investigate these everyday phenomena to show how they might possibly mediate children's developing concepts of ability.

Further, Rosenholtz and Simpson (1984) and Blumenfeld et al. (1982) indicated that given certain teacher practices which increase the salience of ability information, students are more likely to go through a process of social comparison that may help to facilitate the development of ability concepts. Similarly, Mehan (1979) indicated that the humiliation ritual that occurs in classrooms helps to socially construct the category of learning disability. Given these perspectives this research will build on previous research and will identify social interactions that may act as psychological tools that mediate children's thoughts of ability. It will show how meaning is developed first between

people and then in people. Also, that children's concepts are socially constructed. The theoretical perspective to achieve this objective is the socio-cultural perspective.

Another deficit in the literature is that research on the development of the concept of ability and how children define ability was presented as independent of context. The object of interest was divorced from the social milieu. It has been established in other research (Rogoff, 1990; Rawlins, 2000; Daiute, Buteau and Rawlins, 2001) that meaning is context dependent. Therefore research is needed to show that the development of the concept of ability and how children understand ability is context dependent. That is, that they are situated. One way of achieving this is to use methodology that provides distinct opportunities for children to speak of ability that will allow for various meanings to be evoked. This also has the added advantage of getting children's subjective understanding of ability. Another means is to situate children's responses in relation to their classroom and educational environment, that is, with the teacher's comments and the larger educational environment.

It is necessary to determine children's understanding of academic ability as it has implications for lessening the drop-out rate from school. It has been shown as well that students' understanding of their academic ability can have pernicious consequences such as low self-esteem (Bender, Rosenkrans & Crane, 1999; Huntington & Bender, 1993; McBride & Siegel, 1997). Also, currently Title I funding is given to schools where the poverty level is high to increase resources used to help students whose academic achievement is below the defined standards. Yet, academic ability in these cases is defined by the institution. Insight into what children think of academic ability and the processes that forms their understanding might suggest ways in which the funding might

better be channeled. Finally, using a socio-cultural theory as the basis of the investigation helps to show how students' understandings of ability are mediated from their interactions with others and psychological tools.

In my study, I start from the assumption that academic ability is in part socially developed, that is, socially constructed and is mediated by tools. Academic ability then is not an innate characteristic, it is something that is treated as real and has been reified in society. Because I contend that the definition of academic ability is socially constructed, it will therefore be defined in complex ways and expressed differently in different contexts by students. I also assume that children's subjective definitions of academic ability are legitimate and thus not to be discounted as lacking or confounded. Further the development of children's concepts of ability is inherently tied to their daily activities and in social interactions within the broader social context of education, e.g., NCLB and citywide testing.

In this dissertation children's definitions will not be considered as confounded but rather they are complex definitions which are organized and constructed around the socio-historical and socio-cultural world. This study therefore will offer a new and different perspective on the development of ability concepts. Rather than being construed as based on the capacity or characteristics of the child, it will be shown to be partly developed socially and mediated by various tools. The study will add to research design by showing that children's concepts of ability are complex and will capture children's experiences using context sensitive methodology.

I used a socio-cultural framework thereby positioning the formation of the concept of development within the actual activities in which the students are involved. The social process in the ability concept development is rich, deserving of detail that a quantitative study cannot provide. Here, in these moments, are the social interactions in context that help in the development of academic ability. My study therefore is a qualitative and asks these descriptive questions:

- 1) What are children's conceptions of academic ability and how are they mediated?
(a) How do children's concepts of academic ability differ across contexts? and (b) what are the social interactions by which these concepts are constructed in context?
- 2) What are some of the dominant practices and discourses in the classroom which help to constitute and mediate the construction of ability concepts?
- 3) What do we learn about the feasibility and contribution of a socio-cultural approach to studying the important practice of academic ability as understood by children in school?
- 4) What are the implications for future research?

Chapter 2: Methods Used to Assess Socio-cultural Processes in the Development of Academic Ability Concepts

Introduction

The purpose of this study is to develop a better understanding of what are children's concepts of academic ability as socio-cultural practices mediate children's conceptualizations of ability. To achieve this objective I observed students in grade 5 at a public school in Brooklyn, New York between the months of February and May 2003. The choice of setting and research methods were guided by Vygotsky's notion that higher mental processes are determined by historical (Scribner, 1985) and cultural processes, and by qualitative methods. Accordingly I begin by placing the research in the historical context in which it occurred, including a description of the institution and the richness of the classroom environment, and the activities in which the participants are involved, along with my access into the site. Following this, I present the research design, description of participants, data collection process, and data analysis.

Situating the Research

My research initially started as an investigation into the construction of the concept of learning disability and learning disabled identities as occurring in the classrooms of New York City public schools. However, upon meeting several roadblocks to carrying out the research, my focus needed to be reshaped. The resistance, as I refer to it, came mainly from an acting principal and then from the school district officers who oversee a particular district of Brooklyn. Other forms of resistance came from parents and students either in the form of the refusal of students to give the consent forms to the parents or the refusal of the parents to return them to me.

It is imperative that I place this resistance to the study in some context. The population of the school in which I conducted my research is predominantly Black. Over the years it has been widely reported in the New York City media and other studies that minority students are quickly labeled, separated, and maintained in the “slow” track without further assessment or hope of going back into the mainstream classroom [**New York Times 2/3/99 page B7**]. Further, there is a stigma attached to the label of learning disability. Some parents are therefore reluctant to get their children diagnosed as learning disabled and, for many of those who do so, it seems plausible to assume that they do not want their child spotlighted more than already takes place, e.g., being pulled from their classroom to go to the resource room.

Another context in which this research occurred was that of increased scrutiny of schools particularly failing schools, by the New York City Department of Education started in 2002. The City of New York was in the process of restructuring the school system in order to improve the performance of students in the schools. This school system is an elaborate maze. In June 2002, the new mayor decided that the system would work better if the Board of Education were abolished and replaced with a system with mayoral control. In this move, there was the reorganization of 32 local districts into 10 zones, overseen by 10 regional superintendents, who are then overseen by 10 institutional superintendents. With the implementation of this design, people could possibly lose their jobs if their school was performing poorly. Part of the plan of cleaning up the school system was to remove 50 poorly performing principals based on “persistent educational failure” in their schools (New York Times, December 12, 2002). Research in these schools about learning disability in the particular context could possibly appear to result

in highlighting more those students who are not performing well, thereby making that school look as a failing school.

It was to improve the ability performance of the students of these schools that structural changes were recommended. The performance of elementary schools and high schools was reviewed and 3,792 schools which did not have high rates of successful achievement were required to employ a mandated standard curriculum. I submitted my proposal to one of the districts (after the proposal was accepted by the then Board of Education) during this transitional period and was told that I absolutely could not conduct this research at any of the schools within that district. The reason given was that I would be speaking to the children about learning disabilities and would spend too much time with the children thus taking away time needed by the children for their academic pursuits. Having pointed out that I would not be using the term learning disability with the children and that I could lessen the amount of time I spent with them, the district officer refused to reconsider a change in the proposal. In addition to this, at this critical time, the principal of one of the schools from whom I informally gained access and approval (pending approval from the district) was “let go” according to anecdotal information given to me by one of the teachers there. The acting principal was then reluctant to allow me in to do the research in that particular climate of change.

These refusals are not coincidental, but within the context (where jobs were possibly tenuous and students’ lack of ability performance was the focus) created a space for resistance to my research. With an emphasis at this time on improving achievement and the identification of schools which were shown to be failing, investigation of a group

of students who are considered not as successful could highlight more the failure of the school.

Another aspect of the restructuring was that schools which were failing needed to adopt a new curriculum focused on ensuring that all students achieve the standard in reading, writing, and math. During the time that I collected my data, the Board of Education in New York City published a list of schools which were exempted from adopting the curriculum. Of 4,000 schools, 3,792 schools needed to implement the new curriculum mandated by the city. The school at which I did my research was one of those failing schools considered in need improvement. This meant that there was intense pressure to have students improve as measured by scores received on standardized tests.

My research was in the year 2003 a critical time in the history of education in New York City. There was a heightened state of consciousness and accountability because, at the same time as there was a structural change about to take place at the New York Board of Education, states and schools had to implement the No Child Left Behind Act 2001 (NCLB) which was signed into law by the president in January 2002. This education reform act seeks to improve student achievement (No Child Left Behind Handbook, 2002) through calling states, districts, schools, and teachers to be accountable. States are expected to create yearly assessments to determine what students can do in reading and math from grades 3 through grades 8. Therefore, a culture of more testing was to be created in order to track the performance of students and schools. The Act states that districts and schools that do not make satisfactory yearly progress “will be targeted for assistance and then be subjected to corrective action and ultimately

restructuring.” There was then a heightened sense by schools and districts of the consequences of not having a good report card.

With principals and teachers under such pressure, both at the local and national levels, to show that their schools were performing well, it was not surprising that the schools I approached did not want me to speak to children labeled “learning disabled.” These are the children whose scores on the tests were typically lower, which scores, if entered with the scores of the other students, tended to make the school look as though it was a poor performing school. One option open to me therefore was to broaden the scope of my research from one centered on learning disability to one which investigates the meaning of academic ability. The change was not drastic and was in keeping with the culture surrounding education in New York City at the time, for much of the focus was on students’ abilities and determining proficiency standards.

In the early part of 2003 was therefore the beginning of the education policy changes being put in place which affected any public school in the city deemed in need of improvement. This was a new historical and social era as it were in which my research was conducted and in which this research was embedded. A socio-cultural approach to my study implies that these changes created opportunities for changes in individual cognition (Scribner, 1985). The changes in individual cognition however occur as a result of changes in social practices and social interactions. Though my study was not designed to capture cultural change from point A to point B and change in cognition in relation to those same points in time, I do however suggest children’s particular thoughts of academic ability are such because they are culturally situated within the specific time of

higher accountability of schools and districts and increased testing. A description of the school and classroom will add to this context of the research.

Description of the School and Classroom

As with other elementary schools in NYC, an integral aspect of the program for ES 123 (pseudonym) is to have students meet or exceed grade level standards on the New York State assessment tests. For the school year of 2001-2002, the percentage of students meeting or exceeding grade level standards in reading for grade 4 was 43.5%; the percentage below was 18.1%. In mathematics, the percentage of students meeting or exceeding grade level standards was 32.7% and that below grade level standards was 9.1% (the percentages comprise of city and state results).

In a review of student performance in all the public schools in New York City, many of the schools were found to perform poorly. ES 123 was one of the failing schools. The superintendent for that district advised the principal to submit a waiver to get the school off the list because of its excellent progress in math and literacy. However, during the time of the research, there were no notices that ES 123 was taken off the list. The school therefore had to continue its efforts to improve, much of these efforts had to occur in the classroom.

The Classroom

The classroom was situated at one end of the third floor. Access to the classroom was made by walking at the back of two other adjoining classrooms. There were no dividing walls between these three classrooms except for bookcases about three feet high

to separate them. The decorations in the room did not include indications of student achievement. Stuck above the windows on the north side of the classroom were descriptions of different parts of speech and math concepts that were there possibly as reminders for the children. On the west wall was the chalkboard and a sink. At the south end was a small office and a few metal closets to hang coats and bags, and on the east side were the bookcases dividing the classroom. There were 28 students and one teacher. The students sat at desks which were pushed together into four distinct groups . Therefore, students at each set of desks sat and faced each other and not the chalkboard. Two groups were in front of the chalkboard and the other two were behind them with an aisle dividing them. These last two groups of desks were directly in front of the teacher's desk which was placed along the north wall and farthest away from the chalkboard. While I was there, students always sat at their desks as they were engaged in their daily activities.

My entry into the school and classroom

The selection of a school was initially based on theoretical considerations and then on practical issues. First, there were students at this school who went to the resource room because they were considered “learning disabled” and, second, I was given approval to conduct the study there. As sometimes happens in qualitative studies, the practical issue (approval to conduct the study) worked out more favorably than the theoretical issue as I did not receive consent letters from the parents of children considered ‘learning disabled.’ In December 2002, ES 123 gave me approval to conduct my research there. I explained the nature of my research to the principal, indicated the grade level at which I wanted to do the research and the minimum number of students

with whom I would want to speak to individually. This preliminary phase occurred just prior to the school break that occurs at the end of December for students in public school in New York City. I waited approximately six weeks after distributing the consent letters (with the hope to collect more approval letters) before beginning my research there.

I started conducting my research in February of the following year - 2003, after I got back as many consent letters from the parents as I would receive. This was about a month after the students were back from their break. By this time students and teachers were fully familiar with each other and any classroom practices would certainly have been established. I theorize, however, that development is continuous and situational. It occurs through interaction in a social context. Therefore, starting my research at the beginning of the school year was not of ultimate importance but rather the interactions that occur between the teacher and the students. I should therefore still see concept formation in action in the social environment of the classroom, even though I entered the classroom several months after the school year begun. Further, the research was conducted in 2003, at the point in history when the NCLB Act 2001 was first being implemented nationwide and at the time at the New York City Department of Education implemented various changes in order to increase achievement in the public city schools. These changes I theorize help to account for the development of children's concepts of ability.

Research Design

Participants

There were eight 5th grade students and one teacher, all members of a common, classroom who participated in this research. Fifth grade students were chosen for several

reasons. Wurm (1999) has indicated that children as young as fifth graders have a vague understanding of their ability. My intent is to uncover what children's understanding of ability is, not whether it relates to a prescribed definition. Raty et al. (2002) indicated that, by fourth grade, school has exerted an influence on students such that they use more ability-like criteria when defining ability. Since students in fifth grade would have been entrenched in the educational system for several years and participated in the more formal ability determining experiences, fifth grade students are an appropriate pool from which to choose. Further, since I hypothesize that ability is a social construct and mediated by classroom activities and larger systems, students' definitions will be imbued with the culture. Maturation therefore was not an important factor as in the Nicholls (1978) study.

Because of the demographics of the neighborhood which was largely African American, all of the participants were Black. According to the teacher, most of the students had been students of the school in the fourth grade and had either gotten a Level 1 or Level 2 on the citywide exam the previous year. The range of proficiency on the citywide exam is from Level 1 to Level 4. This group of students then was not a group of students of mixed ability as determined on the citywide examinations.

The teacher had over 20 years of teaching experience, two of which were in the USA, the rest in Jamaica. It was necessary to include the teacher as I hypothesize that educational culture is channeled through interactions with the teacher. It is also consistent with socio-cultural theory.

The students and teacher who participated were observed and interviewed on the basis of having returned their signed consent letters. They were only a portion of the classroom members, as participants were studied from a sample of 28 students. All the students came from the surrounding neighborhood. Though this sample is not representative of fifth graders, the research design using observations, interviews and collected documents did yield a large number of interactions and statements to provide validity.

Materials

A tape recorder, a sketch of the layout of the classroom and notepad were used to collect all data.

Procedures

I implemented my research design in a fifth grade classroom. The design consisted of observations and interviews. Classroom observations resulted in field notes of ongoing observational stream of heard speech, mostly of the teacher. Individual interviews were audiotape-recorded and then transcribed for analysis. Each one ranged from 30 to 45 minutes. Each transcription was checked for its accuracy against the tape recorded interview. I also collected any documents that were available to anyone coming into the school. These were few and those that were applicable to this study included: a brochure entitled, **What Did You Learn in School Today?**, a letter from the district superintendent of the district to the parents, and a brochure with an overview of the school's policies written to the parents.

Observations

I conducted 17 observations over a period of 1½ months, mostly during their reading and math periods. My initial plan was to conduct observations over two semesters which would give early interactions in the classroom and how they evolved over time. This became impossible because consent forms were not returned on time. Observations were chosen as a means to determine the course of activities, the culture, and the social interactions within the context of the classroom. I observed for instances of ability signaled by such things as specific praise or criticism of specific people, thereby signaling ability differences between students, and moments of reference to grades. Though my initial design included observations in the latter part of the school day in order to get a better description of the full school day, the teacher dissuaded me from doing so at those times. Unwilling to make the process of being in the classroom and the teacher problematic, I gave up that aspect of the design. The days of the observations were variable, more or less dictated by the teacher's and my schedule. For instance, on one of the days that I tried to carry out an observation, the students had gone on a trip. All but two of the observations were conducted in the regular classroom. For most observations, I was able to be in the classroom approximately 1½ hours while the teacher conducted her reading (15-20 minutes) instruction, while the remainder of the time was dedicated to the math lessons.

For most of the observation sessions I sat at a table which was at the back of the class (in relation to the blackboard) and somewhat outside of the circle of students. The seating position was not an attempt on my part to position myself as a non-intruder or as someone who did not have an impact on the classroom. It was the only available seating

at the time. I did not consider myself as a non-participant observer, even though the seating and the format of the lessons lent themselves to that. I considered myself as a subjective participant observer, coming to the classroom with certain theoretical beliefs and research interests which allowed me to focus my attention in specific directions. In order to get teacher's and students' interactions, I recorded the speech by taking notes, between teacher and students, most of this from the teacher.

Because many of the consent letters from the students were not returned, I was unable to use a video camera to get visual data of classroom activities and voice recordings of most students and the teacher. I was unable to tape record and or videotape for the observations in the classroom, therefore my corpus of material resulted in capturing more of the teacher's speech than that of the students.

The advantage of using observations was that they allowed me an entry point into the world of these fifth graders, and allowed me to get a sense of what occurs in their classroom. The observations also afforded me the opportunity to notice how students and teacher come together in this particular educational institution, a place which helps to frame their social participation. It also allowed the students to become familiar with my presence before I conducted the individual interviews with them.

Interviews

I conducted 9 interviews, one with each participant (8 student interviews and 1 teacher interview). I chose to conduct interviews to get a more in depth view from the participants about the phenomenon under investigation and to get their subjective thoughts of ability. They were also used to corroborate and/or enrich the data from the observations. The interviews occurred after the observation period with a few that

occurred shortly before and some after the citywide student exams. All interviews with the students lasted between 30 to 45 minutes and were conducted in a room adjacent to the classroom. The interview with the teacher lasted 50 minutes and was conducted in the classroom.

It was advantageous to do the interviews after the observations as I was able to utilize information I gained from the observations to create and change some of my interview questions. For instance, one thing that was quite noticeable in the classroom on my first visit was the grouping of the desks and chairs. I was able to then incorporate questions about this arrangement in my interview protocol for both teacher and students. The interviews which were done individually then allowed me to clarify some interpretations that I had made. For example, there were three classrooms in one large space. They were 5A, 5B and 5C. My initial thought was that these signified groupings of ability where A was better than B was better than C. Questions to the teacher and students about the groupings debunked my initial thoughts. The interviews gave the students and the teacher the opportunity to narrate their notions of ability/achievement. They also provided the students and teachers a chance to cogitate and speak on issues that they might not have done otherwise.

Rawlins (2000) has shown that context is instrumental in the framing of responses and Ceci and Roazzi (1994) noted that specificity of the context allowed students to process knowledge differently. In keeping with this body of research, I interviewed the students and asked them to talk about their seating arrangements and what it meant to them to do well in three distinct ways, thereby providing different contexts in which students' knowledge could be framed. The three different ways were; 1) what does it

mean to do well in your classroom? 2) what does it mean for you to do well? And, 3) imagine you had a school (all students hypothesized they were the principal in this scenario) what would it be like and how would you let the students know they were doing well? I categorize these three “contexts” – classroom (context), personal (context), and (imagination) contexts. As students had either just taken or were about to take the citywide exam, I asked them what the exam was about and why they have/had to take it. Thus, I addressed ability at the cultural historical level (taking the exam and their evaluation of it), ability at the school represented by the classroom level (socio-cultural), and the individual level [from the perspective of the student]. Other research has provided several contexts in which children may give different subjective meanings to a phenomenon. For example given two different story prompts eliciting cultural and personal experiences, children represented social conflict differently in the different narrative contexts (Daiute, Buteau, & Rawlins, 2001). My research therefore follows that line of reasoning in attempting to determine the meaning of academic ability as situated.

A visual representation of the classroom and a tape recorder were used in the interview sessions. The drawing of the classroom was used to explore issues of classroom structure, and data elicited were used to corroborate observational data about classroom arrangement and seating practices.

Some of the queries to the students were similar to those to the teacher since I theorized that the understanding of the concepts is constructed between those involved. Prompts were used to elicit some elaboration or clarification. In other words, the interviews were constructed to provide the students and the teacher the opportunity to explore or reflect on their ideas of what ability/achievement means to them.

Analysis of Data

Initial analysis of the data began during the time that I did the data collection. After several of the observations, I asked the question “Where did ability occur today?” This question was asked to help me identify the practices occurring at the time to produce ability. Later analysis of the observations and interviews included multiple readings of the transcripts and observation notes toward an identification of categories to define ability, and identification of discourses and practices as tools that mediate children’s thoughts.

I approached this study with the assumption that “reality is subjective and multiple as seen by the participants” (Creswell, 1998) of my study. This world view is called ontological because it is related to the nature of reality (Creswell, 1998). Therefore in this study, I determined what students’ understandings of ability were and showed their subjective understandings in many instances using the participants’ words to show their understanding of the concept.

The data were analyzed using qualitative data analysis procedures. I used the constant comparative method of analysis (Glaser & Strauss, 1967) as a method for developing categories from my data. Below I give a summary of the procedures I used.

1. First I wrote the interview question and then wrote the answer from each participant below that question. For each answer I identified salient phrases or sentences and gave them conceptual labels.

2. I then compared the labels and grouped them with the corresponding sentences according to a common concept. Each common concept was then identified as a particular category. Categories emerged from the data they were not predetermined and imposed on the data. This kind of analysis is considered grounded theory (Glaser and Strauss, 1967). In cases where there was a more established name used in the literature, I adopted that category name. For instance, I borrowed from the attribution literature the label “ability” though I called it “achievement” for better sentence clarity at times.
3. I read the transcripts of the observations notes to provide corroborating evidence and to shed light on the various categories (Miles & Huberman, 1994).
4. Observations were also read for cultural practices that occur in the classroom. I read each entire document of observation notes to determine “what was going on here” (Strauss & Corbin, 1998) in relation to ability practices and to determine the salient incidents in each observation transcript. I looked for repeated occurrences and patterns of the salient incidents. The discourses and practices identified were all inductively derived from the data. A review of the literature showed that one of the patterns identified could be considered “evaluation” discourse. Therefore I used the established terminology used by Mehan (1979), and Cazden (2001) for example.
5. Finally I used the interviews to corroborate or disconfirm the discourses and practice identified in the observations as a means of triangulation (Miles & Huberman, 1994).

As noted, the categories, discourses and practice were determined from the data and not pre-established. For example, as I read through the observation notes, I pulled out several

examples that led to the discourse of **evaluation**. Some samples were: (1) comments by the teacher on students' grades, (2) comments by the teacher on a students' response to a question e.g., very good, (3) affirming the validity of a student's response by repeating the student's response, (4) dismissing a student's response by repeating the response as a question are some examples and (5) grading students on homework or tests. Below I define the categories, discourses and practice that emerged from the data.

Evaluation is defined as: an appraisal or judgment whether positive or negative of students' performance (e.g., show of knowledge) or behavior during class. It is a public appraisal of the students' performance or behavior which makes them visible as competent or not competent individuals. In general, the teacher wants to determine who can solve a particular problem or who knows the answer to a problem. The students' responses become instances to be evaluated as successful or unsuccessful. This broad discourse is categorized into two different types of evaluation discourse– **implicit evaluation** and **explicit evaluation**.

Explicit evaluation - *e.g., very good, correct, okay.*

Implicit evaluation - the statement in itself is not an appraisal or judgment. The evaluation is heavily contextual. It is necessary to look at what follows or precedes the teacher's comments in order to determine it as an evaluation. Further, given the context, a tone of credulity is taken as implicit evaluation. The following are four different examples of implicit evaluations. Though these may seem extensive it is necessary to show them. These examples underscore the idea that sometimes speech cannot be taken

in its simple grammatical form but that the ongoing communication system in the classroom allows students to understand the total interaction as an evaluation.

Example 1. Repetition

Teacher: The three lines should give me what?

Student: A closed figure.

Teacher: Thank you, a closed figure.

Here the final part of the interaction sequence “thank you, a closed figure” is an implicit evaluation. The teacher, by repeating what the student said, is in effect saying to the student and the rest of the class that the answer given is correct. She has implicitly evaluated the student’s response.

Example 2. Proceeds to another question and another student

Teacher: How many parts are shaded in the first pie, Myra?

Myra: Four.

Teacher: How many are in the second, Sandra?

In this example, the teacher’s evaluation is that Myra’s answer of “four” is correct. The teacher does not verbally acknowledge Myra’s response but goes on to another person and asks that person a different question. By moving on to another student and asking a completely different question (one that is not related to the answer given by Myra, for instance) the students may infer that Myra’s answer of “four” is correct.

Example 3. Negates student's response in a question

Teacher: What is this?

Student: A triangle.

*Teacher: How can we know it is **not** a triangle, Sandra? (emphasis is mine)*

The teacher asks the students about the name of the shape she has on the blackboard (a “V” that’s lying on its side), to which a student responds “a triangle.” The teacher, rather than explicitly saying to the student and the rest of the class that the answer is incorrect, asks another student, Sandra, how can we verify that “it is not a triangle” thereby implicitly negating the previous student’s answer.

*Example 4: **the tone of the remark by the teacher***

Teacher: How many times did they draw one eighth, Charles?

Charles: five

Teacher: what is the relation between the bottom five one eighth of a whole?

Charles: five of them make a whole.

*Teacher: **five of them is half of eight?**(emphasis is mine)*

Here in this example the tone of Ms Francis’ manifested in the question format suggests that she is evaluating the response of the student.

Since a goal of the study was to describe and identify the practices within the classroom, one of the foci was the arrangement of the classroom as it lent itself to a

developing concept of academic ability. As noted earlier, there was an obvious grouping of desks in the classroom. Students confirmed the layout in the interview. Interview transcripts were analyzed to gain more insight into the arrangement of the room and for corroboration of classroom structure noted during observations. I identified this organizational arrangement practice as **structure**. I define **structure** as:

(a) Physical space that the students occupy in the classroom relative to the blackboard and the teacher's desk, and (b) the classroom designated by administration in which the students are expected to spend the school year.

Finally, from the observation notes, I found that the teacher made reference to the citywide tests constantly. Initial reading led me through these different terms for discourses “tests” → time → **motivation**. The term **motivation** was finally chosen because my analysis led me to think that the reason the teacher mentioned the citywide tests, was to motivate the students into working and being prepared. **Motivation** is therefore defined as:

Communication which acts to encourage and to prepare students for the exam. It is aimed primarily at having a good outcome on the citywide reading and math tests. It relates to passing the exam and being promoted to middle school.

I also analyzed the interviews independently for concepts of ability held by students. The categories which emerged were **behavior**, **grades**, **ability**, **effort**, and **miscellaneous**. **Ability** and **effort** were taken directly from Weiner's (1979) model of attributions for success and failure. The category **miscellaneous** was used because there were statements that were unrelated and were therefore not allotted a specific category.

Though the emphasis in the data analysis was in interpretation of the data for meanings and how they are constructed, I obtained the frequency of the categories to determine what was there in the data and to verify one possible hunch (Miles and Huberman, 1994) for instance that behavior, was used to define ability. In analysis, students' conceptions of doing well were compared across three scenarios called here the contexts of classroom, personal experience, and imagination.

From the students' responses, I coded systematically for categories of academic ability. The coding was the same across each participant and across all contexts. Each instance of academic achievement in a phrase was counted once. For example, the statement: *It means that to do well in 5A, no fooling around, listening to the teacher, and doing everything the teacher says.* is coded for three instances of **behavior**.

Or the comment: *Well, I think it takes hard work and I think you need to be respectful to everyone, no matter the age. And I think you need to respect your elders and I think you need to get good grades and do your homework...* is coded as **effort** – hard work; **behavior** – you need to be respectful to everyone, you need to respect your elders, do your homework (three instances); **grades** – get good grades.

Below are the definitions of the categories:

Behavior. This refers to actions which are sanctioned or unsanctioned by the teacher. E.g., no fooling around; listening to the teacher.

Grades. These statements referred specifically to a student’s achievement by a number score, a letter grade, or reference to grades as good or bad, for example “get good grades.”

Effort. These are references to what is required to succeed (or fail) in school, e.g., “I work hard.”

Ability. Included in this category are statements that relate to a child’s competence, e.g., you can get everything right, she is intelligent.

I analyzed the observation notes for emergent themes for social interactions that lead to ability concept formation. I identified these as **public critique, social comparison, and individualism**. Public critique I define in this dissertation as:

A verbal public admonition or criticism of a student or student’s behavior.

I define social comparison as;

Salient opportunities within classroom interactions in which students may engage in a process which allows them to determine similarities and differences in ability specifically but not limited to issues of grades.

Individualism is defined as:

The view of knowledge as intrinsic to an individual and production of knowledge to be shown as an individual endeavor without the collaboration of other.

I further tried to locate interactions within the context of the activity of the time and any other contextual factors, e.g., preparation for the citywide exam. In addition, pamphlets obtained from the school relating to what students need to know in fifth grade: *What did you learn in school today? What every student should know and be able to do – fifth grade*, along with the **No Child Left Behind Act** 2002 desktop handbook were used in the analysis to situate what happens in the classroom within a larger social framework. Finally, in this dissertation I used **construction** to describe the process of concept development that occurs through social interactions. It is therefore considered to relate to context and to denote something that is not real, but which has been reified in society making the thing to appear real.

Below see Table 1 for a visual layout of how the data sources related to the research questions.

Table 1

Matrix of research questions, participants, data sources and findings

Research Question	<u>Data Source</u>		<u>Participants of 5th grade</u>		<u>Analysis</u>
	I	O	S	T	
	N=9	N=17	N=8	N=1	
What are children's conceptions of ability and how are they	X		X		Weiners categories of achievement – ability, effort, and
		X	X	X	develop categories of grades
How do children's concepts differ across contexts?	X		X		compare categories e.g. grade, behavior and ability
What are the social interactions by which these concepts are constructed across?		X	X	X	identify themes e.g social comparison, public critique

Table 1 (cont'd)**Matrix of research questions, participants, data sources and findings**

Research Question	<u>Data Source</u>		<u>Participants of 5th grade</u>		<u>Analysis</u>
	I	O	S	T	
	N=9	N=17	N=8	N=1	
What are some of the dominant discourses and practices in the classroom which help to constitute and mediate the construction of ability concepts?	X	X	X	X	identify discourses e.g. evaluation and practices e.g. structure

Note. I = Interview, O = Observation, S = Student, T= Teacher

Chapter 3: The Social Construction of the Meaning of Ability

This chapter will address my research question: What are children's conceptions of academic ability and how are they mediated? (a) How do children's concepts of academic ability differ across contexts, and (b) What are the social interactions by which these concepts are developed in the contexts? The classroom provides a place in which to study larger social definitions of academic ability as they exist today, as socio-cultural influences find their way into the school and classroom. The data collected in this study gave me a window through which I could examine these definitions played out in the classroom, and so this chapter presents results showing categories which emerged from the open-ended interviews, specifically as the students responded to questions of achievement in relation to their (a) classroom, (b) for themselves, and (c) to a hypothetical situation. The categories were corroborated and explicated with data from the observations while concomitantly the observational data were used as a means to show the intricate interactions and practices as they are lived out in the classroom that might lead to the construction of academic ability.

The results reported were obtained by drawing upon analyses of interview data to identify students' definitions of ability and on analyses of the observations to determine the psycho-social interactions that might mediate students' concepts of ability. The results below indicate that ability is defined using several different concepts and that ability concepts are situated. That is, specific definitions for ability are strongly invoked in a particular context. The specific social interactions, for instance, public critique act to mediate children's thoughts in the formation of ability concepts. The results show that

through the everyday exchanges between the teacher and her students, ability concepts may be constructed. It shows that cognitive development occurs in socially shared situations where academic ability is valued and manifested by doing well on practice tests, homework (the performance of which is some indicator of what will happen on the formal exams), and on the citywide exams.

Meanings of Ability in Different Contexts

In the past, children have defined academic ability by using concepts such as conduct and effort (Nicholls, 1978; Stipek and Tannatt, 1984; 1986). The research showed that definitions are confounded in younger children (between the ages of 5 and 6) but differentiated in older children (between the ages of 10 and 13). Below, my results show that 10- 11-year-old children use various concepts to define ability which is consistent with the above research. The difference in the research is that there are variations in the concepts used in defining ability according to the contextual framing. Further, the results show the cultural influences of the classroom which shape the students' cognition. By positioning the students' concepts within the cultural world of the classroom, I eschew the notion that the students' definitions are confounded and show how students' concepts are culturally shaped to represent complex and varied accounts of academic ability.

Table 2 below is a representation of the percentage of times in which the categories behavior, grades, effort, ability, and miscellaneous were dispersed by the students in the various contexts – imagination, classroom, and personal in defining academic ability. The three contexts represent different scenarios in which the students were allowed to frame their interpretation of academic ability. Each context has different

degrees of reality and closeness to the student. That is the personal context denotes that the student is deliberately speaking of herself or himself. The classroom context refers to a place of which the student is a part such that the student is not at the center of the description. Finally, the imagination context frees the student from the here and now and allows her or him to go beyond her or his immediate experiences. The categories effort and ability are taken directly from the attribution literature by Weiner (1972) which states that the perceived major causes of academic success and failure are: achievement,² effort, luck, and task difficulty. In this study, grades and behavior are shown to be the two most highly used categories by the students to define academic achievement. Behavior in this context may be defined as actions sanctioned (e.g., paying attention) or unsanctioned by the teacher (e.g., not doing homework or speaking while the teacher is explaining something to the class). The category of grades refers to statements about taking tests and to actual numbers or letter grades.

For the most part, the students of this fifth grade classroom construct concepts of academic ability by referring to **grades, scores, and behavior**. Even though **effort** and **ability** are common attributes used in defining academic achievement in the previous literature, they were not invoked often by the students and, in some cases, in neither of the contexts.

² Weiner (1972) used **ability**. I used **achievement** for a clearer reading of the text.

Table 2**Percentage times of responses per category for the different contexts**

	Categories of Achievement				
	Behavior %	Grades %	Effort%	Achievement	Miscellaneous
Context					
Imagination	10	80	10	-	-
Classroom	57.14	17.14	5.71	14.29	5.72
Personal	43.59	56.41	-	-	-

N.B. a category was identified as having been used if the students used it at least once in their narratives of doing well in the three contexts.

There is variation in how the students frame their concept across the various contexts. When in the **imagination** context, the students define academic ability by mainly referring to **grades**. In the **classroom** context, the category **behavior** was used most, and in the **personal** context, again, the category of **grades** was the most used category. When the students imagine themselves having a school, placing themselves in the role of the principal and thinking about what their school would be like and their expectations for the school, they attribute academic achievement to getting good **grades**

or high **scores** 80% of the time. The closest attribution after that in the imagination context is **behavior**, which occurred 10% of the time in their answers, tied with **effort** which also occurred 10% of the time. When the students refer specifically to themselves and achievement, they refer to **grades** 56.41% of the time and **behavior** 43.59% of the time. Interestingly, when placed in the context of the **classroom**, that is, to describe what academic ability looks like in their classroom, it is described mostly in terms of **behavior** (57.14%) while the attributions of **grades** and **ability** occur only 17.14% and 14.29%, respectively.

Though the category of **grades** is present in all the contexts, there is a big difference in its occurrences among the various contexts. That is there is a large difference between doing well in the context of the classroom and doing well in the personal context. How is it possible for students' understanding of academic ability to have these characteristics and in the different contexts? And what is it that drives the particular social constructions of the concept of ability. A broad description of the classroom and the culture below will give the context and available forms of social interactions by which such concepts were made possible.

The classroom is set up for control of students' behavior by the teacher, both by the physical layout and the rules in place. There are twenty eight students with one teacher and no assistants. It is an open classroom. That is, there are no walls dividing it from the classroom adjacent to it. A row of bookcases approximately three and one half feet tall divides this class, 5A from class 5B. This open structure allows sound to travel between classes easily. Even with this open structure students are expected to stay focused on their classroom events. The desks and chairs are not nailed to the floor giving

the semblance of easy mobility, yet they were only moved to a more theatre like style on one of the days I was there because the students were taking a test. Other than that, they remained in the usual arrangement all the time. The classroom itself is not big. There is no free movement and students need permission to move from their seats. The times when the teacher is standing usually indicate a lesson mode, that is, she is lecturing or writing on the board. In any case, it is a time when all students' attention should be directed to the teacher to copy what she is writing on the blackboard and not to engage in any conversation unless it is directed towards her.

Finally, the students and the teacher are in the midst of preparing and being prepared for the citywide examination. The passing of the No Child Left Behind Act holds schools accountable for students' proficiency in subject areas, and the New York City Board of Education is also holding schools accountable, placing those schools in which many students have not done well on the exams on a failing list, and in need of improvement. If the schools fail to make adequate yearly progress, then they are to be subjected to sanctions and interventions. This school (ES 123) is currently on that list, though the district superintendent has recommended that it be taken off because of improvement in achieving academic proficiency (Memo from the superintendent of the district). It is therefore a critical time in many aspects and the atmosphere is one in which it is believed there is no time to be wasted in order to achieve success in the exams. Certain behaviors which might have been overlooked or minimized at the beginning of the school year might be taken as serious infractions at this time. It is a time when the students are expected to be actively involved. They are expected to do the necessary homework, do any in-class assignments, and to be active listeners. The students are

working towards being thoroughly prepared to take the exam and get high grades in order to be promoted to sixth grade. Number grades received on homework and even on practice tests are more meaningful and carry a heavier weight because they are closer to portraying the potential grade the students will receive on the citywide tests.

In order to explicate the findings, I use several examples of interactions and/or student responses in the interviews to guide the reader. Below I give a sample of students' responses of "doing well," and then give various interactions analyzed from the observations which occurred in the classroom to make it possible to form the varied concepts of ability.

The Meaning of and Social Interactions Constructing Academic Ability

Behavior Defines Academic Ability

The category **behavior** was used by the students 57.14% of the times in the context of the **classroom**. As members of the classroom, the students engage in the expectations of the teacher and might sometimes be recipients of admonitions from the teacher if they are not cooperative. Even if some are not the recipients of admonitions, they are still onlookers of the interactions of the focal student and the teacher and are actively processing the interaction. Below are examples showing the importance of behavior in the students' thinking. It follows with the findings that specific interactions such as public critique make salient behavioral aspects in the classroom and the teacher's link of behavior to ability. In these specific interactions, moments were built for all to be aware of unsanctioned behavior and the linking of ability concepts to behavior.

When I asked the students to tell me about what they believed academic ability to be in class 5A, they were very specific in their answers pointing especially to behaviors that were likely or not to ensure success. Some of their responses are:

Oriel: It means basically that you are good behaved, you are an example to others, you have good academics and you know what to do in certain areas, like when you are about to have a fight you're not going to fight and like you want to have an argument but you don't want to make no noise, like that.

And Richard describes it this way: *Well, it means like when you do well, it means that you are a good student, it's like you don't waste your time, and you don't mess around with the kids who are wasting their time all the time so that XXX.*

Yolanda confirms this: *It means that to do well in 5A no fooling around, listen to the teacher, and do everything that the teacher said.*

And Shanice, whose response highlights the consequences of their behavior and thereby making that connection between behavior and ability said:

If you listen to the teacher you will probably get good grades. If you are rude to the teacher or don't listen when it gets time to do the test, you won't know any of the questions and stuff. So I think you could [should] listen.

These examples express the essence of what the students of 5A consider to be relevant to defining academic ability in class 5A, their classroom. That is, it is about self-control (no fooling around, you don't waste time, not fighting even if you want to, don't listen), being meaningfully engaged in what is going on (listen to the teacher), and

obeying the teacher (do everything the teacher said). Together these concepts fall under the umbrella of behavior and help to define the concept of academic ability. The expected end result of exhibiting this behavior is being prepared for the exam or knowing the questions “when it gets time to do the test” (quote from a participant). These students of class 5A did not come to their notions of academic ability independently. As members of the classroom they are immersed in the interactions there. Their thoughts about ability are mediated and socially constructed through these interactions as I show below.

Opportunities for the Social Construction of Ability as Behavior Through the Use of Public Critique

Certain elements in the classroom may be made visible by the interactions at the right time and by the right people. Public critique is one such interaction in which the teacher highlights particular unwanted behavior. The public critique is made possible because of the context of school, the particular time (the class is in the midst of preparing for the very near citywide examination), and a teacher looking for such instances of behavior. It must be noted that students are not passive recipients in the interactions but are part of the negotiation in constructing the link between behavior and ability. At issue in the moments of public critique is whether the students know the work in order to pass the examinations. Passing the examinations is indicative of a show of ability and is important in the context of school and examinations. In this educative setting, when public critique of a student’s unsanctioned behavior comes into play, it is linked with ability of passing the exam as shown in these three examples below.

With a little more than two weeks to go before the exam, out of which the students have a week off for spring break, Ms. Francis gives them a test made up of five

math questions to be completed in ten minutes. This test is to aid in preparation for the final exam. It is expected that the students know the rules of test taking. That is, everyone is to work individually and there is no communication between each other while a test is in progress. Further, it is imperative that students pay attention as the teacher shows them the process of solving the problems after they have finished taking the test, so they may know what to do once they take the real exam. Twenty minutes after the test began most students appeared to have finished and are either quietly chatting with each other, kicking each other, reading, or just resting their head on their desks. Ms. Francis is engrossed in some paperwork as this is going on. Another ten minutes go by before Ms. Francis asks the students to stop working and then begins to demonstrate the solutions to the problems. As Ms. Francis solves the problems with the assistance of the students, many of them become animated and rejoice seemingly because they got the correct answer. Through the process of solving the problem, Ms. Francis expects the students to be fully focused on that process. At one point in this exercise, Ms. Francis realizes that there are two children speaking to each other and she admonishes:

Teacher: You are having your private conversation. Why don't you leave?

Thirteen more days to the exam and you find time for a private conversation?

There are several things going on in this brief admonition. First, Ms. Francis points out that they are having a “private conversation.” The implication is that Ms. Francis believes that what is being said between the students has nothing to do with the problem being solved or about better understanding the problem. Second, the tacit unspoken statement is that now, while she is explaining how to solve the problem, it is not the time for students to be having a conversation among themselves and not to be paying attention

to her, especially since it is so close to the exam. Third, she asks a rhetorical question, “Why don’t you leave?” The question suggests that since the conversation is not contributing to the class, there is no reason why they should have it here in the classroom. They may go some other place where it is not disruptive to the class. The fourth point is Ms. Francis indicates to them the proximity of the exam and the fact that they are doing something contrary to what is relevant to the current proceedings. They should be, in fact, paying attention to how she is solving the problems with the possibility of increasing their chances of passing the exams.

The second example of public critique involves one student who has committed the infraction. Not only does this child seemingly tell a lie but he did not work on the problems that are given for homework. As usual, the class begins by going over any work from the previous night. Homework is considered essential for the students and a means by which they can accomplish more than what is done in the classroom and as a way to cement what is done in the classroom. As the students get their textbooks from their desks, Ms. Francis also gets her text to begin to go over with them the problems they should have done. A moment passes before the students are settled with their textbooks and the completed homework in front of them. As Ms. Francis is about to begin, she notices that Victor (who is sitting in front of her and is also one of those students who at that time was sitting in front of the blackboard) does not have his textbook or the finished homework on the desk. She asks him:

Teacher: Victor, where is your text book?

Victor: Someone stole it.

Teacher: No. It is telling me you did not do your homework. I'm going to tell the principal to get you out of here. You're not doing anything! Exams are 4 weeks away.

Immediately Ms. Francis can see that Victor does not have the homework because he is one of the students placed in the front of the classroom and directly in front of her. Having taught for over twenty years, it might be assumed that there are few excuses for not doing homework that Ms. Francis has not heard. She makes clear to Victor that it is not about the book being stolen but about not doing the homework. Ms. Francis implies that what he is saying is not true and furthermore he is not being productive in the classroom, he is not participating in the classroom's activities. As a consequence, a higher authority (the principal) is invoked as the one to remove him from the classroom permanently since he is not fulfilling the expectations of being a participant in the classroom. Ms. Francis points out to him that he is doing nothing. The implication is that not only has Victor not done the homework, but his lack of participation is a common thing. He is made aware that exams are not far off and in effect it is not a time to be misbehaving.

The third and final example of public critique occurs two weeks later when Ms. Francis addresses the same child about homework. This time she is more explicit. The students were expecting to do a test but Ms. Francis announces that it will be given the following day instead. This means that the morning is going to proceed as usual, that is, going over the homework from the previous night. She queries:

Teacher: Who did not do the homework?

Victor raises his hand.

Teacher: One way or the other, you will not pull down this class. You did nothing! It is not the only time. You think that this is a place to chill out! Take your book and go by the computers. Do lessons 4 and 5. Homework is not to interrupt your fun. It is to sharpen your skills so that when you get into the exam you can get a good grade. This boy is moving from bad to worse. You are moving to middle school and no one is going to nurture you. You have to sharpen your study skills now. You have three weeks to go before the major exam.

Immediately Ms. Francis starts the session by determining who did not do the homework. Only one student, Victor, publicly declares that he did not do the homework. At this point Ms. Francis suggests that his lack of participation could be responsible for the demise of the class. She points out that this is not the first time that Victor has not done the homework. As in the previous examples, he is asked to leave the room, not to be a part of the activities. She announces that he is on a trajectory of failure, that he is moving from “bad to worse.” Ms. Francis finishes her comments to Victor by referring to the proximity of the major exam.

These three examples serve to highlight the linking of behavior with ability through the use of **public critique**. Public critique occurs in particular settings, at particular times, with particular people and particular activities. Once these are in place, life is given to specific behaviors through the mechanism of public critique. In the above examples, students and teachers are in the classroom engaged in correcting math problems that were either done as homework or on a practice test; furthermore, it is several weeks prior to the official citywide examination. In one case it took two students to engage in conversation at an inappropriate time (while correcting math problems from

the test). It took the teacher noticing this conversation, considered inattention at that time and for the incident to occur close to the exam for that particular behavior to be made an issue of in its relation to ability. The strength of the public critique is made even more pronounced because of the threat of being removed from the classroom and not being a part of the ongoing activities (*Why don't you leave? Take your books and go by the computers; I'm going to tell the principal to get you out of here*) and the invocation of higher authority.

Finally, in the act of criticism the students' behavior is linked to the upcoming examination. The implicit unspoken words are that their ability or lack of ability as shown in their performance on the exam is determined by the students' attention to in-class activities and by doing necessary homework assignments. Hence, through such interactions as detailed above, students internalize the interactions and they extract notions of not wasting time, nor messing around and listening to the teacher in order that they may get good grades. Through the salience of public critique interactions in highlighting particular behaviors, students' concepts are channeled to construct their concepts of ability.

Further, the interactions do not occur in a vacuum. Linking Victor to the demise of the classroom could not have occurred without the machinery of competition and the showing of ability that needs to hold schools and teachers accountable for success and failure. In other settings, or without the culture of education at this time of pressure from the NCLB (2001) Act for success in the exams, Victor's actions, for example, might be construed as just a person exerting his individuality when he refused to do the homework. Also without this machinery, nothing would be made about doing or not doing homework

as a means passing the exam. All the students in the classroom are spectators of the public critique and they get to internalize the interaction and the consequences of not doing homework – not getting a good grade on the exam. Through the exposure and being in the system of activity, they are able to construct their notions of ability.

It is in these interactions that engage public critique in the course of daily activities and also the larger context of testing that help to contribute to the particular activities that make possible the construction of academic ability. Specific behaviors are made salient as contributing to the lack of achievement on the exam. Passing the citywide exam is socially valued and that is what is conveyed in the classroom. The means by which to achieve success in the exam is through participating in behavior that is sanctioned by the teacher. Conversely, participating in unsanctioned behavior could lead to failure. The teacher makes the possible link with behavior and ability in the context of the examination, made salient through the use of critique, which therefore allows students to construct this particular definition of ability.

Grades/Scores Define Academic Ability

In the analysis I found that the category of **grades** is used extensively by the students in defining ability, but this differs across the imagination, classroom, and personal contexts. In the **imagination** context, it is invoked 80% of the time, and in the **personal** context it is used 56.41% of the time, while in the classroom context it is used 17.14%. Analysis also shows that there are specific moments presented in the classroom where social comparison is made possible to make public the concept of ability.

The difference in definitions across contexts indicates that grades as a defining category of ability is explored differently by students in the different contexts, and is a

more meaningful category to use in the imagination context than in the other contexts. That it was used in the imagination context more than in other contexts might indicate students' sensitivity to what it means to be able in the broader educational cultural system. Further, the high percentage use of grades to define ability indicates the impact of socio-cultural channeling of ability information. Below I will illustrate students' understanding of the importance of exams as an indicator of ability. I will also juxtapose their use of grade terminology alongside that of the city's with instances of interactions in the classroom. This will show how students come to use the city's terminology and to show that the students' thoughts are influenced by a larger cultural system of portraying ability. I will also include examples to explicate moments of opportunities where the psycho-social interactions of social comparison comes into play, thus making it easy for students to determine differences in performance among themselves and to form ability concepts as defined by grades.

Being evaluated with grades starts relatively early even though first and second graders' understanding of the numbers is relatively arbitrary (Rawlins, unpublished). It is then no surprise that by fifth grade students use grades as an indicator of academic ability/achievement. Standardized testing starts in third grade and so, by fifth grade, the students have completed several standardized tests in addition to the many in-class tests throughout their school career.

The importance of the citywide standardized test cannot be trivialized. Students' educational paths are determined by the results of these tests and the results are also important to the schools. Individual children are evaluated, as a group they are evaluated by grade level, and the teachers and the school are held accountable for the students'

achievements or lack thereof. Schools are closed and principals released from their duties in the most extreme cases if the scores are not good and have not been good for several consecutive years. Currently, standardized tests are perhaps the most widely used measures for defining academic ability. Responses by the students show that they recognize there is an accepted reason why they take the citywide examination. They recognize that it is used as a measure to determine whether they will move to sixth grade or remain in fifth grade, which is an outward indicator of academic ability/achievement. Students' responses to the question, "Why do you have to take that exam?" are shown below:

Yolanda points out: *You have to take that exam because that exam will determine where we will be placed in the sixth grade, like if we will be kept back or if we will move on to middle school.*

Richard is even more definitive and personal about taking the exam and the consequences. He indicates: *I have to take it [the exam] because I don't want to come here in fifth grade. I want to go to junior high so I have to pass the test.*

And Myra: *To go to the sixth grade.*

Caren: *anything else?*

Myra: *And to see how well you're going to do in the sixth grade, to see what class they can put you in.*

And Shanice responds: *So that you know where you are and the state knows where to put you for middle school.*

Caren: Ah, so from here you are going to middle school.

Shanice: Yeah, if you make it through

Caren: If you make it through? Make it through what?

Shanice: Fifth grade.

Caren: So if you don't make it through what happens?

Shanice: You get left back in fifth grade, you have to repeat it or go to summer school.

The responses by the students indicate that it is necessary to take the exam and there is no alternative way to get to sixth grade. Further, taking the examination determines where they will be the following semester, that is, whether they get promoted to sixth grade, remain in fifth grade or the possibility of having to go to summer school. The students know enough that they “want to pass, I don't want to fail the test” and even to “think that I did good on it, I think that I'm going to pass” (Jason).

These responses show that students understand the cultural importance of taking the standardized test and have internalized that importance. It suggests that they developed the cultural understanding of academic ability (passing or failing the test). The students accept as a fact that taking the test is a way to measure their ability and believe there is no other way by which to determine their promotion to sixth grade. Further, they recognize that it is not only doing the exam but the passing of exam (an outward manifestation of academic ability/achievement) that ensures moving on to the next grade.

However, the students did not on their own come to this understanding of academic ability. A system has been put in place to compare elementary school children by their competence in reading and mathematics, for example. The students are “acquired” (McDermott, 1973) by this system, and their competence becomes a problem when they are shown not to meet the proficiency standards that are required. It is a cultural system that measures students along a continuum of academic achievement which is reified and made meaningful specifically in the context of school. This larger system of tests and grades finds its way into the classroom through the teacher to the students, thereby influencing students’ cognitions on ability and socializing them about what it means to do well. The larger system that has found its way into this classroom is New York City Department of Education. As this system finds its way into the classroom children come to internalize the relationship of ability to grades, that there is a hierarchy of ability levels.

The students’ performance on the citywide standardized tests is categorized into arbitrary levels by the New York City Department of Education. They are level 1, level 2, level 3, and level 4. The meaning of performance on the exams is channeled through the teacher into children’s minds. The students have been socialized about the meaning of the performance levels which are used to indicate how much knowledge the students have mastered. Their interpretations do not match perfectly to those given by the Department of Education which is an indicator that the students are making meaning of the performance levels which are used to describe their ability. Below is a collage of the students’ definitions of the various levels in relation the New York City Department of

Education. For each proficiency level, the students' definitions are placed first followed by the definitions of the New York City Department of Education.

Level 1 – “Level 1 is the worstest score that you can ever have.” Level 1 is 0, 20 and 30 [percent].”

- (**Below Basic**) – students do not meet the learning standards. Their performance shows minimal understanding of written and oral texts.

Level 2 – “is the second lowest grade and I guess you will be kept back in fifth grade.” “level 2 is in the 40, 50, 60 [percent],”

- (**Basic**) – students show partial achievement of the learning standards. Their performance shows partial understanding of written and oral text.

Level 3 – “means you're on grade level.” “If you get a level 3, that might mean you are in the 30's or 40's. Like you have 39, 38, 39 something like that (the reference is 38 out of 50).”

- (**Proficient**) – students meet the learning standards. Their performance shows thorough understanding of written and oral texts.

Level 4 – “is the highest grade score and if you get a level 4 you are going to be placed in middle school...if I get 49 out of 50, that is like a level 4.”

The Department of Education defines each level as:

- **(Advanced)** – students exceed the learning standards for English Language and their performance shows superior understanding of written and oral work (key math ideas –if the subject is Math). <http://www.nycenet.edu/daa/scalescores/default.asp>

The Department of Education refers to things such a “superior” and “partial” understanding of the subject matter. It also refers to learning standards which are not explained in the definition for the various levels. It is these arbitrary learning standards to which students aspire. Given the vagueness of the definitions of the levels, students have come to make some sense of them as it relates to ability through their interactions in the classroom with the teacher. The cultural definition of ability by the NYC Department of Education has found its way into the minds of the children. Not only do the students reveal an understanding of the performance levels but to make it more tangible and make sense out of the levels, they make an association with scores or numbers made possible through moments of social comparison initiated by the teacher.

Moments for Social Comparison Initiated by the Teacher Which Help to Construct Ability Concepts

One way that differences in ability performance are highlighted is by making it possible for students to compare themselves (Rosenholtz & Simpson, 1984). At different times, Ms. Francis, in the course of classroom activities, asks the students to publicly indicate the score they got on homework or on tests. Students are asked to raise their hand or verbally declare their score. The public declaration of scores allows the students in the classroom the opportunity to see who has high or low scores and to compare their scores with the others either favorably or unfavorably. Further in some cases, Ms. Francis takes the opportunity to make the connection between a number score and proficiency

level, as defined by the New York City Department of Education, for the students. She also makes verbal evaluations of scores students get on their homework or tests. Below are moments in which Ms. Francis asks the students to publicly declare their ability performance level which then allows for moments of social comparison by the students.

After going through a particular passage of reading from a booklet with the students, the teacher asks them to answer six questions pertaining to the passage. As the children attempt to answer the questions, Ms. Francis walks to the desks and corrects the questions. After several minutes she says:

Let me see who got all correct?

A few students raise their hands.

On another day, after writing the answers to the math homework on the board and after the students correct each other's work, Ms. Francis asks each person their score, records it and then says to the students:

Nine out of fourteen is more or less grade level, but you still have to work more.

Page eighty eight. Who got nine or more raise your hand.

On yet another day after putting the answers to the homework questions on the board while the students correct each other's work, Ms. Francis makes a similar association:

Teacher: Those who got all right show your hands.

Three people raise their hand.

Teacher: Those people who got all right are at level 4. Those who got nine and ten out of twelve are at level 3. The rest of the class needs to work harder. Practice makes perfect...

These are a few instances in which Ms. Francis asks the students to publicly declare their competency, whether on homework or work done in class. In one case, she gets each student to verbally declare the score they got on the homework. In the other instances, she asks the students who got all of the questions correct to raise their hands. And the other students who got less than “nine and ten out of twelve,” they need to apply more effort. These are opportunities in which differences in scores are made visible and in which students are able to compare themselves easily. The moments are made possible because of an educative system that is competitive and one that makes something out of putting a number to students’ attempts at solving questions. Finally, it takes making something of whether the ratio of the number is high or low. It does this by having these cultural systems in place of which the teacher and students become a part, and in which sustained moments of social comparison are available for students. In these instances, students are able to form concepts of ability as it relates to grades or numbers.

Finally, Ms. Francis relates the number score to the proficiency level as used by the New York City Department of Education after evaluating students’ work. Ms. Francis tells them that getting all correct means that they are at level 4. Or that “nine out of fourteen is more or less grade level.” The children are encouraged to aspire to levels 4 and 3. The use of these levels is already a means of comparison. The discourse of evaluations using the terminology of levels made its way into the classroom along with the implicit comparison it carries and is used by the teacher. She helps students make the

connection to what their ability looks like on classroom work, and how it might be translated using the proficiency level terminology. Therefore, there is a channeling through the teacher of what ability looks like from the larger cultural system that assigns proficiency levels of students' work, to the children by reproducing the terminology.

Evaluations, both by a letter grade and by a verbal acknowledgement, can then be made public. Not only does Ms. Francis make the evaluation by assigning a score or a "level" but she acknowledges the students' grade by another verbal evaluation as in the scenario below. At that time the students get to see what it means to be doing well, not only because of the public nature of the declarations but because of the evaluations of students' score given by Ms. Francis.

One such scenario occurred one day after she finished writing the answers to the questions on the blackboard. When she was done, Ms. Francis told the students that she wanted to record the scores for their homework because she couldn't remember them all and that the score on the homework was an indicator of their performance. She further asked them to tell her by a show of hands if they did the homework and then she recorded each person's score.

Teacher: Myra?

Myra: Seven out of twelve and six out of twelve.

Teacher: Okay. Richard?

Richard: Ten out of twelve and eight out of twelve

Teacher: Very good. Kyle?

Kyle: Nine out of twelve and seven out of twelve.

Teacher: Quentin?

Quentin: Eight out of twelve and nine out of twelve. (3/31)

The students are versed in the procedural display (Bloome, Puro, & Theodorou, 1989) of the classroom. They know that their answers are supposed to be of the discourse of: A out of B where B represents the total number of homework problems (each problem is assigned a value of one), with A representing the number of questions that the student answered correctly. After each response the teacher answers with an “okay”, or “very good”, thereby evaluating each student’s performance.

In order for this interaction to be established, several things must be in place. First there needs to be a school context where competition is valued; second, the doing of homework needs to be considered important and to be recorded; third, the students had to participate by doing the homework and then take part in the ritual of declaring how many problems he or she got right. Ms. Francis also needed to consider it necessary to evaluate the scores.

Through the interaction where opportunities for comparison are made public and possible, the students are finding out what counts as acceptable in math scores and are constructing some understanding of academic ability. They are socialized into recognizing that something that is ten out of twelve and eight out of twelve is “very good”, though nine out of twelve and seven out of twelve do not get an evaluation. They also know that seven out of twelve and six out of twelve receives an evaluation of “okay”. They are also witnesses to who did work that was “very good” and who did

work that was “okay”. Through the evaluations and the stratifications of grades made by the teacher, the students make the social comparison and define what it means to do “very good” and what it means to do “okay”.

Part of the ideology of the classroom is that academic ability can be measured and evaluated and so associating a number with the correctly answered problems on a homework assignment helps to define their academic ability. The ideology, socially defined, is reflected in the classroom practice by the grading of homework. It is also represented in the larger society that assigns exams which are graded and made to show who is competent and who is not. By having opportunities of public declarations of performance and public evaluations, these instances are made highly visible and allow students opportunities for social comparison. In these moments, students are able to construct their concepts of ability aided by the channeling of ability concepts by the teacher from the larger cultural system. Academic ability is then played out in the classroom in the socially shared cognitive activities and reflected in the students’ notions of ability.

These fifth grade students then use the category of grades to define ability. In this study the students’ definitions of ability are shown to be situated as the category of grades is shown to be used quite extensively in the imagination context but less frequently in the other research contexts. Further, the language of academic ability used by the New York City Department of Education has been filtered into the classroom helping to construct students’ concepts of ability. For instance, their terminology of levels to describe abilities is incorporated into the days’ talk by the teacher such that students conceptualize ability as a range and they use grades to identify the levels to get a better

understanding of the terminology of the Department. Finally in the everyday interactions between the students and teacher, ability takes on the social meaning of grades through moments for social comparisons. Students participate in those moments of comparison by a show of hands or a verbal declaration of their ability. In asking students to raise their hands if they “got all correct” for instance, students come to recognize where they fit in the continuum of ability through comparing themselves with those who raised their hands. They are either a part of that group or excluded from that group. Social comparison then is a means by which students construct their concepts of ability.

Ability Defines Academic Achievement

In this study the use of **ability** as defining academic achievement occurred 14.29% of the time, as the students described what academic achievement means in their classroom. Interestingly it did not occur in any of the other two contexts: imagination or personal. Since contexts are interpretive frameworks in which specific meanings are constructed and transmitted (Bruner, 1990), then framing the question in relation to their classroom must have allowed the students to use the concept of ability to define academic achievement. Hence the results show that the context dependent nature of meaning.

In the discussion of the results below I draw on the analysis of interview data. The results show that there is a valuing of individualism in the classroom by the teacher which is reproduced by the students. That is, the results suggest that performance is about what the student can do alone, not in collaboration with others, and about what the student knows and has stored individually. This is consistent with attribution literature (e.g. Weiner, 1979) of achievement where ability is considered to be an internal attribute. In this study, ability is also conveyed as being internal as shown by the practices

promoted in the classroom. Therefore, during moments of testing, students are asked specifically not to look at one another's papers, and students denounce anyone who tries to help a fellow student.

Valuing Individualism helps Construct Academic Achievement but is Tempered by Other Beliefs

The description below shows that individualism, especially pertaining to knowledge production, is valued as evidenced by the practices in the classroom as well as by the teacher's definition of "ability." As mentioned before, the classroom is organized into several groups that might generally be indicative of student collaboration, yet there is minimal collaboration between the students. Therefore, for all intents and purposes, all outward manifestations of performance had to be individually obtained, without collaboration. The results show that children used achievement (in the sense of being an individual characteristic) as a defining element only in the context of the classroom and not in the other contexts. Below I will show how the valuing of individualism plays itself out in Ms. Francis' definition of ability and in practices in the classroom and how this in turn shapes students' concepts of ability. I will also show that behavior as defining achievement is much more powerful and salient and channeled into students' cognitions which might help to explain the lower percentage of the category of achievement to define ability.

Ms. Francis's definition of ability is: *That level that a child comes to you with and then they progress, or the progression that is going to take place as the child utilizes the inner skills, the strength, the concepts to make sense of the new situation or the world in*

which he or she has to interact...ability is going to be tied up with whether or not the child is able to perform the task assigned to him or her.

Further, she defines learning as: *When a child comes in contact with knowledge and skills and concepts, he or she should be able to apply those concepts or skills to new situations and thus showing that learning has taken place.*

Her beliefs hinge on a very individualistic mode of operation. It is about the student as an island and knowledge in-the-head phenomenon. According to her, achievement occurs as a result of the student utilizing “inner skills” or resources, and these without the aid of another person. Further, the child has to have the capacity, “the strength” in order to understand the world and any unfamiliar circumstance that may arise. It is also being able to perform tasks by oneself. Learning too occurs when the child is able to individually produce knowledge by oneself after being “in contact” with “knowledge” and “concepts”, apart from people.

The individualistic nature of ability is nowhere as blatant as those times when Ms. Francis motivates the students prior to taking a practice test. In addition, the classroom is arranged specifically for individual work. The desks are separated and students are assigned a student per desk. The desks and chairs are arranged into rows and columns with defining spaces between each column and row. This arrangement is to inhibit communication between the students while the test is ongoing. Student collaboration is made difficult, and it is easy for them to be caught. Each student is asked to have a No. 2 pencil, a sharpener, and an eraser at his or her desk and each person is

given a sheet with the questions and a scantron sheet. At the beginning of the test, Ms. Francis says:

I encourage everyone to do his or her best. We revised everything yesterday. You can achieve. Reach inside of you and pull it out.....

Similarly a week later she tells the class as they prepared to do another practice test:

....you have everything within you. All you need to do is pull it out.

In both instances, Ms. Francis appeals to what they can do by themselves and what is internal to the students. She asks students to do “his or her best”. She tells them that they *have* knowledge inside of them to which they have access by figuratively reaching in and pulling it out. Students’ access to this knowledge is what determines their ability. Their measure of success is determined by each person’s competence in producing the knowledge that was deposited in him or her, partly gained through the revision process they went through. In a society where individual achievement is valued, performing on exams as an individual exercise is a reflection of that value. Ms. Francis’s simulation of the exam is not only a means to have students gain comfort in that setting, but also an enactment of that larger value. The larger practices of individually testing children to determine competence makes its way into the classroom and shows up in Ms. Francis’s practices and thinking. In sum, to show that one is individually competent is especially valued.

Evident then is that Ms. Francis’s definition of ability as an individual phenomenon frames activities she performs in the classroom and, particularly in the

context of testing, how she arranges her classroom (e.g., in rows during testing period). Since ability as an individual and in-the-head phenomenon frame her activities, it might be safe to assume that her philosophical belief should drive her interactions in the classroom. This is so as seen in the above examples. Yet she espouses a more prominent belief, as seen below, and this might be the reason why **ability** as defining academic achievement did not occur more frequently in the students' answers.

Ms. Francis indicated in our interview that: *My teaching values are based on the fact that students should be respectful to their teachers. As a teacher, I am prepared to work with any child who is slow, but I find it sort of difficult working with a student who is disrespectful. It just throws you off balance. So if we could really get students to understand that they need to develop certain skills and that is, social skills. In other words self-esteem, self-respect and that sort of thing, then I think learning and teaching would be much easier.*

Not unlike defining achievement, Ms. Francis speaks of the child who is slow in terms of an internal factor to achievement which she attributes to the individual child. Yet the overarching theme to her philosophy of teaching is behavior in the form of respect and social skills. These are of such paramount importance in her mind that she considers learning and teaching to be facilitated by the behavior of her students. It is this aspect then that is more salient to the students (rather than aspects of ability in defining achievement) and which gets internalized by them in producing a definition for academic achievement as defined by behavior.

One student Yolanda, said in defining academic achievement: *I think it takes hard work and I think you need to be respectful to everyone no matter the age, and I think you need to respect your elders and I think you need to get good grades and do your homework and respect you teacher and do what the teacher says.*

This student indicates that **effort** (i.e., it takes hard work) is needed to achieve. But she further identifies the necessary **behaviors** that lead to achievement, that is, to be “respectful” irrespective of a person’s age. Further, the student needs to “do what the teacher says” and do the homework assigned. This answer is very indicative of why the concept of achievement in defining ability was not more prevalent in the students’ answers and, in fact, uses the exact terminology of the teacher – “respectful”. And as shown on the section above pertaining to behavior, students’ responses to defining ability are replete with aspects of behavior. These results show that the students have reproduced what occurred in their interactions with their teacher in arriving at what is meaningful in that classroom for success. And though the setup of the classroom and the practice of individually working on tests, etc. are representative of showing individual academic ability, behavior in that classroom is most salient for all as produced in the day-to-day interactions and contexts.

Summary

In summary, this chapter shows that ability is defined by behavior, grades, achievement, and effort. It shows that academic ability concepts are situated, and that it varies across contexts. That is, in the contexts identified as “imagination”, “classroom”, and “personal”, students’ responses of behavior, grades, and effort are unevenly distributed. For instance, grades are used to define academic achievement 80% of time in

the imagination context but only 17.14% of the time in the classroom context. And behavior is used 57.14% of the time in the classroom context and 43.5% of the time in the personal context, but only 10.00% of the time in the imagination context.

The differences across the three contexts also underline the position that the concept of academic ability is a socio-cultural concept and that there is no one universal meaning. As the students are asked to speak of academic ability in the three different contexts, each context shapes how they interpret and give meaning to the concept. Therefore given the opportunity to speak of academic ability as it relates to their classroom for instance, specific features of the classroom context come to bear upon their thought process thereby transforming their thoughts. As a consequence, what become most prevalent to their conceptions of academic ability are aspects of behavior. Similarly, because the concept of academic ability is a socio-culturally rooted concept what is evoked as significant in describing academic ability in the imagination context is the category of grades. Not only does this context allow the students to be unencumbered by the possibility of exposing something of who they are, but the context allows them to integrate overwhelmingly the social world of testing and evaluation into their thought processes. The process of preparing for exit exams and the NCLB Act being in place with its emphasis on increased testing and accountability as social factors are intrinsic to the creation of the students' meanings of academic ability as defined by grades in this context.

The results in this chapter indicate that the concept of ability develops in social interactions, that it is socially constructed. They show that students' developing concepts of ability occur first on the social plane and then on the individual plane. As the students

and teacher interact daily, comments are made by the teacher and which are internalized by the students. It is in these interactions that their concepts are developed. As students are in the classroom they are participants of such interactions as social comparison, public critique, and valuing individualism – opportunities through which their thoughts of ability are mediated. This occurs, for example, when a behavior is acted out, that is, unsanctioned behavior and it is noticed by the teacher. She publicly draws attention to that behavior at the same time suggesting that the child should leave the classroom and she also makes connections with the approaching citywide exam. These moments of public critique allow students to make the implicit connection that the teacher makes of behavior and ability.

Students have also internalized aspects of the assessment used by the New York City Education Department in understanding academic ability. In addition, the teacher creates moments for students to engage in social comparison through asking students to publicly declare their competence. This (social comparison) helps to mediate their thoughts of ability as they are able to determine what the teacher considers as examples of very good or okay ability. The chapter also shows that the teacher's beliefs about behavior influences how she interacts in the classroom and thereby helps to channel students' thinking. In essence, students' concepts of ability are developed in social interactions and are situated.

These findings are important because they show that children's concepts of ability are situational and socio-culturally rooted. These findings are in contrast to other studies that report children's concepts of ability as static and even universal. Therefore, fifth graders do define academic ability in terms of grades, behavior and ability. However,

these various categories that define ability are explored differently by students given different contexts. Another unique contribution to the literature is that social interactions in the classroom are important to children's developing concepts of ability. Therefore through many interactions initiated by the teacher, opportunities for social comparison, moments of critique and the valuing of individualism enacted in the classroom operated to guide and direct students' concepts of ability. Further in a smaller way I show the cultural influence of the discourse of the larger culture that of the New York City Department of Education and how that is channeled through the teacher to the students as they engage in their teaching and learning endeavors.

Chapter 4: Discourses and Organizational Practices as Mediational Tools

Introduction

This chapter identifies two salient discourses and one organizational practice which are considered in this dissertation to act as mediating tools. Identification of these tools answers the research question: What are some of the dominant discourses and practices in the classroom which help to mediate ability concepts for students? In this dissertation discourse is considered to be particular ways of using words within the classroom that come to represent ability. Additionally, organizational practices are considered to be used to convey the means by which students are grouped whether in the classroom or across classrooms that represent different ability levels. The discourses so identified are: **evaluation** and **motivation**. The organizational arrangement practice is identified as **structure**.

The chapter begins with a synopsis of a typical day in the fifth grade classroom as context for these discourses and practice. The chapter then follows with the identification of the discourses and organizational arrangement practices as tools that might mediate children's concepts of ability and how they occur in the classroom. The results show that the nature of school allows these practices to occur with the possible outcome of the construction of ability concepts. I show that these tools have mediated the students' thoughts of ability such that their ability concepts reflect the discourse and organizational practice. For instance in speaking of determining how a fictitious student is doing in a fictitious school the student immediately speaks of the evaluation process. Or they use the arrangement of the classroom in identifying students of various abilities. I end with how

the discourses are connected to the larger discourses of society. These two discourses and organizational arrangement practice are separately focused around performance in the classroom, being prepared for the exam to be successful. This chapter will elucidate the complex nature of mediational tools that might aid in the construction of academic ability by describing in detail how the mediational tools play out in the classroom.

The previous chapter looked at the definitions students used for ability and some of the possible micro social interaction by which these definitions are developed in different contexts. Along with understanding what students think of ability, it is essential to understand the role of the almost taken-for-granted practices and discourses that occur in the classroom and the school, and how they figure in the construction of academic ability. In this chapter, I will answer the research question: What are some of the major practices that occur in a fifth grade classroom that could lead to developing a concept of academic ability?

To highlight these discourses and organizational arrangement practice mentioned above, I need first to give a description of the classroom and the order of procedure of any one day in this classroom.

Students first assemble in the lunchroom after the bell rings to indicate the official beginning of the school day. Some of the students from 5A might have been there from 7:30 a.m. working on math problems with Ms. Francis in preparation for the upcoming standardized tests. Students from their respective classrooms come together and form a queue and then proceed to their classroom. The classroom designation of students was predetermined by the proficiency level the students reached on the promotion tests of the

previous year. Once the students arrive in their classroom, they go to their respective seats. This classroom is noticeably divided into four groups. Students proceed to the closet only in their group, with group one going first followed by two, three, and then four. Once this is accomplished, the class begins, either with a session of reading or going directly into the previous day's math homework. The reading session involves individual students chosen by the teacher to read aloud. On some occasions the reading takes the form of first the student reads and then the teacher comments on the reading, or the students read and the teacher asks questions about the text that was read and comments on students' answers. The math session follows a sequence of correcting homework first and then continuing to the day's lesson plan.

Evaluation Discourse a Tool

Explicit Evaluation in the Classroom Facilitating the Construction of Ability Concepts

In this section I draw on analyses of observation data, the corpus of which is teacher talk. In this study, explicit evaluation occurs in 48.84% of the total evaluations or 6.31% of total talk by the teacher. These evaluations not only relate to formal work but occur throughout regular classroom lessons. The results show that, though its occurrence is only 6.31% of the time of talk by the teacher, these evaluations are public and explicit, rendering them quite salient to the students. This suggests that the formation of ability concepts can be facilitated by the publicity and salience of the evaluations. Further, these evaluations are not necessarily of test situations, and yet their nature makes them salient to the students. The evaluations highlight what is valued and counted as ability in the classroom. Finally, the results show that evaluations in school are a part of a larger system, and that what occurs in the classroom is channeled from the larger system of

education. Students internalize the discourse of evaluation which helps to develop their concepts of ability. Below I give examples of explicit evaluations acted out in the classroom and the indications that arise from these evaluations.

On this day Ms. Francis starts the day by writing the answers to the two sets of homework from the previous day on the blackboard and with the students correcting the homework of another student, not their own homework. After she is finished she tells the students that doing homework is an indicator of their performance and that she wants to record their score because she is unable to remember it all. She goes to her desk and gets a book in which to record their scores and then asks for those who did their homework to raise their hand and to tell her the score they received.

Initiation	Reply	Evaluation
<i>T: George</i>	<i>Seven out of twelve and XXX³</i>	<i>T: Very good</i>
<i>T: Myra</i>	<i>M: Seven out of twelve and six out of twelve</i>	<i>T: Okay.</i>
<i>T: Richard</i>	<i>R: Ten out of twelve and eight out of twelve</i>	<i>T: Very good</i>
<i>T: Kyle</i>	<i>K: Nine out of twelve and seven out of twelve</i>	

³ XXX represents one or more words that were inaudible.

Initiation	Reply	Evaluation
<i>T: Quentin</i>	<i>Q: Eight out of twelve and nine out of twelve</i>	
<i>T: Darnell?</i>	<i>D: Eight out of twelve and eight out of twelve.</i>	<i>T: Not bad</i>
<i>T: Valerie?</i>	<i>V: Six out of twelve and eight out of twelve</i>	<i>T: Okay</i>
<i>T: Sharon?</i>	<i>S: Seven out of twelve and nine out of twelve</i>	<i>T: We have to look at that seven out of twelve</i>

The teacher continues to record the scores of the other students who did the homework.

Two others did homework but from the wrong pages. She indicates to them:

“Only fourteen days left before the exam, XXX.”

She then commends those who did the homework by telling them that she can’t stress enough, the importance of doing homework.

In the sequence of the interaction detailed above between the teacher and the students, the evaluation is explicit. There are two sets of mathematics homework and each one of them is graded on answers to twelve problems, with a point each for each correct answer. She asks each student who completed the homework to indicate the number of correct problems he or she received. None of the students who did the

homework got all of the problems correct. After George, Myra, and Richard each indicate their score Ms. Francis verbally gives them an explicit evaluation; “very good”, “okay”, and “very good”, respectively. After recording Richard’s score, Ms. Francis records the scores of Kyle and Quentin but does not verbally comment on their number of correct answers. After recording Quentin’s score she goes on to Darnell, Valerie, and Sharon and comments after each person’s response.

Here, in this example, students verbally announce their scores to the teacher and the teacher verbally evaluates their scores. The declarations and the evaluations are loud enough by both students and teacher that all in the classroom have access to the information. Because the declarations and evaluations are public, they are then salient enough for students to make social comparisons. Not only are students aware of the scores that other students got for their homework, but they are aware of what constitutes “very good” ability versus “okay” ability as determined by the teacher. It is possible that since the teacher, the higher authority, is evaluating these scores using such words as “very good” and “not bad” or “okay” then these evaluations are as important and at least as salient to the students as the use of the format A out of B. The teacher’s evaluations tell the students what is acceptable to her from each student. Hence the explicit words become salient elements in allowing the students to socially compare themselves and so facilitate the construction of ability concepts.

These explicit evaluations of performance do not occur independently. They are part of education endeavor of teaching and learning in this classroom. As noted above, there is an evaluation of answers given to homework problems as a means of determining the students’ ability. This is in relation to the even larger practice of evaluation that

occurs at the city level whereby students have to take tests to determine how able they are and whether they may be promoted. The larger culture of education determines children's abilities by testing their knowledge in particular subject areas. Similarly, Ms. Francis and the students are engaging in ability practice that is both historical (part of the school's history) and cultural. The historical and cultural elements of education found their way into the classroom and because of this they possibly mediate how students construct ability.

Indeed, students' thoughts on ability are so mediated by the classroom discourse and the larger culture that when asked to imagine having a school they immediately say that they would identify students' ability by giving them a test and look at their practice test scores. For instance one student said:

Jason: People would not be fighting; they would just be friendly and peaceful. They would have a lot of fun learning. People would be passing grades; people would be going to another school in 5th grade and to middle school.

Caren: How would you make sure that the people would pass their grades?

Jason: I would just give them a little test or a couple or two or give them a computer disk so that I could give them back each day to see what grade they were doing and check them.

Jason first talks about a school that is conflict free. But after that he immediately indicates that his students would achieve as shown by "passing grades" and being promoted from fifth grade to middle school. He further indicates that to determine the students' ability he would test their knowledge by giving them a test. Examples from

three other students help to further highlight the channeling of evaluation discourse to the students. For instance, Richard says:

Richard: If I had a school it would be a good school because I would like all the students to behave well and don't fight and get a level three or four.

Caren: Okay, so how would you know that your students are doing well then?

Richard: I would be the principal so I should know.

Caren: Based on what?

Richard: On the scores, on the practice test scores. I would know if there had been a problem somewhere. The teachers might ask them where they having problems and then solve them and next time you might do well on the problem you don't quite understand.

Myra and Oriel say in response to the same prompt of having an imaginary school:

Myra: My school would be a school that can pass everything and then they would go to like, if you in the 5th grade, like my school, go to the fifth grade, they would pass up to the sixth grade.

Caren: Uhhmm, how would you get that to happen?

Myra: By telling the teachers to work hard and telling some of the students to work hard.

Caren: And how would you know if the students will be able to pass to get to the other grade, to sixth grade?

Myra: I think they will work hard with their teachers and they will do good on the test.

Finally, Oriel responds this way;

Oriel: If I had a school it would be more like a mature school depending on the age. Like if you are in the first grade you act like how first graders should act. The other grades would act like how they should act, doing what they are supposed to do.

Caren: How would you get that to happen?

Oriel: I would go to every class and demonstrate what the problem is. Find out who is behaving good, who is behaving bad, separate them, mix them up so that some of the good can reflect on the bad, so and then when that happens you can then find out the academics; how well they are doing, when they behave good and see how well the school is moving so that you will know how to solve whatever the problem is.

Caren: And how would you know whether they are behaving well or that their academics are good?

Oriel: Well the academic part I could give them a test, a quiz or something like that to know their score, to know how well they are doing in a certain area, and the behavior, I would ask the teachers to write up a behavior report so I know the...I can track their behavior.

In these excerpts students refer to evaluations by referring to tests, quizzes, getting scores, getting level three and level four, doing good, and being promoted from fifth grade to sixth grade. That is, they refer to what they would use to evaluate students (tests and quizzes), what the evaluation looks like (scores, level three and level four), and the consequences of a good evaluation (being promoted from fifth grade to sixth grade). What is important about the students' responses is that they reflect the cultural discourse of explicit and formal evaluations that occurs in the classroom (even on homework) and the larger educative culture. Certainly at this historic moment there is a push for increased testing demanded by the NCLB Act and students seemed to have picked up this aspect as part of determining ability. Additionally, students are in the process of being evaluated by the city to determine their ability and whether they go to the next grade level. From a socio-cultural perspective students' responses are shown to be certainly linked to cultural ways of determining ability. The results show there is a channeling of evaluation discourses into the classroom from the larger educational context such that they are reproduced in the classroom. Through interactions the evaluation discourse influences and mediates students' thought processes and help to construct the concepts of ability.

Yet these evaluation discourses do not occur in a lunchroom or on the playground, for instance, but occur in a particular context. The context of being in a classroom of the evaluations is important to the kind of evaluations that occurs. In this segment Ms. Francis is evaluating the students' performance on the homework. The evaluation is represented by a score. Having done the homework, she could have collected the completed work and gone over it to get an indication of what the students understood, yet

she chose for the students to correct the work themselves and then to publicly announce how they had done by using a reified score. In this public display among the students giving their scores and being evaluated by the teacher, what is highlighted is what is considered “very good” and what is “okay”. There is nothing natural about doing mathematics homework and then to have that performance publicly evaluated. Only in the school setting does it seem in place and accepted as normal. The classroom culture takes on a life of its own and what is portrayed is what is and is not valued in that world where ability is important.

In a culture where competition is high, testing, test scores, and, in this case, scores based on performance on homework are relevant and are indicative of learning. A high score is evaluated as very good whereas a lower score might be deemed okay. Ms. Francis’s public evaluation of the scores as “very good” and “okay” captures and continues to keep alive the institutionalized and larger society’s definition of academic ability within her classroom. For instance, schools are given report cards by the city in which they can see how their students compare to students of other schools academically. The evaluation by Ms. Francis of the students’ scores similarly is a way to determine how the students are doing and at the same time she and the students are able to determine how they are doing in relation to each other. The evaluations reinforce to the students their level of success on the homework and it helps to build their knowledge of what constitutes academic ability in this classroom

Not only is homework evaluated, but speed and rote repetition too are evaluated and valued as shown below. For instance, the objective of the mathematics

lesson on a particular day is for “students to identify points and line segments in any given situation” after the teacher demonstrates the lesson.

Initiation	Reply	Evaluation
<i>T: A point identifies... A?(points to Jason).</i>	<i>Jas: No response</i>	<i>T: Too slow.</i>
<i>T: A point identifies a ?</i>	<i>Stu: XXX</i>	
<i>T: Tell me about a surface Simon, a plane I mean.</i>	<i>Sim: No response</i>	
<i>T: It is what? When you look at this is it a plane (holding up a box)?</i>	<i>Many: No</i>	
<i>Can you handle a box? Can you turn the figure around?</i>	<i>Many: Yes</i>	
<i>Is this a plane (holding a piece of paper horizontally)</i>	<i>Many: Yes</i>	

Initiation	Reply	Evaluation
<i>T: What is a plane?</i>	<i>San: A plane is a flat surface</i>	<i>T: Good</i>
<i>T: With your geo-board, I would like you to take the elastic bands and you will create two lines that cross, crossing lines</i>	<i>The students hold up their geo-boards to show what they did.</i>	
<i>T: As the lines cross path, they do what?</i>	<i>Many: Intersect</i>	<i>T: Very good. Let's make a note.</i>

After going through the definitions of geometry, a line, a line segment, a point, and a plane, and writing the definitions of all except a line segment on the blackboard, the teacher then rapidly starts asking questions. She first asks a student for the definition of a point. The student does not respond quickly enough and Ms. Francis responds with “Too slow”. After going through a process of trying to show what a plane looks like, she asks a student for the description of a plane, and then she allows the students to finish her sentence about lines that cross paths. Responses to the two questions are evaluated positively with “good” and “very good”, respectively. The questions are phrased in such a way that the answers are either right or wrong and also require rote learning by the

students. All instances of the evaluation by the teacher again are explicit and again they are public evaluations.

In this example, not immediately answering the question posed by the teacher is cause for an evaluation. There is no way to know whether Kyle knew the answer. He wasn't given time to respond and in this case he might have needed a little more time than others because he stammers when he speaks. In everyday life, the pause might have been considered a good thing, a possible indication of purposeful thinking and the response would not be timed. Yet, in the school what happened was an instance where Kyle was made not to look smart, while others because of the speed with which they answered the question, and to which they gave the correct answer, they were made to look intelligent. The exchange, however, has to be put into an even broader context. As exams were approaching, it seems imperative that students have verbatim definitions on hand, and, in more general terms, to be able to quickly recognize how to solve a problem and do so without spending a lot of time on it. There is a limited time in which students have to answer the questions in an exam, and in this scenario it is a situation that is time constrained (albeit seemingly unknown to everyone but the teacher) in which when the time runs out the students' chance to respond is gone. This activity appeared to be nothing less than for students to show speed rather than an application of knowledge. Giving precise answers and showing rote learning are then valued and evaluated in the classroom because of the possible link to success in the exam.

As in the previous example, evaluation of the speed of response and being able to repeat a definition could not occur without the particular context of the classroom and the larger system of competition that is valued in education. The particular evaluations of

speed and of the ability to produce a definition by rote occur specifically because of the school context. That is, the culture of the classroom, determining what students know at the critical time, and having students prepared for the exam allow such instances of evaluation to occur. Further, there is the channeling of expectations in standardized tests of speed and accuracy from the larger culture of education through the teacher to the children all mediated by the evaluation discourse.

Implicit Evaluation Discourse

Results in this section were obtained from the analysis of observation data. The results show that implicit evaluations occur 51.16% of the time of evaluative talk by the teacher. They show that implicit evaluations are contextually based and are not to be understood in their grammatical form (Cazden, 1988, 2001), but as taking on a social meaning different from the grammatical form. That is, the context of the classroom and teacher and student operating in a teaching-learning environment allow certain comments to be recognized as evaluations. In some cases this occurs because of the tone of the teacher, for example a tone of incredulity. In others it is because of the sequence of talk that allows the statement to be an implicit evaluation. The implicit evaluation has some features to the larger educational discourse. Following are examples of implicit evaluations, the first starts with the teacher and the students solving a fraction.

On this particular morning the math lesson started with the students working on fraction and decimal problems. They sat quietly working until Ms. Francis indicated that it was time to stop and that they would go through the problems as she writes out the process of solving the problems on the board. The first problem was:

$$4/10 + 5/10 = ?$$

Ms. Francis asked Wendy to go up to the board and solve the problem. Wendy went to the board and wrote:

$$4/10 + 5/10 = 9/10.$$

After Wendy wrote the answer, Ms. Francis asked students to raise their hand if they had gotten $9/10$ as the answer. For those who didn't have that answer, she asked them what answer they had written on their paper. Some students gave various numeric answers and others said that they didn't understand the problem. After getting the various responses, she began to solve the problem through a process of asking the students what is necessary to arrive at the answer.

Initiation	Reply	Evaluation
T: Remind us of the principle of the denominator, Victor.	V: No response	
T: Jason.	J: You do not add,	T: You do not add. You put it back,
T: When you have common denominators that are alike, what do you do, Valerie?	V: No response	
T: What do you do with the numerator, Lisa?	L: Add	T: The rule applies only when? Jason?
	J: The same	T: The same what?

Initiation	Reply	Evaluation
	J: The same denominator	T: Why doesn't the rule apply to $5/10+5/8$, Myra?
	M: The denominators are different.	T: You have to find a common denominator and divide.

In previous sessions the students studied problems involving common denominators, so during this session, Ms. Francis's questions assume that they have knowledge of how to solve the problem. Ms. Francis asks one of the students to remind the class how to proceed in order to solve such a problem. The first student does not answer so she moves on to another student, who says "You do not add [i.e., the denominators]". Ms. Francis repeats what Jason says, "You do not add" and then adds to his response. She continues her questioning, "What do you do with the numerator?" Lisa's answer "add" is followed by Ms. Francis asking Jason, "the rule [i.e., of adding the numerators] applies only when, Jason?" She continues to respond to each person's response.

Ms. Francis' comments cannot be understood as merely questions or repetitions, but must be understood in the context of the classroom and the effort to have students show their knowledge on fractions. Therefore, when she says "you do not add you put it back," she is not only giving the process of solving the fraction but indicating to Jason and the rest of the class that Jason's response is correct. Further when Lisa answers

“add” to the question “what do you do with the numerator?” Ms. Francis continues by asking another question to another student. In this case she is affirming that Laura’s answer is correct. Similarly, when Jason replies, “the same denominator,” Ms. Francis goes on to another question and another person. The response of “the same denominator” is not known to be correct until Ms. Francis goes on to the next person and another question.

It is only because Ms. Francis is going through the process of solving the problem that her comments may be understood as evaluations. Through her implicit evaluations she is weaving together a story of how problems like this one ought to be solved and yet at the same time implicitly telling the students whether what they are thinking is right or wrong. In this context, students understand immediately that these questions are not only requests for information, but that they are indicating to them the correctness of the students’ responses.

This context of school and being immersed in its culture of question and answer format is unlike any other. In everyday life, it is unlikely that the same question is asked of two different people in conversation to test their knowledge. Yet the nature of school makes this possible and even for answers or non-answers to be evaluated. Further, it is unlikely that after giving a response to a question that the person who asked would repeat the response. What is on display is not only the process of solving the problem or how to answer such questions completely, but those who appear to know the answers and those who don’t. For the most part in the culture of school when children vie to answer questions, a non-answer to a question could be construed as not knowing the answer. By going around the classroom and asking students to respond to how to solve math

problems sets up the culture to identify those who know and those who don't. This is a representation of what is done in the larger culture of education through testing for example. Though students need to show the process by which they achieved their answers in the citywide exams, in the final analysis it is in the separating of categories into who passed from those who failed that is highlighted. The evaluations, even the implicit ones, do this perfectly.

This is also corroborated later when Ms. Francis says:

I will not work with you George on the next one. I will work with you and you (pointing to Sandra and Victor) until you get it. We are four weeks away from the exam.

George demonstrated that he knows how to solve the problem. Sandra and Victor do not know. In making her statement, Mr. Francis highlights ability of one child who seems to understand the work and two who do not. In the context of school through the use of more evaluation the teacher will be able to determine and identify those who know and who do not.

Other evaluations are shown to be implicit in the tone Ms. Francis uses to respond to the answers given by the students. In the following examples there is overt incredulity in her responses.

Initiation	Reply	Evaluation
T: How many times did they draw one eights, Charles?	Char: Five	T: What is the relation? between the bottom five one eighths and a whole?

Initiation	Reply	Evaluation
	Char: Five of them make a whole.	T: Excuse me, does five make a whole?
T: Tell me Richard	Ric: Five of them is half of a whole.	T: Five of them is half of eight?
T: For me to get a half how many eighths should I have Fiona?	Fio: Four.	T: Tell me Sharon.
	Sha: It is five parts of the whole.	

Here the class is going over homework that was assigned from their textbook. The diagram with the shaded areas is shown in the book. The answer to the first question the teacher poses is immediately available as the students look at the text. Charles answers “five”. Ms. Francis does not evaluate this with “correct” or “right”, for example, but continues to ask Charles another question. This question is also related to the diagram but totally different. Again this is an implicit indication to Charles and the rest of the classroom that his answer is correct. The students know that Charles’ next answer is incorrect because Ms. Francis asks incredulously, “Does five make a whole?” In this case, though she repeats what Charles says, it is not in statement form but in question form prefaced with “Excuse me”. Her question is not intended for the students to answer as such. It acts to let Charles and the students know his answer is far from correct and that this is not an acceptable answer. She similarly repeats Richard’s answer in question

form, “Five of them is half of eight?” and then goes on to ask another student the question.

Ms. Francis does not expect a yes or no answer from Richard which is clearly the grammatical form of the question, and Richard understands that it is not and does not answer with a yes or no. The expected answer would be to indicate what is half of the number eight, but Ms. Francis goes on to ask the question explicitly. Ms. Francis expresses astonishment that the two students could give such answers to her question. The questions are indirectly asking the students to reconsider their responses and to suggest that they are not really thinking about the problem.

It is the tone of Ms. Francis’s comments, coupled with repeating the students’ answers in question format that makes this an implicit evaluation of the students’ responses. Though the remarks are implicit, the students are able to learn from the interaction whether a response is correct or incorrect. They are able to do so because of the context in which the interactions occur, that is, the setting of school, teacher-student interactions, question-and-answer format and math class. Further because of the context, students recognize that Ms. Francis’ comments are not to be taken in their grammatical form but to be understood in the context in which they were made. In this context where Ms. Francis’ tone implies to students whether their responses are incorrect, students are constructing their knowledge of ability.

Knowledge is being constructed through the IRE discourse (Mehan, 1979). It therefore takes the cultural organization of the classroom, impending citywide exams, individual answers by the students, questions being asked with immediate evaluation,

whether implicit or explicit, to highlight and make an issue out of what is a correct or an incorrect answer. Through the public nature of the interactions, students are shown to know or not know how to solve the problems verbally. Further when questions are asked, many students are witnesses to the evaluation by the teacher. For the most part, students do not shout the answer simultaneously as the rules of the classroom dictate that they do not. This then forces individual thinking with help from no one. Help comes only after the person has publicly shown him or herself unable to solve the problem at that moment. This indirect help comes from going through the process of question and answer with other students led by the teacher. During the process, one or several persons become spectacles for not knowing while one or others are shown to know the answer. The individualistic nature of the structure of the classes, which makes it possible for all to see who is able to answer the question correctly or quickly, makes it easier for evaluations to be meaningful with reference to ability.

The evaluations are also meaningful because of the participants in the classroom, and that these participants are in a student-teacher relationship. Additionally, the teacher's evaluations are public and therefore increase salience for comparison. Further, there are things such as homework and public display of knowledge which is evaluated. In learning the discourse of the classroom, and that some repetitions or incredulous questions are indications of the correctness of their responses, students are also finding out who are considered to be good or bad students academically and what is considered academic ability.

It takes interaction by everyone in the classroom to create a system of meanings. It also takes an understanding of the discourse, and being part of the community, for the

knowledge to be built. If students didn't understand the evaluative discourse, especially the implicit evaluation by the teacher, their answers would probably be in response to the grammatical form of the questions in such cases, or purely to requests for information. Through the participation of both teacher and student they construct knowledge of what is right and what is wrong in mathematics in this school classroom.

Hence the evaluation discourse mediates the cognitive development of academic ability because of its contextual nature. That is, it occurs specifically in the teaching and learning context of the school and the more socio-historical context of the exit exam to middle school. The discourse also brings elements of the larger educative discourse in that there are aspects of speed, and memorization checked for in the classroom. Further, the discourse does not occur in a vacuum but via interaction between teacher and students and a larger educative context. The public nature of the evaluation makes it easy for students to compare themselves along lines of performance in homework or just in answering a question making it possible for their concepts of ability to be developed.

Organizational Practice -Structural Arrangement as a Tool

In this section on I draw on analyses of observation and interview data. I identified the organizational practice as a mediational tool and drew upon the interview data to support and corroborate the identification of the practice as a tool. The results show that even though there is a silencing by the teacher about ability in her response that her actions in the classroom convey ability grouping to the students. The arrangement in the classroom mediates students' thoughts of ability such that they understand the different groups of students in the classroom to represent different academic abilities. This suggests that these practices facilitate students' thoughts of what the arrangement

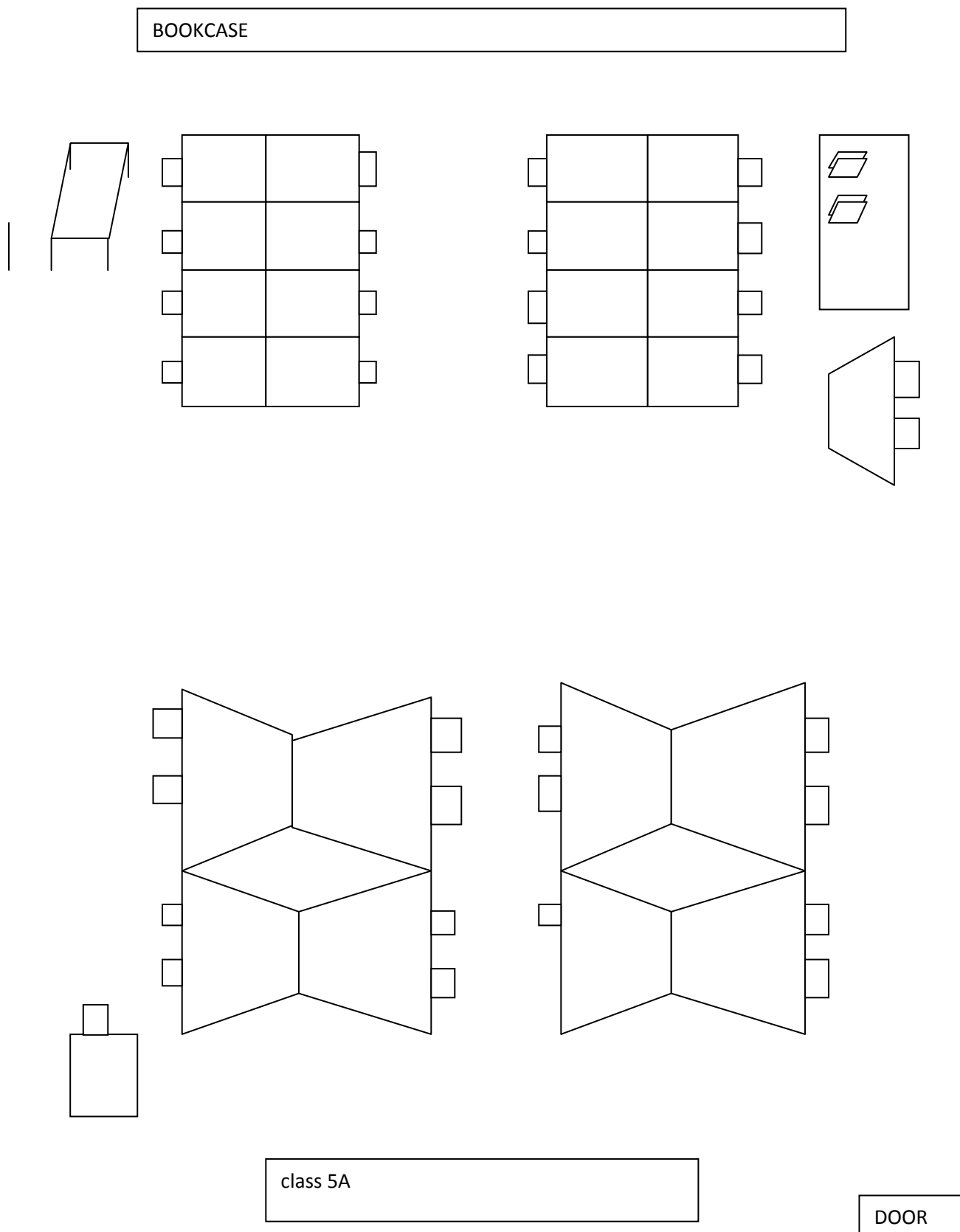
means in relation to ability. Further, the results show that students' thoughts of the arrangement are coincidental with what they think students' abilities are. This suggests that the arrangement helps to determine in students' minds concepts of ability. This is in agreement with Parker (1999) who indicates that the physical and spatial layout of any structure help to determine how people in that environment interact and create meaning.

Structural arrangement facilitates the construction of ability concepts

There are four groups of desks situated in the classroom (see Figure 1). Students sitting at the desks face each other. Grouped desks rather than individually placed desks and chairs suggest much cooperative work in the classroom. However, there was no collaboration allowed between or among students when I was there. The blackboard is at the front of the classroom. Two separate groups of desks are directly in front of the blackboard followed by an aisle then there are the other two groups of desks. During most of a classroom lesson, Ms. Francis stands in front of the blackboard as she teaches while the students sit at their designated places and copy what is written on the board. During teaching time, some of the students turn their bodies and sometimes their chairs in order to look at the board and the teacher. By standing in front of the blackboard, Ms. Francis in effect has control over where students direct their attention during that time. It also gives her a bird's eye view of what is going on in the class so that she might quickly catch any unwanted behavior if necessary and try to refocus the student(s).

Where the students sit is determined by Ms. Francis. Seating positions are not static but change according to what Ms. Francis deems necessary for order and attention to be maintained by the students. There is a meaning ascribed to these seating arrangements. Initially, in an informal conversation Ms. Francis indicated that the

Figure 1: Layout of seating arrangement in classroom 5A



students are seated according to ability. And in another informal conversation, she indicated that the students were not only seated in terms of academic ability, but that they might be placed where she thinks that they will not distract others or where they will be most productive. She moves children from one group of desks to another when they misbehave, when their grades drop, or increase, or when it appears that they have become so comfortable with their peers that sitting with them becomes a distraction. In the formal interview, which occurred after the above declarations, she says that the seating:

Teacher: ...serves more than just one purpose, more than just the academics. It is for social interaction, different disciplines. You will find out a child who is good in math might not necessarily be the top student in social studies or literacy, and you find out that each group is a multi, or is a mixed ability grouping. Each group is a mixed ability grouping so one doesn't have all the, quote unquote, "bright ones" together. But within each group there is one who is able to lead that particular group, to assume the role as a group leader, that is, to assist the teacher especially when we are doing group activities. So if the teacher is working with one group, the other three groups can work quietly, on task and achieve the desired result.

In this excerpt Ms. Francis speaks about the seating arrangement in her classroom. Ms. Francis rejects her initial declaration that each of the four groups represented a group of children of similar ability. In fact she says twice that each group is made up of "mixed ability". The reason she gives for the groups not being based on ability is that no one person is the "top student" in all subject areas. In fact, "a child who is good in math might not necessarily be the top student in social studies or literacy". Additionally, no one group has all the "bright" children. Conversely then, no one group has all the

children who are considered not to be the “bright ones”. Though Ms. Francis’ indicates that the groups are of mixed groups and made up of children of varying abilities, the students conceive of the groups quite differently. To the students the seating arrangement is organized in such a way that they think that for each group, there are students of similar abilities sitting together as shown below.

“Time wasters” & “Learners” Ability Groups

In this study, the students identify children of different abilities sitting at each group of tables. In general they indicate that there are four groups of desks, two in the front and two in the back. It’s not only that there are four groups of desks but certain students sit at these desks. Generally, the students categorized their classmates as those who “don’t want to learn” these children sit at the front, and the “good” students or those who “listen” these sit at the back. They also refer to these different groups as “time wasters” and “learners”. These results are consistent with those of the study by Hallinan & Sorneson (1983) who showed that the physical arrangements in the classroom are made to facilitate management of the students and to keep them attentive. The results also support other work that indicated that the academically best students are seated at the back, away from the chalk board (Badad & Ezer, 1993) and closest to the teacher’s desk (Rist, 1970). This study gives results consistent with other research on ability grouping, and given that the students’ responses are inconsistent with those the teacher indicated, it suggests that the students’ cognitions might be influenced by the organizational arrangement practices in their classroom. The practice facilitates the formation of concepts of ability. Examples of what the students think of the seating arrangement are

indicated below, as are details on how it is possible for students to construct ability concepts by being involved in the culture of the classroom.

Here are responses of the students when I asked students why the classroom has that particular arrangement:

Yolanda: *Well, I know for a fact that the two groups, these two groups of tables on the left hand are for the kids that are good, and the other kids on this side are the ones they don't really have any manners or they don't behave good or something like that, you know, or they are time wasters.*

Jason: *One side is the timewasters and the other side is the learners.*

Richard: *They are arranged like that 'cause this side of the desk is for the kids who don't waste their time and do their work, and this one the kids talk a lot and they always waste their time talking most of the time.*

Oriel: *... The good students sit next to Ms. Francis so she can work with them and the bad kids, who don't really listen that much, sit up here. And sometimes she changes the seat – whenever you do something good, she changes your seat and if you do something bad she puts you back where you were.*

Shanice: *Because the people in the back they want to learn, they don't want to chitchat or talk all the time. XXX³ in the front when they talk they don't get the lesson.*

Myra: *They um, like when she doing a lesson they [the front tables] don't listen, so she put the good people in the back so that when she talk they could only listen.*

The students describe the groups of students in dichotomous terms. There are those students who are “time wasters”, people who “talk a lot” and “who don’t listen”, who identify as one group, and there is another group of students who “don’t waste time”, they “do their work”, and are “learners”. Further the students who “don’t waste time”, for example, are the good students and sit closest to where Ms. Francis sits. This is in the back in relation to the chalk board. The “bad” students who don’t listen sit at the front of the class. The students indicate that the reason for the seating is so that Ms. Francis can work with the “learners” and that they could “listen” to her when she is speaking.

The dichotomy the students set up relates to ability concepts. For instance when I asked Jason about the “learners” this is clearly shown:

Caren: Okay, and so, and how do you know these kids are the learners?

Jason: Because every time I look at them, their scores are very high, like they are in the thirties and the forties. One person that is very high XXX, her name is Yolanda and Kay and Jill.

And Shanice indicates of the children who sit in the front of the class:

Shanice: The kids who sit at the front of the class, they don’t know any work really. They don’t do their homework sometimes and when we are doing our work, they are probably chit chatting and they disrespect the teacher. They are doing all kinds of things. That’s why Ms. Francis put them there.

These children understand that the seating arrangement is therefore associated with the students' behavior. For example; they don't talk much or, they listen. It is also linked to getting good grades "like they are in the thirties and forties", or not being smart, because "they don't know any work really".

The seating, as the students indicate, reflects ability grouping. Figure 1 shows that the participants indicate that the students who do not listen and who talk a lot sit in the front of the classroom and the students who have high scores and do not talk a lot sit in the back of the classroom. Further, the attentive people sit in the back so that they can hear what the teacher is saying and not be interrupted by the students who are not listening while the lesson is in progress. In the figure, the front and back of the classroom are represented in relation to the chalk board; the back is also considered as "next" to Ms. Francis or in effect directly in front of Ms. Francis' desk. This arrangement is consistent with research by Badad & Ezer (1993) and Rist (1970) on ability grouping. This suggests that students' notions of the arrangement come about because of how the cultural practice of grouping of students is played out in the classroom.

Rationale for Being Moved Supports the Construction of Ability Concepts

The students point to different reasons for being moved from one group to another. Students are moved for unsanctioned behavior and for getting good grades, for example. The movement results in either going to the front of the class or to the back of the class. Therefore, unsanctioned behavior results in going to the front of the class while getting good grades results in the student going to the back of the class. To the students, these two positions represent the "timewasters" and "learners," respectively. Therefore

movement to any of these groups is representative of being one of the groups, that is, the learners or the timewasters. It takes being a participant of the classroom and its culture to associate the movement from desk to desk and the meaning of each group to ability. The different rationales are presented in students' responses and are shown in the teacher's interactions with the students.

Jason said:

Jason: ... I used to sit at the learners table because, but I moved back because almost half of the table got me in trouble...

And Richard gave two examples of being moved.

Richard:... like once I didn't do my homework, um, she told me the XXX story right, then I have to give her a summary of it. I couldn't remember the story so I didn't know what to tell her and one of the kids who was sitting right here...at the top, his name was Jason, he did do his homework, he did so nobody would see, so she moved me, I was sitting right here at the top so she moved me over here[indicates a group of desks in front of the blackboard]....

His second example is:

Richard: Like if you sit anywhere around, these two tables [points to desks at the back of the class] and you mess up, you did something wrong, 'cause yesterday Kyle was sitting right here and Susan was reading. He said that she is stupid, she can't read, and I said, why you saying she stupid? You can't read that good too and Ms. Francis heard something and she asked us what's going on and then Charles said that both of us talking

and then I said he said Susan is stupid and Ms. Francis said who said that Susan is stupid? And I said Kyle, and then Ms. Francis said let's see how stupid you are, and she moved him right here [pointing to desk to the front of the class].

These examples are firsthand experiences of the students. Jason, Richard and Kyle were initially sitting at one of the two groups of “learners” tables and because of either misconduct or being unable to give a show of knowledge they are moved to one of the groups of tables for those who are the “time wasters.” Not only do they relate firsthand experiences of themselves but they give accounts of what happened with other students. Part of the culture of the classroom was to be respectful to each other and to do the homework assigned. Here the students have acted against the culture of the classroom. One student called another “stupid” and in another instance Richard did not do his homework. What the students show here is that committing infractions against the established culture of the classroom is to deal with the consequences, that is, to be moved to the front of the classroom. In these interactions of firsthand experience and knowing what the various groups of desks signify, students’ thought patterns are being channeled by the culture. It is possible that because of what the groups signify, the act of being moved from the back of the class to the front helps to construct students’ notions of ability.

Yet, students are also moved from the front to the back if they have earned it. The implication of the move is that the student did something to put her or him in good standing, or is capable of going beyond what she or he is doing as indicated in the example below. For instance, the teacher proposed to move Valerie because she got forty-six out of fifty, a nearly perfect score for a piece of work she did. She says:

Valerie: ...last time I had forty-six out of fifty, Ms. Francis said that she was going to move me out of this table⁴, but when we was going upstairs from lunch, ...I jumped off it and XXX and there's a girl Yolanda, she told on me. Then Ms. Francis, then Ms. Francis said that she ain't moving me to the good table no more (earlier Valerie indicates that the good table is the first group of desks in front of the teacher's desk - at the back of the class).

Or in another scenario:

Caren: Oh, and these tables over here are what?

Valerie: The table that work hard and study a lot. I study but it's just that sometimes, sometimes I chat too much, so, last time I was at that table but I had to move.

Caren: Last time you were at which table?

Valerie: The second table.

Caren: Table 2?

Valerie: Yeah, Ms. Francis said the group was going to work a little faster. The boys and girls at table two was going to help me. Then I started behaving. Then one day I came late so Ms. Francis told me to sit in the back....

In one instance, Valerie is told that she will be promoted from group number four to group number one, that is, immediately in front of the teacher's desk, after getting forty-six out of fifty on a piece of work. In another instance, she is sitting at group

⁴ At the time of this statement, Valerie is sitting at group number 4, a set of desks which is in the front of the classroom.

number two because those children who sit in that group work more quickly and they can help her to work faster. The fact that the students are solicited to help Valerie suggests that she is not that far behind them in speed, and reaching their level is attainable with their help. In both these instances, the reason for the move is in relation to academic success. Hence on this social level movement from one group of desks to another, that is, from back to front, is internalized and associated with doing well as indicated by a score or the possibility of the student increasing his or her speed on their work.

Other interactions in the classroom showing how students might have come to construct such meaning about the seating arrangement are:

Teacher: For those who are constantly talking, you will not come back in that small group [referring to the group of children who sit in front of her desk].

Many: It was XXX.

Teacher: It's not only his voice that I'm hearing.

On another day Ms. Francis said to a particular student:

Teacher: Describe an isosceles triangle, Sharon.

Sharon: [Does not answer.]

Teacher: If I do not move Sharon from there she will not do well.

Some weeks following, as the class is going over math that was given for homework over the spring break, she says to the same student:

Teacher: Sharon, Wednesday is the test. I thought you could work there. I'm going to have to move you.

And yet another day just as the class was about to begin, Ms. Francis says to a student after the student was misbehaving:

Teacher: Myra, go sit there permanently.

In these four instances Ms. Francis either suggests she will move a child or asks the child to move from her current seating position to another. In the first three examples, Ms. Francis is in the midst of directing a math lesson. She explicitly points out in the first example that the reason for asking people to move is because those people are talking all the time (at a time when they should not have been). In the second she implies that Sharon is not able to work there (“She will not do well”) and therefore she needs to be put at another group of desks with other students to ensure that she is successful. In the third example, nearly three weeks later Ms. Francis addresses Sharon again, threatening to move her because she doesn’t think Sharon is able to work as she ought, sitting at that desk among those students. In neither of these two instances does Ms. Francis tell Sharon why she thinks she cannot be productive where she is seated. She does say that she believed Sharon to be capable of being productive, but now thinks otherwise. Ms. Francis’s reaction suggests that Sharon should have been able to describe an isosceles triangle, but that somehow she is inhibited in giving an answer because of the place at which she is sitting.

The practices of grouping in the classroom have become useful to the cognitive activity of the students (Vygotsky, 1978). For example, the practice of grouping the

students at different desks allows the students to give labels to the groups which represent the academic ability of the students, for instance “learners” and “the table that work hard and study a lot”. This suggests that the practices of grouping the students are imbued with meaning. Students internalize these meanings that are operating in the classroom. The students internalize their specific experiences in relation to the practices and other interactions of the teacher with other students. Their thinking includes being moved to a table that is considered only for students who are hard workers, are good learners and for getting good scores. It is through social activity of moving students to different groups for reasons such as getting a good score or misbehavior, that the students are constructing their concepts of ability.

What occurs in the classroom speaks to a developing concept of academic ability. The students, who do their homework, get good scores and obey the teacher, are rewarded by being placed at the back of the class. Those who chat a lot, forget to do the homework, and are disrespectful are seated at the front of the class. During the interactions in the classroom, the students get to determine what is important in their classroom, what is rewarded, and what is punished. In their minds there are the “good” students and the “bad” students, and a specific place for each kind of student; all this helps to form their concept of academic ability. The grouping practice could not constitute ability concept development if there were actors involved who adhered to the teacher’s notions. For instance, if the teacher were not concerned about talking out of turn, it would not be an issue, and students would not be moved from one table to another because of engaging in such behavior. Likewise, if nothing were made of getting a good score versus getting a low score, or that students, who get the same kinds of scores sit

together, then where one sits would not carry the meaning regarding ability. Hence the practices of having four different seating groups and the rationale behind the moves from group to group possibly constitute the development of ability concepts.

Structural Arrangement Between Classrooms

From the study I found that organizational arrangement practice operates between classrooms based on ability as identified by proficiency level established by the New York City Department of Education. Therefore, all students who got a level 3 or level 4, for instance, on their standardized tests from the year before are all placed in the same classroom. From the interview data and analysis I found that students use social comparisons around such things as grades, smartness, and some behaviors. These results suggest that this practice, which is organized around proficiency performance of the students, is internalized to allow the students to speak of the students who attained level 3 or level 4 as being better. Their concepts of academic ability are therefore partly as a result of this social practice. I will show that these students use social comparisons placing themselves at the bottom of the academic ladder in relation to the other students.

Differences Between classrooms made in Social Comparisons

There are three different fifth grade classrooms and the basis for allocating the students to the respective classrooms is the proficiency level they attained from the standardized test of the year before. Given the arbitrary categories of levels 1, 2 etc. designed by the US Board of Education, the school used them to make some determinations they thought relevant to them or to make ability placements. At the school level, their ability is defined by that score from the standardized test. Though students from the various fifth grades get a chance to interact, it is not clear that each

class knows that they are divided up according to this criterion. Yet, the students in this study determined that the students from one of the other classes are better than they are. Ms. Francis' description of the three classes indicates that her students are socialized into the ability differences between them and the other classes. Here is Ms. Francis telling me of the differences and of note is that the comparison made is based on students' ability performance as expressed by proficiency levels;

Caren: Okay what do you think, so tell me about the differences between classes 5A, 5B, and 5C.

Ms. Francis: well, this is going to be a bit biased. Class 5A and 5C are more or less on the same level in comparison to 5B.

Caren: what do you mean by the same level?

Ms. Francis: okay we're more or less operating at the same academic performance in that we have the same students who are functioning at level one or level two situation. While 5B, 5B students are seen as those who are doing extremely well. Their performance level is at a higher standard than 5A and 5C. [Ms. Francis teaches class 5A].

As shown in the previous chapter, students' performance on the citywide exams are measured and assigned a level with level 4 considered indicative of the highest proficiency and level 1 the lowest proficiency. Therefore, ability, defined in this way, suggests that the students in class 5B are the most intelligent and the students in class 5A are below basic understanding of the academic work given. This concept of 5B being

better than 5A academically is either explicitly or implicitly communicated to the students and shows in their responses below.

I ask the students:

Caren: Why are you in class 5A and not 5B or 5C and which class would you prefer to be in 5A, 5B or 5C?

Their responses are:

Oriel: Well, I would like to be in 5B because they're much more behaved than this class because there is a lot of interruptions when we do our lessons and that kind of stuff, so I would prefer 5B.

And.

Oriel: Well, they have better academics. I think it would be good if I was in that class, I might see how to do things and then I would be able to be as good as them.

Yolanda: Well, when I first came I saw this girl, Angelina. I didn't know her, but she was late and I heard her say 5B, and I said I hope that I be in that class. Then when I came I found out that that class was smart....

Shanice: They [sic. 5B] get more challenge, they can do stuff better, like they don't go through everything that we go through 'cause we need help with some stuff that they don't, so they just go right through it.

Valerie: 5B is the people that get the scores high and never make their scores go down. 5C is a little bit, but 5A is a little bit just high like 5B, but 5C is a little bit low.

Richard: 5B they are scoring the most in their tests, so...

Jason: 5B is nice but I don't want to be there. I do want to be there but I couldn't go there.

Caren: Why not?

Jason: Because of my grades, it's, it's XXX a little.

Caren: Your grades are what?

Jason: Lower. It's in the A category, so I can't be in the B's.

And,

Jason: ...because 5B is really high...If they are in the B class they just can't get in the 30's and 40's. they can get in the 40's and the 45's.

The students differentiated themselves from class 5B through social comparison using their ability concepts of behavior, grades, and achievement, and in so doing determined that the group of 5B students was better. For instance, they indicate that 5B students are “better behaved”, that their scores are higher, they score more than everyone else, and that they are, “in the forties and forty-fives”. That class is also considered “smart”. Further, as the smarter class, their level of assistance is less and their work is more difficult. For instance, one student thought class 5B didn't need help which implies that they have higher ability. Those students also get “more challenge”. In other words, compared to 5A, the students of 5B get work that is above their level and which they are able to work on without the assistance of the teacher. For the students of 5A this indicates that students in 5B are intelligent enough to meet the challenge. Indeed, because 5B is

more able they don't need help on some of the class material like 5A does, and so they don't have to spend time going through some things. Behavior, test scores and needing help all come together to show that 5A when compared to 5B is not as good or that class 5A is a failure.

From these answers it can be seen that the students engage in a social comparison process ("they have better academics", "they can do stuff better", "5B is the people that get the scores high"). The students of 5A have arrived at an understanding that the students of class 5B are better academically than they are. As a consequence, one of the students even believes that it would be better to be in class 5B to the extent that the belief is "I would be as good as them." By participating in social comparison with these students their ability concepts are being constructed.

Finally, the students do not use the terminology of levels to describe the students of the other classroom, yet they make similar distinctions. That is, 5B is academically smarter than 5A. Students' concepts of what separates their class from 5B are channeled to include grades as a distinguishing factor. The cultural practice of grouping the classes based on their standardized tests results is influencing how student think of themselves in relation to others. It, among other cultural discourses shapes their thoughts so that they describe themselves in ability terminology, ascribing to themselves the status of being the less smart students.

Motivational Discourse as a mediational tool

In this study I have identified motivation as a discourse that operates within the classroom of ES123. I suggest that this discourse acts as a tool to mediate the students' thoughts of ability. In this study, the students are encouraged to be prepared to take the

citywide examination which determines their promotion to the next grade. They are encouraged by; constant references to the upcoming exam and its proximity, doing practice tests, appeals to their innate ability and the urgency to be prepared for the exam, so that they could do well. This discourse implies that their ability is also defined by what they produce on the exams. Further, the teacher is enacting the larger discourse existing today in the larger educative society (e.g. engaging in practice tests), and therefore there is a channeling of the socio-historical practice through the teacher as she engages in motivation discourses with the students. As students are engaged in the motivation discourse their thoughts on ability are influenced so that they indicate they do want to pass the exam, or that they will pass the exam and they do engage in preparation for the upcoming tests.

Motivational Discourse facilitates the construction of ability concepts

Practice Tests

In the month prior to taking the citywide exam, the students take a few practice tests. These tests are from the district office and represent similar math problems that could be on the formal citywide exam. The teacher tries to reproduce exam conditions by giving time constraints, disallowing any paraphernalia not associated with the test on the desks, and on one occasion, having the desks separated to guarantee that students work individually. By simulating the exam conditions, students get a chance of becoming familiar with what is expected in the real exam. Ms. Francis says on different occasions:

The district office sent a pretest. It shouldn't take more than ten minutes. Let's see how many people are at level four. Let's see how many people can score one

hundred percent...thanks to Carson for doing the count-down. Each day we will take off one day to the test...Please begin. Remember speed and accuracy.

Another day:

Please put away Tuck Everlasting. You did beautifully on the pretest. You have everything within you. All you need to do is to pull it out. Who's not alive today? XXX you speak things into being. That's why people who say that they can do it, excel.

And finally:

I encourage everyone to do his or her best. We revised everything yesterday. You can achieve. Reach inside of you and pull it out. This is nothing new. This is what I'm prepared for. I'm alive, my mind is quick, and I'm able to do my best.

At the time of taking these tests, the teacher encourages the students by challenging them to reach a level four (the highest proficiency level) and to be careful yet quick while doing the test. They are reminded that they performed well before, with the implication that they can do well again and that they are prepared to take these tests. The practice tests act to motivate because once they are evaluated it will be an indication of how they will do on the real test. The results of the practice test will be an indicator of whether they need to expend more effort, work faster, or be more accurate. The practice tests then, while encouraging, are a part of the enactment of what will occur at the formal exams are used as a vehicle through which Ms Francis gets to motivate students to perform optimally in the formal upcoming exam.

Appeals to Innate Ability

In the motivational discourse there are appeals to innate ability. In the formal examination students are expected to work individually. Individual work gives a show of the student's innate capacity to perform on the tests. Ms. Francis too, in these practice tests, is determining the individual's ability. The individualistic nature of the tests puts the students in a competition to show who is the best person in that realm. Students are encouraged because they can compete with each other for a high score and find out who is best. Each person will be able to show "everything within you," how able they are to reach inside "and pull it out," and therefore how much is inside of them after doing "his or her best". The competition to show what innate ability each person has is promoted by Ms. Francis in the classroom and is what operates in the larger society of education.

The Urgency to be Prepared and the Proximity of the Exam as Motivators to Succeed

As the results of the citywide exam determines whether students will go to the next grade level, Ms. Francis stresses that the students need to be prepared, and that there is only a little time to become prepared before the students have to take the exam. Preparation translates into success, and so with students recognizing how close the exam is, they are made aware that there is not that much time in which they may prepare themselves to succeed. Ms. Francis therefore tries to address any problems that students are experiencing and will work with them individually. The proximity of the exam and appeals to higher authority are invoked when they might not have been on other occasions. There is urgency to understanding the work and to doing the work which, if not important before, is important now. These are critical as shown below.

Ms. Francis: I will not work with you, George, in the next one. I will work with you and you until you get it. We are 4 weeks away from the exam.

Ms. Francis acknowledges that in this context of working on fractions she does not need to give individual attention to George because he knows it already. However, she needs to work with two other students in order for them to understand how to solve fractions. These two students do not understand how to solve the fractions and so she will give them extra attention so that they might be better prepared for the exam that is coming up in four weeks. This reference to the exam acts to let those students know that there is very little time before the exam, and in that time she will work with them in order for them to understand fractions by the date of the exam.

Time is invoked where it might not have been on a regular day.

Teacher: Susan, what is the answer?

Susan: I don't know.

Teacher: Because you haven't tried it and exams are four weeks away.

Susan does not know the answer to the math question that Ms. Francis posed. Ms. Francis takes this as indication that Susan has not applied the effort needed in order to get the answer. If there is ever a time that it might be acceptable for the students not to work on the math problems, now is not the time. The exam is approaching and Ms. Francis is implicitly saying to Susan, this is a critical time and it should be used to work on the problems given. It is in working on the problems that the student can say to himself “this is nothing new” when working on the exam.

Ms. Francis's use of motivation by referring to the proximity of the exam appeals to the student's sense of belonging to the classroom and to a higher authority.

Teacher: *Victor, where is your textbook?*

Victor: Someone stole it.

Teacher: No. It's telling me you did not do your homework. I'm going to tell the principal to get you out of here. You're not doing anything. Exams are 4 weeks away.

And on another day:

Teacher: What do you mean you didn't finish? We read, went through the questions, and you didn't finish? Oh my god, this girl just sat there and didn't do anything. Myra, I'm sending home a note with your cousin. I don't believe your Mom is sending you here to waste time. It is three weeks before exam.

Ms. Francis notices that Victor does not have his textbook while they are going over the lesson. When asked about the text book, Victor tells her that it was stolen. Immediately Ms. Francis denies his statement and says to him – “You did not do your homework” the implication being that he could have done the homework even if his book were stolen, but that he had his book and just didn't do the homework. She points out that the exams are “four weeks away” which should be incentive to do the homework, but since he is not doing anything in the classroom he might as well be removed. She suggests that there is no need for him to be in a classroom in which the students are expected to do the assigned work. His lack of participation deems him not belonging to the class. She can't remove him but the principal has the authority to do so. Ms. Francis similarly finds out

that Myra did not do the in-class assignment. Myra wrote nothing pertaining to the in-class assignment. In this case, Ms. Francis appeals to Myra's mother and not the principal. At this time, the exams are only three weeks away. With exams this close there is an expectation that students should be using the time wisely and making an effort which the teacher would then evaluate. In this way she is able to determine who needs help and who doesn't. Invoking higher authority highlights how urgent it is to be prepared.

Ms. Francis also uses the reference to time as a motivator to get the students to highlight any specific problems that they are experiencing so that they could use the time effectively.

Sharon: Seven out of fourteen.

Teacher: What happened there? No, don't squeeze up your shoulders. Tell me what you got wrong.

Sharon tells her the problems she got wrong.

Teacher: What is happening? Now is not the time to tell me you don't know. The exam is four weeks away. Please remember that tomorrow is our math practice test. If there is anything you are struggling with please ask me about it now.

As Ms. Francis goes around the class recording the scores that the students got on their homework, Sharon tells her that she got "seven out of fourteen". Ms. Francis's query, "What happened there?" suggests that this was not the kind of score she expected from Sharon. She wants to address where Sharon had the difficulty and asks her to tell

her what she “got wrong” and to be reflective and point out to her where the problem lies. Because exams are only four weeks away, Ms. Francis tells her this is not the time to be unaware of the things with which she is having difficulty. Finally, Ms. Francis addresses the whole class and gives them the opportunity to let her know if there is anything with which she could help them. These moments of motivation are opportunities for students to make sure that they are prepared for success in the exam.

The discourse of motivation by Ms. Francis as she interacts with the students does not operate in a vacuum. There is a bigger culture of testing that has enveloped this classroom. Competition, individuality, success, failure, speed, and accuracy, all parts of the testing phenomenon, are called into play in this classroom. Certainly the NCLB (2001) and its requirements of increased testing and accountability is channeling this practice into the pressure for success (Linn, 2004). As the examinations approach, the culture of testing organizes the activities in the classroom and the discourse there. The teacher and the students appear to acquire tunnel vision and work specifically towards the citywide exams (Meadows & Karr-Kidwell, 2001). The focus is not on learning but on passing the upcoming examinations. Everything points towards the exam. The students have to pass the examinations as a show of ability; failure is equivalent to a show of lack of ability. They are encouraged into doing their best and to aim for one hundred percent on the tests. Competition among them is encouraged with the challenge of showing the teacher who is capable of getting a hundred percent on the in-class tests.

The students are drilled on the types of problems that may come on the exam by taking pre-tests. Now is the time to speak up and tell the teacher if they are having any difficulties and, if so, to say where they lie. Now is also the time that those difficulties are

dealt with. They are further made aware of the proximity of the exam and their effort or lack of effort in preparation for it. In effect, opportunities for learning are transformed into moments connected to passing the examination. Yet, this is all within the socio-cultural practice of education today, for the NCLB (2001) Act has proposed increased testing and increased accountability of schools and teachers for ensuring success. Ms. Francis' motivation discourse is channeled by this larger culture of social practices.

How Are the Discourses and Organizational Practice Related?

The discourses of evaluation, motivation, and the organizational practice of grouping the students come together under the umbrella of promoting success, with success and lack of success being indicators of the child's ability. One of the aims of the teacher is for her students to succeed, now in the upcoming exam. The assumption is that success now will lead to success later in life. To this end, the teacher evaluates the students, whether formally (grading tests and homework) or informally throughout a lesson. As a part of the system, the students participate in the evaluation discourse. They have learned when it is appropriate to answer and the kinds of answers that are expected to the questions asked. In addition they also recognize that outside of the more explicit evaluations there are some evaluations which indicate in general correctness or incorrectness of their statements. Through the evaluation, the students have come to recognize what it means to do well in their classroom and, for the most part, it is about good grades and good behavior. The organizational practice of grouping the students is salient enough that the students determined its relevance to them and how it has positioned them with regards to success. They are grouped according to ability first by

classroom and then within the classroom. In the classroom, they know themselves as the ones who are good behaviorally and good academically, bad behaviorally and bad academically. They certainly do not consider themselves to be equivalent, more successful than, or as successful as their neighbors in the 5B classroom. On the contrary, they recognize themselves to be less so than their neighbors. Similarly, the motivation discourse is a call for them to be prepared to succeed. Appeals to belonging to the classroom, to higher authority, and proximity to the exam and being prepared are all invoked as means to ensure the students' success. Each discourse in itself speaks to defining academic ability.

Are These Discourses and Practice Related to Larger Discourses and Practices

The discourses and practices described here are played out in the larger society of education. They may be seen as a reproduction of academic ability in the larger society. They relate to doing well in testing. They may be seen played out for example, in the push to gain admission to one of the more competitive high schools or to an independent school where students have to take a rigorous entry examination. The exam has to be evaluated and the students have to score very well to gain entry. Those students who do not do well may go to one of the less competitive schools. That is students are grouped with those who achieved similar scores and placed accordingly. Therefore even before it occurs within the classrooms and between the classrooms, the organizational practice structure is being played out. Prior to the grouping of students there is the means by which it occurs and that is the taking of the required tests to be accepted into particular

schools. There is the comparison of the scores between students. The practice of evaluation, especially explicit evaluation is the enactment of the larger discourse of testing which exists in the educative society. Throughout the history of USA there have been reforms in education which increased the testing of children. However, today the NCLB (2001) act has the testing of children even earlier, and every year for each grade from grade 3 through to grade 8. The explicit evaluation as shown in the classroom is focused on individual ability, or innate capacity, as is testing at the national and even city levels. Again here is the discourse of evaluation and to be more precise, explicit evaluation of the students' performance which places them on a trajectory of failure or success.

Finally the valuing of individualism and the comparison of students' abilities from different states and internationally makes it possible for strategies to be utilized to urge students to excel and to succeed at critical times. This motivation occurs in the form of a testing industry which develops books with test taking strategies, examples of how to solve problems, and organizations which develop classes to prepare students for exams. These discourses and practice operating at the broader level (the city, the state, the country as a whole) have made their way into the classroom and to the teachers to the students.

Chapter 5: Discussion and Implications

In this concluding chapter I present the significant contribution that the socio-cultural approach brings to understanding the development of the concept of ability, a summary and discussion of the findings and implications for future research.

Contribution of socio-cultural approach

The use of the socio-cultural approach in this study has added to our understanding of the practice of academic ability in the classroom as understood by children. This approach offers new ways of conceptualizing and studying children's understanding of academic ability. For instance, in this study children's understanding of academic ability was conceptualized as occurring in part on the social level and being rooted historically and socially. Development of the concept of academic ability therefore is understood as understanding the changes on the social and historical levels. Accordingly then, an analyses of social interactions, practices and mediating tools which are culturally bound were integral to the inquiry of children's developing concepts of academic ability. My focus therefore was more on the child and thoughts in context, whereas other approaches have focused on the individuals and their view of academic ability as separate from context. By using the socio-cultural approach students' subjective view of academic ability may be understood as linked to the context of school and classroom and all the various practices and discourses that are imbued with particular meanings in that context.

Students' views of academic ability were related to context was shown in this study. Thought in this dissertation was considered as being active and socio-culturally rooted. The implications are that (1) children's understanding of academic ability is

shaped by the socio-cultural context. Therefore there is no one specific way of describing ability but many and (2) students' responses should reflect not only those of the larger culture at that historical time but given the opportunity should also reflect that of their immediate social world. And indeed in this study this was shown to be so. Hence in three distinct contexts in which students spoke about doing well, the students expressed varying different concepts not one. The students used the categories of behavior, grades, effort and achievement as means of describing ability.

Further, students' definitions were context dependent. That is, changes in the contexts to speak of ability afforded opportunities for students' to process their thoughts differently. The different contexts shaped the students' thoughts so that certain aspects were more defining in one context than another. Therefore when given the opportunity to speak about ability in relation to the classroom context for instance, students use the category of behavior overwhelmingly because in the classroom behavior is emphasized and linked to ability performance by the teacher. Since thought is socio-culturally rooted, students' thoughts of ability when speaking of the classroom context reflect those that are dominant in the classroom.

Not only do their thoughts reflect that of the classroom but that of the larger educative culture of which they are a part. The students in this study positioned themselves as principals and from that perspective represented ability as something to be evaluated. Principals and teachers are required to work within the guidelines of the NCLB (2001) Act, which not only places a great emphasis on tests and performance outcomes, but has increased the testing of students. Testing and talk of testing was therefore prevalent and highly salient in the classroom because of the new Act, in

addition to it being a time that these particular students were taking the city wide standardized tests. It is this context of testing magnified by the enactment of the NCLB (2001) Act that in part helped to shape the students' cognitions about ability. So that when these participants imagined themselves as principals they determined that their students' ability needed to be assessed, and done so by testing and giving them grades. There is in this study an inextricable connection between what the participants said of ability and the cultural and historical context of ability. Students' understanding showed an enactment of what the NCLB (2001) deems to be ability and how ability should be determined.

The use of the socio-cultural perspective which posits that thought cannot be separated from context was instrumental in this study in suggesting how context plays a role in shaping meaning, specifically academic ability. This study was able to bring to light to some extent, the cultural and historical specificity of higher psychological functioning unlike other studies that seek universals in mental functioning. This was achieved by situating students' notions of ability in the socio-cultural context of their classroom interactions and the implementation of the NCLB (2001) Act. The Act as a part of the history of change in education within the USA was the impetus for change at the cultural level of education. It is possible because of the pressure of stricter accountability standards on schools and districts for higher achievement performance that actions in the classroom provided opportunities for the students to think of ability in terms of grades and scores.

Another contribution of the socio-cultural approach in this study is the identification of tools which might mediate children's concepts of academic ability,

specifically evaluation, structural arrangement and motivation. I posit that these psychological tools play a role in the development of children's concepts of academic ability and they help to convey information in the everyday interactions of the students in their classroom. For instance, students' thinking about ability was channeled by the structural arrangement of the classroom which was imbued with knowledge that there were two distinctively different groups of students in the classroom, "time wasters" and "learners". The cultural practice of grouping the students though not admitted by the teacher as grouping of students by ability, conveyed to the students that there were some students who were academically better than others, both within and between classrooms. In other words this practice acted as a tool to shape the students thoughts. Identification of these tools is significant because previous literature on children's concepts of ability did not identify the role of language or practices as pertinent to the development of the concepts of ability.

Vygotsky considered language to be the tool of all tools by which thought is mediated. In this study, a major form of teacher and student interactions in the classroom is that of communication through language. I considered these interactions through language as being fundamental in shaping students' thoughts on ability. Other studies reviewed in this dissertation used different perspectives and were limited in their discussion of how academic ability concepts developed. For instance Rosenholtz and Simpson (1984) argued that ability concepts are socially constructed through the organization of classroom instruction. One such practice they considered is assessment practices. Because they gave teachers questionnaires (teachers were asked how frequently they compared on students' work with another) these researchers were unable to view the

discourse of assessment or evaluation as it played out in the classroom and its mediating effects. Using the socio-cultural perspective in this study showed that the effects of everyday discourse used in the classroom cannot be minimized. Similarly the perspective was able to highlight physical arrangement practices that mediate students' thoughts.

Finally another contribution of the socio-cultural approach and which follows from the above is that the unit of analysis in this study was the child within the social interacting system. Hence a focus was on students and teacher engaged in the learning and teaching endeavor. As a result, in studying children's understanding of academic ability there was not the separation of thought from context or placing thought in the individual, but there was the preservation of the system of thought in context. For example, the classroom verbal interactions, the classroom layout, the various activities and children's thoughts were considered as inextricably linked to each other and could not be separated as a unit of study in any way to be meaningful in understanding students' thoughts of academic ability.

Summary of results

In this dissertation I have argued that children's concepts of academic ability are socially constructed and in keeping with the socio-cultural perspective their thoughts are therefore context dependent and mediated by psychological tools (Wertsch, 1991). I argued that in keeping with the socio-cultural perspective the development of academic ability (a) occurred first on the social plane through social interactions, (b) its development was mediated by tools and (c) it is situated or context dependent. It is through the everyday interactions between the teacher and students; for instance through opportunities for public critique, social comparisons, valuing of individualism,

discourses, organizational practices, that ability concepts are formed. Also, in order to understand the development of the concept of academic ability one needs to understand that its origins are grounded in history and social culture. It was therefore pertinent to situate students' thoughts in relation to the history of achievement in education both historically and at the local cultural level. It is possible that the historical changes surrounding achievement as in the move to increase testing by the NCLB (2001) Act, created possible opportunities for children's concepts of ability to be shaped.

I have shown that the concept of academic ability is socially constructed, first occurred on the social plane and then on the individual plane in a dynamic interaction. As teacher and students engage in verbal exchanges and in their everyday cultural activities, opportunities for the formation of ability concepts occur. For instance I showed that students have a concept of ability as defined by behavior. I argue that this occurred in interactions where a student(s) may be admonished for a particular behavior. This admonition I refer to as public critique as it is both public and salient. In addition the students' behavior is linked to the upcoming exam with the implicit implication of certain outcome on the exam through this act of criticism. Here the construction of ability is first occurring on the social plane between the teacher and student(s) and is then internalized by the student who then identified ability with behavior.

Similarly students define ability using the category of grades. In arguing for the social construction of the concept of ability, I provided some history related to education. Specifically I documented the historical and cultural climate of ability with their emphasis on increased testing and evaluations as the only means of determining ability. This historical and cultural change of increased testing was brought about through the

passing of the NCLB (2001) into law in January 2002 and the take-over of the New York City Board of Education by the mayor. The changes that occurred and the way of conceptualizing ability afforded the opportunities for classroom discourse to be about testing and the implications of testing. The historical and cultural context of ability became reflected in students' understanding of ability because there was a channeling of the emphasis on testing and the definitions of ability through to the teacher to the students.

As the teacher interacted with her students she engaged the students in test taking, asked them to publicly declare their competence on tests and on homework and then evaluated their responses. In such interaction, the opportunities were provided for social comparison whereby students were able to compare themselves and to determine what it meant to do well in the classroom as valued by their teacher. Again these are the social interactions and social contexts that allow the students to engage in an interpretive process of what constitutes ability. Because the socio-cultural approach indicates that thought is historically, culturally and institutionally situated it may be assumed that students' thoughts on ability were related to the contexts of the implementation of the NCLB (2001) Act and the New York City Department of Education which make schools accountable for low scores.

In this study I identified two discourses and one organizational practice which I argued are tools that mediate students' concepts of ability. Though previous research recognized that there are particular discourses in the classroom (Cazden, 1986; 2001) this research did not make a connection between the discourse and developing concepts of ability. This study therefore highlighted how discourses in the classroom are tools for

mediating students' thoughts. Similarly, ability grouping practices in previous research were not recognized as mediating students' concepts of ability and so this research fills that gap by highlighting grouping practices as a mediational tool.

The discourses were identified as evaluation both explicit and implicit, and motivation. The organizational arrangement practice was identified as structure which was the grouping of the students both in the classroom and across classrooms according to ability. In arguing that these discourses and organizational practice act as tools to mediate thought I detailed how they were played out in the everyday educational lives of the teacher and students in the classroom. Evaluation by the teacher was very ubiquitous and as a mediational tool was powerful. Such that when students were asked to imagine they had a school and to indicate how they would determine that the children were doing well, they invoked a process of evaluations to determine students' ability. They indicated that students needed to be tested and those students would pass the test with a level 3 or level 4 proficiency which is the highest achievement level that can be attained. They also noted that the outcome of the test based on the evaluation would determine whether they would be promoted or not.

The process of evaluation in the classroom and that of the wider educational context was internalized by the children. Their understanding of what ability entailed required that a person needed to be evaluated and one means of doing so was to be tested. This was also true of the motivational discourse that occurred in the classroom. As the city wide exam was approaching, the teaching was in the process of preparing her students to succeed. In the process she constantly referred to the exam, and their innate

ability to perform well on the exam. This discourse too I posited acted as a mediational tool to construct children's thoughts of ability.

One other dominant mediational tool I identified was that of the grouping practices in the classroom and across the classrooms. Within the classroom, the organization was determined by the teacher. The teacher pointed out that the clearly defined clusters of desks were not arranged according to specific abilities. Students however conceived of these groups as made up of students of similar abilities for each group. For instance students identified children sitting at one group of desks as those who "don't know any work really" or "time-wasters" and those in another group as students who "do their tests correctly" or "learners." I showed that during the process of moving students from one group of desks to another group the teacher sometimes gave a verbal rationale for the move allowing for the notions of ability to be constructed. As an example, one student was asked by the teacher to move to another group because he misbehaved. That place was considered by students to be designated for the people who wasted time and didn't do their work. As spectators and sometimes the one experiencing the move, students internalized the interactions. This organizational practice, I argue, is a mediational tool operating as students and teacher interacted, which allowed students to form their thoughts about ability.

In this dissertation I argued that students' meanings of academic ability are context dependent. Children defined ability using categories of behavior, grades, achievement and effort. I showed how these meanings were situated as a response to the specific context framing of the interview questions. The percentage times of each category varied across three different contexts, classroom, personal, and an imagination

context. For instance, the category of behavior defining ability appeared more in the classroom context, the category of grades was used most in the imagination context, and achievement occurred only in the classroom context. Students therefore explored the concept of ability differently in the different contexts. The implication of the shifts shown in children's use of different categories to define ability in the different context is that meaning is rooted in its cultural context. Meaning then has to be interpreted in context and generalized only within that context.

There was another aspect to the context dependency of students' meanings of ability and that is being situated in the particular history of education. At a time when increased testing of students to determine ability was nationally mandated and, when students were at the time preparing for, and or just completed one of the required standardized tests, students extensively used the category of grades to define ability. This result is in agreement with socio-cultural perspective that thought is inextricably linked to context.

It was necessary to use the socio-cultural perspective to investigate the children's concept of ability as an alternative theoretical perspective. This perspective addressed deficits in the literature which research using other theoretical perspectives did not. Some researchers who investigated the development of the concept of ability used a social constructivist theory to guide their research (e.g. Nicholls, 1978, Nicholl and Miller, 1984). By doing so, they determined in their results that young children(5 – 6 years old) have undifferentiated concepts of ability whereas older children (12 years old) have differentiated concepts of ability. In these studies there was no indication of the inextricably linked nature of the individual and the social processes. Similarly, Raty et al.

(2002) used a social representation theory in their investigations with the premise that children get their conceptions of ability from experiences obtained in the school context. Though the social representation theory embraces social processes in cognitive development, in the study by Raty et al. (2002) they too did not show the social aspect of the development of ability.

This study did not deny that there is a difference between the concepts of older and younger children, (Nicholls, 1978; Nicholls & Miller, 1984), neither that as in the study by Raty et al. the social environment is important to the development of concepts of ability. However by using a socio-cultural perspective it took the emphasis off the characteristics of the child and age related differences and the focus became that of the child interacting in context. Further, by applying the socio-cultural perspective my study focused on the social context of the development of the concepts of academic ability rather than focusing on a final outcome. In addition, I brought a rich description of the processes by which the concept of ability is constructed in everyday interactions.

The nature of the socio-cultural perspective is such that it determines that the development of the concept of ability for example is not de-contextualized. Other research cited here (Nicholls, 1978; Nicholls and Miller, 1984; Stipek, 1981; Stipek and Tannatt, 1984 and Blumenfeld et al. 1986) on the development of concepts of ability using other perspectives and various methods presented the development as de-contextualized. Therefore explanations of students' responses especially younger children were considered to be confounded. Through the use of observations and open-ended interviews I was able to capture interactions by which students' ability concepts are developed in context. Hence though my results indicated that students used similar

categories to define ability for example behavior, I was able to show that their reasoning was inextricably linked to their interactions in the classroom and hence their particular responses. This is in direct contrast to the explanation of the other research. That research indicated that responses which included behavior as a defining factor of ability were confounded.

Limitations in the research

A limitation in this in this study is the issue of ‘dependability’ (Lincoln & Guba, 1985). Future research may extend this study by including a second person to analyze the data to determine whether there is similar understanding and producing the same categories as established in this study.

Finally this study was conducted in 2003, within the first year of enactment of the NCLB (2001) Act. Hence no conclusions could be made about the long term impact of NCLB (2001) Act within the classroom on the development of children’s concepts of ability. This study suggests that the passing of the Act into law may have altered interactions in the classroom to provide cognitive change. Now several years after the passing of the Act into law future research may build on this study to determine how the Act is enacted in the classroom and has infused the classroom interactions and practices of testing.

Implications and Future Research

This study has implications for classroom based research. It suggests that it is more meaningful to study children in context as the unit of analysis rather than studying the children and particular phenomenon separated from context. For instance, whereas other studies described students’ concepts of ability as confounded (Nicholls, 1978),

taking as the unit of analysis in this study the child, thoughts and classroom context I was able to explain students thoughts as being rooted in the context and not as a lack in the children. Another aspect following from this point is that studying the development of the concept of ability has its origins in history and so history becomes integral to studying the development of the concept of academic ability, not only the qualitative shifts as shown between younger children's and older children's concepts (Nicholls, 1978).

Further, this research shows that the big emphasis on testing nationally found its way into children's way of thinking of ability. That is that the students consider ability to be about testing and grades. This however, is only the outward expression of ability and unfortunately that is what is promoted by education reforms such as the NCLB (2001) Act. It has been established that a substantial amount of classroom time is spent in activities that lead to test taking (Crooks, 1988; Madaus, 1988) and though in this study there was not a measure of how much time was spent on test preparation, I found that the mention of tests occurred regularly as a means to motivate students. Increased testing mandated by the NCLB (2001) Act and the strict accountability standards associated by it then, loomed large in the classroom making it possible for students to link ability to testing. This research then raises the question of the importance of the role of more testing in ability performance. Indeed, if a similar emphasis were placed on comprehension and learning in the national policies of education reform then maybe specific interactions in the classroom would be different. The result of such emphasis might be high test scores, not an end unto itself, but an outcome of ability.

Other next steps for this research could include students and teachers from different schools in order to show a contrast in how the larger cultural context of

education plays itself out in children's developing thoughts of academic ability. For instance, secure permission from students and teachers from public and private independent schools. Public schools are subjected to the policies that are instituted nationally and locally, independent schools are not. Hence whereas students in public schools have to be tested yearly from third grade through to eighth grade, students in independent schools do not. As teachers from public schools engage in complying with the national policies their behaviors and interactions are affected. These interactions and behaviors that come into contact with their students help to mediate students' thoughts.

Similarly at private schools, teachers' interactions with students will be guided by the mission statement of the school and the view of ability at the school. Research involving these two different contexts should give different views of ability. Therefore, some questions might be what are the discourses of academic ability in these schools and how are they different? To what extent are evaluation and motivation discourse and the organizational practice of structure used in the classrooms of the different schools and in what ways are they reflected in students' concepts of ability. This suggested investigation would add to the body of research by extending our knowledge on the cultural specificity of meaning and can further add to our knowledge how national policies on education are related to classroom interactions.

The participants in this study came from fifth grade and the study occurred at a time just before the students took a citywide standardized test. Testing of these students at that time occurred for two reasons. One, the NCLB (2001) Act required that students be tested each year from third grade through to eighth grade. Hence these students had to take a standardized test. Additionally this was to be their last year to be in elementary

school. The following year they were expected to start middle school at sixth grade. Taking a test was required to determine if that transition would occur. It is important to conduct research with teachers and students from other grades and another time in the semester preferably the first semester to determine the extent that evaluation discourse is used to mediate children's thoughts on academic ability. Further, there were twenty eight students in this classroom. Research with smaller class sizes is necessary. With smaller class sizes issues of control are expected to be less dominant hence a smaller focus on behavior. Research in smaller classes as a different context might suggest that behavior is not such a dominant factor for students in defining ability. This research will also strengthen the claim that the meaning of academic ability is context dependent.

To extend this research further would be to look at the development of the concept of ability by doing a cross sectional study investigating different age group differences of children's notions of academic ability. Given my current study and the importance of studying thought in context, such a study should include the context in the unit of analysis. Such context might include the teacher lunch room as a means of getting more information on how teachers speak amongst themselves about ability in the classroom and interviews with parents. This future study will inform us on the shifts children's ability concepts across ages and the different contexts and practices that come into shaping students' thoughts on ability.

Finally given the definition of development in this study as children participating in the learning endeavor of school or development in context, more research is needed on the historical and cultural levels as the origins of change in children's understanding of academic ability.

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