METADISCOURSE IN ORAL DISCUSSIONS AND PERSUASIVE ESSAYS OF CHILDREN
EXPOSED TO COLLABORATIVE REASONING

BY

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DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Secondary and Continuing Education
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2012

Urbana, Illinois

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Abstract

Speakers and writers use *metadiscourse* to guide, caution, and implore their audiences. Written metadiscourse is a term for self-reflective expressions that help writers negotiate interactional meanings, assist in expressing viewpoints and engagement with readers (Hyland, 2005), or convey attitudes towards written text (Vande Kopple, 1985). Research suggests that effective metadiscourse results in more transparent organization of discourse and greater global, local, and thematic coherence; metacognitive awareness; better learning from text; greater rhetorical force of arguments; and, enhanced social performance and attitude.

The present exploratory study examines how children use metadiscourse and how it functionally interplays with discourse proper in their interaction with peers in collaborative small-group discussions and reflective writing. The students participating in Collaborative Reasoning paradigm are expected to take a position on the question, present reasons, back reasons with evidence and further reasoning, challenge each other when they disagree, weigh reasons and evidence, and change positions when warranted. These argumentative moves at every turn require evaluation, interpersonal, communicative and rhetorical skills with rich repertoire of metalanguage. The study's major facets are wrapped around metadiscourse enabling such evaluative, interpersonal, organizational, metalinguistic and intersubjectivity-inviting flows of meaning.

The study consists of several components employing different research methods. Quantitative methods were employed for identification of systematic patterns in written and oral discourse and correspondences between them, as well as for investigation of socio-linguistic variation in metadiscourse across discussions. Qualitative methods were used, with an elementary-to-holistic approach, for interpretation and evaluation of the patterns and explication

of how different metadiscursive variants help or impede the flow of meaning in discussions and essays. A complex taxonomy was devised to accommodate the broad evaluative, organizing and intersubjective meta-functions that comprised 50 elementary categories that could capture variation in both modalities with an extra fine-grain.

The results suggest both in speaking and writing students use twice as much evaluative as organizing metadiscourse. Intersubjectivity in essays is marginal, and in discussions amounts to less than 10% (compared to organizing and evaluative metadiscourse). Essays written by CR children bear heavy traces of *dialogism* and are open to perspectives of others. CR essays' attitudinal stance is more strongly expressed by normative modals than in speaking. The result indicates *power relations* at play, when in face-to-face confrontations students intuitively use face saving techniques as reflected in language (weaker attitudinal stance, hedging, mitigating). CR discussions show *high-engagement* level and recipient-targeted engagement marking via what if-soliciting, gestures and importantly, perlocutionary/ coercive commentary that forms bonds with hearers (also found in an experimental study showing CR-participants advantage over non-CR in essays, Latawiec et al., in preparation).

Intersubjectivity-signaling dropped over the discussion series, which indicates greater focus on informational flow than on interpersonal relations. Yet metalanguage considerably increased attesting the specificity of CR language, which puts high premium on *talking with assessment* activity, and also suggesting carry-over effect to writing. Boosters in boys' explicit speech acts in oral argumentation may be considered as exponents of power, a flip side of socio-linguistic theories of female "weaker gender" being compensated by vagueness in language which is not confirmed in this study, nor is the "rapport-talk" of women or "report-talk" of men. The qualitative results suggest intersubjectivity-vagueness can obscure the propositional flow by

halting or slowing down the flow of arguments (less seen in writing), though oral distribution patterns suggest its *saliency for peer in-group solidarity* signaling.

Lastly, for an optimal flow of propositional meaning, organizing and evaluative metadiscourse need to be counterbalanced (rather than one meta-function overtly prevail). For instance, evaluative and attitudinal stance marking used *in excess, i.e. not counterbalanced* by organizing metadiscourse, sets forewarning signals and results in resistance to potential manipulative attempts. Also, proliferate organizing variants of metadiscourse get "de-ranked" or weakened in their cohering functions. Notably, the facilitation of *information integration* seems linked to objective rather than subjective markers. Hence, a key to a successful content flow seems to lie in the 'golden means' between evaluative and organizing variants of metadiscourse.

To my Family

Acknowledgments

Just as Clark argues about the participants in a conversation who "work together against a background of shared information" (1993, p.4), so did the work towards this dissertation.

This dissertation would have not been conceptualized or completed without sharing knowledge, insights and intricacies of the research pursuits. Neither would the research goals be accomplished without interpersonally or intimately shared support or guidance. And all this has gone into the making of this study.

In this major life-time effort then I owe countless counseling and consultations to Professor Richard Anderson, as my official research director, but also a research 'guru' and an esteemed paragon to follow. Not only did he offer his invaluable expertise, incomparable research and educational experience but also private time, private face and private feelings of encouragement and personal warmth. To thank for all of this is a challenge as there may be not enough words to express. Yet as in argumentation challenges are welcome and bring a spark to conversation, I thus would like to sparkly thank you, and with a sparkling face!

My deepest thanks also go to Professor Sarah McCarthey, my official advisor, whose guidance and intellectual insight were unparalleled. Her understanding of discourse analysts' struggles and inspirational moments of thought that accompany quests for meaning and interpretation was both comforting and educational, and as such contributory to my discourse analysis pursuits. Her pithy comments and praiseworthy continuous assistance, even in the mundane matters, make me a lifetime debtor. Yet, a happy and grateful debtor indeed!

As official and unofficial committee members, superb researchers and educators, whose praiseworthy pedagogic skills I had an honor and pleasure to experience en route to my doctoral

degree, Professors Mark Dressman and Janet Gaffney will remain in my heartfelt regards and memories for the rest of my life.

Special thanks go to Avon Crismore and William Vande Kopple for offering their helpful comments and suggestions as well as well-informed feedback that propelled the engine of the exploratory research with an extra acceleration (to put it metaphorically).

This work would have not been finalized nor even come into budding without unrivalled encouragement and continuous support of my family, and especially my husband, Chris, who toiled towards this study along with me and offered a helping hand and linguistic insights that made the work lighter. Also, my son's software helping hand and mind have to be acknowledged here, and appreciated as like a life-buoy made the data unsinkable.

I would also like to thank my colleagues from the Collaborative Reasoning Research Group for their contribution to the data collection and strenuous inter-rater reliability training and work, as well as for intellectual stimulation that the environment offered.

Thank you all.

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Chapter 1

Introduction

Kevin: Shelby, @you said that@{Reminder of Material+hearsay" Evidential} they should shorten the race by @like@{cautious elem.} one or two miles, @I agree@ with you,@ because@ @what if@ you had like {=e.g./Speech Act) a little German Shepherd, @like@ five, @like@ almost a year ago, @and@ he was @really@ strong @and@ he run @real@ fast, you didn't know it was @like@ that long. @And@ it @just@ died, @like@ @right in the middle@ of the race. (CHA_8SFY:05:14.91)

1.1 Overarching Goal

The purpose of the study is to investigate whether and how children use metadiscourse and how functionally it interplays with discourse proper in their interaction with peers in collaborative small-group discussions and reflective writing. As demonstrated with the above excerpt from an authentic CR-exposed student's talk, metadiscourse is commonly used (marked above with @ symbols) and intricately woven into the fabric of communicative flow. Nevertheless, it is hardly empirically investigated especially among young age communicators in the US educational context. It is also commonly underestimated in the scope of functions and forms as well as its multi-dimensional effects on the flow of propositional content, which this *exploratory* study hopes to repair by exploring, demonstrating and evaluating the density of functions and forms used by Collaborative Reasoning small-group discussants and reflective writers.

1.2 What is Metadiscourse?

Speakers and writers use metadiscourse to guide, caution, and implore their audiences (Latawiec, Anderson, Nguyen-Jahiel, Ma et al., in preparation). Metadiscourse is a cover term

for self-reflective expressions that help speakers and writers negotiate interactional meanings, assist in expressing viewpoints or in promoting engagement with their audience (Hyland, 2005), or convey attitudes towards their spoken or written text (Vande Kopple, 1985). Vande Kopple (1985; 1997) holds that metadiscourse is used not to expand 'referential material' or content of the discourse, but to help readers connect, organize, interpret, evaluate and develop attitudes toward that material. He also argues that discourse studies' primary concern should be with metadiscursive functions rather than specific forms that can fulfill those functions, especially as sometimes one form can fulfill several metadiscursive functions.

Hyland in his *Metadiscourse: Exploration of interaction in writing* (2005) views metadiscourse as representation of "the writer's awareness of the unfolding text as discourse: how we situate ourselves and our readers in a text to create convincing, coherent prose in particular social contexts" (p. ix). In speech, as Simons (1994) claims, "going meta" may also mean "to provide a strategic, reflexive, frame-altering response to another's prior message or messages, or to a shared message context" (p. 469). It is this aspect of context that unites the two conceptions just cited, and which adds importance to metadiscourse that "lies not in semantic meanings of particular forms but meanings which only become operative within a particular context, both invoking and reinforcing that context with regard to audience, purpose and community" (Hyland, 2005, pp. 194-5). Thus conceived metadiscourse essentially is a pragmatic and sociolinguistic act as well as "a rhetorical act in social action" (Crismore, 1985).

1.3 The Rationale

The rationale for the study in children's metadiscourse and metatalk results from the assumption of *bidirectionality of interaction* between cognitive processes and discourse

formation and, likewise, the examination of processes in both directions – from mind to discourse and from discourse to the mind (cf. Billig, 2003). This formulation is very much in line with Billig's (2003) argument that "many of the phenomena that psychologists traditionally treat as internal mental processes are actually formed within discourse" (p. 228).

The rationale also gains credence from the findings in the previous study of the author (Latawiec et al., in progress) into the influence of small-group discussions on children's metadiscourse in reflective writing. Specifically, the past findings revealed improved coherence and signaling of argumentative inferential moves as well as reader-engaging metadiscursive techniques (as compared to non-CR exposed children) that added to the persuasiveness of CR-writing. Results for Non-CR exposed students that revealed their overwhelming use of additives in lieu of other connectives to bind their propositional content as well as greater use of emphatics and hypothetical scenarios rather than explicit reasoning structures of if/since-then (frequented by CR students with high reading skills though) may enhance knowledge about useful and less useful types of metadiscourse in children's persuasive language uses and thinking via the language. The past comparative study between CR-exposed students and the control groups suggests prospective differential uses by various groups of school children of metadiscourse (interacting with discourse proper) in consecutive communicative tasks of conversational (micro-genetically analyzed within a series of 10 discussions) and written argumentation (in a final essay).

1.4 The Emphasis

In the current study, the emphasis is placed on language users in a social context rather than mere linguistic forms or language uses. This is a socio-linguistically and pragmatically

dynamic perspective, in which language is seen as a dynamic process that can be captured with the metaphor of a flowing stream (after Chafe, 2001) or actually two streams – a stream of thoughts and a stream of sounds (in the oral medium) or signs (in the written medium). Thus, to use Chafe's figurative language, the metadiscourse study explores the sounds in speech or the signs in writing (observable language in action) for the externalization of thoughts (revealing the mind in action).

Consequently, this analysis of children's speech with its metadiscursive focus takes a dynamically constructivist "discourse flow" perspective, in which conversation is viewed as "a uniquely human and extraordinarily important way by which separate minds are able to influence and be influenced by each other, managing to some extent, and always imperfectly, to bridge the gap between them, not by constructing any kind of lasting object but through a constant interplay of constantly changing ideas" (Chafe, 2001, p. 686; emphasis added).

It is thus posited here that the adopted qualitative and quantitative methods of the study across two corpora may be merited with the pluses of both methods. On the one hand, a fine-grained socio-linguistic method of corpus analysis unraveling layers of children's talk and writing allows the capture of children's moment-by-moment (microgenetic) development of higher-level cognitive and social abilities in "socialization through and via metadiscourse" (Mauranen, 2001; cf. Literature review section). The conversational talk-in action analysis will allow for capturing talk of children as collaborative reasoners and cooperative communicators - interacting in accord with the Cooperative Principle in Grice's terms (1975) (which is essentially a pragmatic dimension of communicative competence paradigms, e.g., Bachman 1990; Bachman & Palmer 1996; Canale & Swain 1980). On the other hand, the cross-sectional analysis (as a function of gender, reading skills, school location and ethnicity) facilitates inquiry into the use of

Collaborative Reasoning discussion techniques with its dynamic flow of argument schema within classroom learning environments.

All in all, the mixed methods as applied in the study allow for studying the connections, correspondences and/or differences in the use of metadiscourse in the two language domains – by combining the scrutiny of qualitative observations and quantitative power of statistical tests.

1.5 The Dissertation Design

In Chapter 2, the study first reviews aspects of language use that reveal an array of metadiscursive functions and theoretical approaches to metadiscourse in two modalities of writing and speaking, with their distinctive features, affordances and/or constraints.

Secondly, the review targets the multi-faceted paradigm of Collaborative Reasoning (CR) to which the subjects of this study were exposed. To fully realize the scope of demands and opportunities (including cognitive and metacognitive, socio-cultural, linguistic, rhetorical and pragmatic), the theoretical underpinnings of argumentative strategies and procedures are showcased in tandem with the precepts of classroom small-group dialogic interactions that are meant to promote collaboration and argumentative rhetorical moves in a learning context. Specificity of the genre of CR small-group discussions with a heavy use of critical thinking and metalinguistic skills is pinpointed too.

Thirdly, the pragmatic conditionings of free flowing in-group interactions with a Teacher's role as an assistant yet unobtrusive coach are discussed to reveal the interface of children's cultural, conversational, rhetorical/textual and personal norms in their talk in action and reflective essay writing. Theoretical and empirical studies are analyzed for their contribution to the knowledge and understanding of pragmatic and socio-linguistic variation in the language

use and the mesh with metadiscursive uses by young adolescent speakers and writers (as opposed to the adults), bearing in mind their generic, cultural and ethnic diversity.

The review is concluded with the consideration of documented and potential benefits of some metadiscoursal features used by children or young adolescents for the achievement of their communicative goals in writing and speaking, various domains of knowledge, as well as cognitive and socio-cultural development. Thus, the precise study goals are distinctly formulated at the end of Chapter 2, the Literature Review.

In Chapter 3, the lion's share of the methods section is devoted to the exposition and explication of the abstract constructs that influenced the practical measuring instrument adopted in the coding scheme for qualitative and quantitative results to be obtained from two corpora never before analyzed together. Therefore, the pertinent conceptualizations that went into formulation of the multi-scale taxonomy are offered there and supported with extant theories or similar studies and examples or illustrations of corresponding language uses.

In Chapter 4, since the study applied both qualitative and quantitative methods of analysis, both bracketing and more fine-grained metadiscourse scales, micro-genetic and cross-sectional approach to the data coming from both written and spoken corpora, each of which is given due yet differential consideration in the results chapter.

Due to the fact that the study applies mixed methodologies, the results chapter is divided into Quantitative Results and Qualitative Results sub-sections of Chapter 4. In the Quantitative part, the results from the analysis of metadiscourse in both corpora separately and in comparison to one another, as well as according to the sociolinguistic groupings are presented with pertinent plots and tables. The Tables have been embedded for greater ease of reading. In the Qualitative Results section, the report of the findings from this study is presented in a table that delimits the

complexity of the patterns that hold between forms in the language and their abstract functioning (Form to Functions Table) in the minds of language users and in different contexts. Following the explanatory form-to-function table, which is comparable to the 'valency' patterns of metadiscourse grammar, illustrative episodes or excerpts from both essays and small group discussions accompany, with elucidations of the technicalities of metadiscursive forms and functioning and their contribution to the flow of meanings in spoken and written corpus. It is also discussed there how the analyzed metadiscursive uses *help or impede the flow of propositional meaning*, as well as how this impacts their persuasive discourses. Occasional references to the available results yielded by the previous study that analyzed the influence of small-group CR discussions on children's metadiscourse in reflective writing (Latawiec et al., in preparation) are made and integrated as dictated by the incorporation of the previous data pool to this study.

In Chapter 5, primarily the study's quantitative results are discussed with a few complementary issues that have not been discussed during the explication of the qualitative results (i.e. in Chapter 4.2, qualitative sub-section). The discussion proceeds with regard to the five study goals and addresses pertinent hypotheses, adopted schemes and three-partite taxonomies as well as some rhetorical and socio-pragmatic theories or practices.

Eventually, in Chapter 6, the *summary* of the dissertation study briefly reviews the major stages that went into the making of this project. The chapter then offers some *insights* that were gained from the study. Pedagogic and empirical implications are offered for learning purposes (communicative) and further research into metadiscourse in the written and/or oral modality, with different approaches, study designs, instruments, samples and methods of analysis that may be applicable to CR and beyond CR-context.

In essence, the study concludes in the same vein as it started, with the undercurrent of attested theories and new perspectives or insights into language and discourse-metadiscourse processing that is in 'phatic communion' with the *context of the language in use* (Malinowski, 1923). The context of the language in use – being inherent and inseparable from the sense-making of communication – undergirds the pragmatic, rhetorical and socio-cultural aspects of the interplay between metadiscourse and discourse proper, with metadiscourse rendering primarily *expressive meanings* of the very language in use (cf. Schiffrin, 1980).

Chapter 2

Literature Review

In this Chapter various theories and empirical findings are discussed to establish the common ground and the state of knowledge at the time of the study in the pertinent domains that contribute to the theoretical underpinnings, adopted understandings of metadiscourse, as well as the variety of factors that influence its functioning and interpretation.

Importantly, the unifying factor for the diverse topics from systemic-functional grammar, corpora studies, argumentation, pragmatics, socio-linguistics, discourse and rhetorical analysis – is the determination of the network of factors that need be taken into consideration in the approach to the task of investigating data with children, from CR small group discussions, where argumentative stratagems are at play, in the context of in-group relations and dynamics. The review highlights the disparate threads that need to be woven into an instrument for measuring metadiscourse in and across both corpora (which has been devised for the sake of this study, and which is explicated in the methods chapter).

2.1 Language Functions and Metadiscourse

In order to capture the intricate complexity of metadiscourse that constantly interweaves with the discourse proper, it is worthwhile considering the issue of the major functions of language in use. In the systemic-functional theory of language, Halliday (1994) differentiated between ideational, interpersonal and textual metafunctions of language, with metadiscourse serving textual or interpersonal functions of language, as opposed to the ideational function (the content or meaning; cf., Halliday, 1994; Halliday & Matthiessen, 1999). Halliday (1973) defined the textual function as "an enabling function, that of creating a text", "that enables the speaker to

organize what he is saying in such a way that it makes sense in the context and fulfills its function as a message" (p. 66). Respectively, the interpersonal function was theorized to incorporate "all that may be understood by the expression of our own personalities and personal feelings on the one hand, and forms of interaction and social interplay with other participants in the communication situation on the other hand" (Halliday, 1973, p. 66). One, however, has to bear in mind that "metafunctions do not operate independently and discretely but are expressed simultaneously in every utterance" (Hyland, 2005, p. 26).

It is often the case that authors conduct discourse on two levels; they mention the content of the primary discourse, but embed it in metadiscourse or discourse about discourse rather than the subject matter or issue at stake. Another view that was picked up by Dillon (1981), after Williams (1981), mentions "writing about writing" and clarifies that using metadiscourse results in calling attention to the act of discoursing itself. According to Crismore (1985) metadiscourse is used "in any discourse where ideas are filtered through a concern with how the reader will take them" (p. 61, emphasis mine).

Disparate formulations or definitions of metadiscourse generally lead to its essential understanding as "discourse about the discourse" (e.g., Crismore, 1989; Vande Kopple, 1985; Williams, 1981; 1989). In a straightforward manner Williamson (1981) denotes metadiscourse as "…writing that guides the reader, as distinguished from writing that informs the reader (p. 47), which echoes the Hallidayan (1973) distinction between textual (or otherwise text-organizing) and inter-personal functions of metadiscourse as opposed to ideational or referential function of discourse proper.

2.2 Language in Two Different Modalities – Spoken and Written

Research into spoken and written language (Chafe, 1982; Tannen, 1980, 1982) abounds in theories and empirical data for the disparate qualities of the two. Overall, researchers emphasize that spoken language fosters involvement in language or literature while written language fosters integration in the language (e.g., Chafe, 1982). Spoken medium features the quality of involvement by: greater fragmentation (e.g. stringing together of idea units without connectives or coordinating conjunctions), speakers' reference to him-/her-self (I, we, us) and likewise – you, explicitness of speaker's mental processes as revealed by such expressions as "I thought… I", "I had no idea how …" ("which are conspicuously absent in written language" Chafe, 1982, p. 46).

Moreover, the spoken medium reveals speakers' monitoring of information flow (e.g., well, I mean, you know) which is reflective of speakers' greater preoccupation with communication channel maintenance, including phatic sustenance of talk in accord with the Phatic Maxim that can best be epitomized by "Avoid silence!" (Leech, 1983). Frequent emphasis rendered by such particles as "just" or "really" add considerably to the involvement/engagement facet of spoken language, similarly to devices such as hedges or vagueness fillers (e.g. and so on, sort of, something like, or something). Direct quotes (which would turn into reported speech in writing) also foster involvement via immediacy and authenticity of voice (including the fast pace of delivery) thus re-instated in spoken language.

Concept of Dialogue

The notion of dialogue is especially pertinent to this study of Collaborative Reasoning discussions in small groups ranging from 5-9 children. In the 'common conception' or 'ordinary

sense," dialogue involves "trying to understand and to be understood by others with different views, and openness to the possibility of changing one's views" (Craig, 2008, p. 2; Wierzbicka, 2006).

Generally accepted characteristics of dialogue include immediateness of presence, emergent unanticipated consequences, recognition of strange otherness, collaborative orientation, vulnerability, mutual implication, temporal flow, genuineness and authenticity (Cissna & Anderson, 2002, pp. 9-11). All these qualities including the non-verbal dimensions of interaction make the spoken medium more interpersonally engaging and embodied.

By contrast, written language is said to foster a kind of detachment as evidenced in the use of passives and nominalizations (Chafe, 1982). Its tendency to pack more information into an idea unit than in the spoken language tips the scale towards the greater integration of written language. To further underscore the differences between oral and written language, as some scholars argue, in spoken language "the meaning is in the context", while in writing "the meaning is in the text" (Olson, 1977). Others tend to view the difference as not a dichotomy but rather a continuum of relative focus on interpersonal involvement versus message content (Tannen, 1980) or a cline from the interactional to the propositional/ transactional (Cutting, 2002).

Oral and Written Task Differences

Understandably, the task of argumentative dialogizing and writing by CR children can be rightly expected to differ on the above highlighted dimensions, as inherent in the prototypical texts in each modality. The registers of oral and written CR texts or discourses will inevitably vary with respect to conceptualized *audience* and related degree of *interactiveness*, *purposes* and *circumstances* in which CR talk and writing are produced (cf. Biber, 2001). Thus, because in oral

discussions context is shared between interlocutors (and rather unshared during writing), it is more likely that linguistic and so metadiscoursal forms will exploit more *phatic* (maintaining communicative flow), *interpersonally engaging* (e.g., coercive) and *intersubjective* (shared knowledge basis) functions and resort more to *embodied* forms, as often thoughts and ideas can be expressed more easily in gestures, body language, pointing or prosody (intonation, raised volume or pitch, and pauses) in oral discourse.

As a function of audience - oral language of CR students naturally becomes more adapted to a specific teenage-group and sociocultural settings, which inevitably results in higher informality of register and different structure of their discourses (cf. Beaugrande, 1982, 1983; Horowitz & Samuels, 1987). The teenage audience of dialogs stays in sharp contrast to an envisioned or expected audience of prospective readers of CR essays, most likely conceptualized as formal (research team and/or Teacher), more detached or depersonalized, and possibly not sharing the same knowledge basis as the peer group members and the CR discussants.

Hence, among other things, it has been hypothesized that more metadiscourse of formal structure signaling type (e.g., binding, organizing, integrating or objective in tone) would occur in writing, while possibly more marking of personalized, intersubjective or vague pragmatic, engaged and embodied meanings – in CR small-group oral discussions.

Transition from Oral to Written Expression

The studies into transition from oral to written expression (Olson, 1977; 1994) emphasize the importance of reading which is "critical to the transformation of children's language from utterance to text" (p. 278). As Horowitz and Samuels (1987) argue, this is explicable in terms of school curricula, which rely on the transmission of knowledge through written language which is "formal, academic and planned" (p. 7). Researchers investigating oral–written transition (not

only in CR-context) have most often focused on the logical relations between propositions in both modalities (Crothers, 1978; Kintsch & Van Dijk, 1978).

Conjunctions and Logical Relations

Importantly, conjunctions that show such logical relationships in texts not only signal inter-clause integration (Millis & Just, 1994) or guide readers and help them integrate the texts that they link (Guzman, 2004; Meyer, 1975) but also form an easily isolated cognitive-linguistic category (Sanders & Nordman, 2000) that adds textual coherence on several levels (Goldman & Murray, 1992). Because conjunctions occur in both oral and written language and reflect cognitive and linguistic development they can reveal the degree of acquisition of the logical implications of conjunctions (e.g., Geva, 2007), thus turning them into an important textual and conceptual category.

Particularly for this study into fourth graders' discourses and metadiscourses (incorporating analysis of textual connectives), Geva's (2007) study into school children's use of conjunctions (in oral language and reading) yields findings that add caution as to the expectations with respect to the acquisition of connectives. Her results suggest that "well-developed understanding of adversativeness [e.g., signaled by 'but', 'however', 'although'], as expressing negation of an expected result, is not mastered completely even by Grade 5 children" (p. 287). Geva further argues that the fact that children used 'but' in their oral language did not mean that they mastered the linguistic constraints of its usage (as her reading tasks indicate). This finding directly taps into Collaborative Reasoning practices and tasks of oral discussion and reflective essay that lend themselves naturally to the presentation of opposing viewpoints, wherein juxtaposing them will necessitate the cognitive-linguistic task of effectively conceptualizing and signaling them with adversatives.

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Language Organization by School, Community, Peers, CR

Finally, what needs to be emphasized perhaps is that "the nature of oral and written language and the interplay between them is ever-shifting, and these changes both respond to and create shifts in the individual and societal meanings of literacy" (Heath, 1982, Tannen, 1982, p. XVI). Particularly relevant to the ever-shifting interplay of individual and societal oracy and literacy are Ochs et al.'s (1996, 3-7) arguments about talk in interaction that both organizes and is "organized by institutions, relationships and culturally specified environments" such as in our case - school, age-group, ethnic community, and the Collaborative Reasoning paradigm.

Hence, children's language in the CR context will differ not only as a function of their communicative goals, and use of speech acts to prompt a preferred response (cf. Goodwin & Duranti, 1992), but also the in-group context that goes beyond individual speakers and hearers (e.g., Drew & Heritage, 1992). Essentially, the comparative study of metadiscourse intertwined with discourse in spoken and written modalities, especially as explored for manifestations of 'CR-kids' thought-mediation, needs to account for the devices that foster modality-specific qualities as well as the "interpersonal semantics" (Eggins & Slade, 1997), which involve social evaluations of reality and expressions of emotional states, and judgments about the ethics and morality of others — often in an "affect display"(Duranti & Goodwin, 1992) or "appraisal" (talk with emotional coloring).

Review

Heretofore it has been established that disparate theories of metadiscourse indicate the unifying factor of carrying textual and interpersonal meanings rather than propositional (or informative). Also, the two corpora, in which metadiscourse is being explored, differ on various dimensions with the dichotomy or cline relationship from integration fostering (writing) to

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interactivity or involvement in language (speaking). Research into children's transition from the speaking to the writing stage emphasizes logical relationships in text and signaling devices whose skillful use reflects cognitive and linguistic developments. Conjunctions and their organizing functions are therefore most pertinent to the analysis of language by CR-exposed children.

2.3 Metadiscourse and CR

The concept of metadiscourse with its inherent interplay between the language user, the audience, and the socio-pragmatics of the language use seems especially attractive in the context of young participants in small-group discussions featuring Collaborative Reasoning.

Collaborative Reasoning (CR) is an approach to discussion intended to be intellectually stimulating and personally engaging (Anderson et al., 2001; Waggoner, Chinn, Yi, & Anderson, 1995), or otherwise "designed to encourage independent critical thinking, as well as question fellow peers and sources" (Chen, 2009, September 24). Students read a story addressing a 'big question,' then meet in small, heterogeneous groups to discuss the question. The students are expected to take a position on the question, present reasons, back reasons with evidence and further reasoning, challenge each other when they disagree, weigh reasons and evidence, and change positions when warranted. In Collaborative Reasoning, students speak to each other without raising their hands to bid for turns. Students operate the discussion as independently as possible, with the teacher sitting outside the group. Previous research indicates that Collaborative Reasoning has cognitive and social benefits (Li et al., 2007; Reznitskaya et al., 2008).

Interface of Rhetoric and Logic in Argumentation

At the interface of rhetoric and logic, children who were exposed to Collaborative Reasoning write essays that have better developed arguments, counterarguments and rebuttals, more consideration of opposing perspectives, more use of text evidence and better signaling of disjunctive thought and inferencing moves (Latawiec et al, in preparation; Reznitskaya, Anderson, Dong, Li, I.-H. Kim & S.-Y. Kim, 2008; I.-H. Kim et al, in press; Zhang, Anderson& Nguyen-Jahiel, 2010). Due to many educational gains, CR gained recognition in the US public educational system, as Public School Review argues, "through this type of pro-active learning, experts anticipate that collaborative learning can jumpstart student progress into modernity" (Chen, 2009, September 24).

Social-Construction of Knowledge

Drawing on Vygotskean socio-genesis (1978), which posits that cognitive growth is "more likely when one is required to explain, elaborate, or defend one's position to others, as well as to oneself: striving for an explanation often makes a learner integrate and elaborate knowledge in new ways" (p. 158), CR offers the epistemic, ethical, rhetorical, and pragmatic context to arguments that children get engaged in and "think-out" in oral or written forms (Hample, 1985). Also, CR operates in line with the idea of social-constructivism (Jadallah et al., 2011, in press; Le Fevre,1987) that emphasizes social construction of knowledge, as it is in the forum of the classroom mini-society that children's ideas are conceived, and their minds and personalities are shaped (social construction of knowledge).

Classroom Discourse Technique

Additionally, CR group discussions while using functional argumentative moves modify

typical patterns of classroom discourse, the very same conventional discourse that Kim,

Anderson, Nguyen-Jahiel and Archodiou (2007) dubbed as "mind numbing" (p.337). Thus

Collaborative Reasoning discourse replaces the mind numbing "classroom bred discourse"

patterns with "those having more immediate and natural extension to the real world" and such, as

Scardamalia and Bereiter (1994) further argue, that may be lying at the heart of superior

education which fosters transformational thought in "knowledge-building discourse […]

whereby ideas are conceived, responded to, re-framed, and set in historical context" (p. 266).

Involvement Semantics

The CR small-group involvement semantics also hinges on talk with "assessment activity"

(Goodwin & Goodwin, 1992), which involves a group of "participants producing assessment

actions and co-participating in the evaluative loading, matching the affect display and making an

alignment toward words that is congruent with the assessment" (Cutting, 2002, p. 125).

Critical Thinking

In effect, critical thinking is inherent and emphasized in the dialogic and dialectical

practices in Collaborative Reasoning (CR), which helps to equip young adolescents with the

regiment skills needed in their further education and everyday and professional demands of the

adult world. During important evaluative decision-making and weighing of values,

epistemologies and belief systems within their 'community of practice" (Wenger, 1998),

Collaborative Reasoning-participants are given opportunities for practicing how to engage

productively or act out/ speak out in adult-like reality (with its government, economy, society, ecosystem, etc.), the reality that is not to be trivialized unlike often their adolescent reality (cf. Eckert, 2004).

Metalanguage

The genre of CR discourse can be characterized by specific recruitment of metalinguistic abilities to analyze form and content of language especially featured in the debriefing or discussion-assessment sessions. Metalinguistic awareness involves "conscious reflection on, analysis of, or intentional control over various aspects of language--phonology, semantics, morphosyntax, discourse, pragmatics--outside the normal, unconscious processes of production or comprehension" (Karmiloff-Smith, Grant, Sims, Jones, & Cuckle, 1996, p. 198). The concepts of language analysis and control are central to some of the metalinguistic models proposed in the literature (e.g., Bialystok, 1986; Bialystok & Ryan, 1985). According to Bialystok (1986), there are two determinants of metalinguistic task difficulty: the level of analysis (the linguistic complexity of the materials to be analyzed) and level of control (the need to go beyond or disregard a salient characteristic of the stimuli to focus on another aspect of the message).

Since in CR-debriefing children are encouraged to analyze both argumentative rhetorical moves/stratagems and social-participatory actions, metalinguistic demands of the debriefing task of critical evaluation are levied at a high level. The task thus involves not only the adequate linguistic repertoire that would befit both levels of analysis (argumentative and participatory) but also metacognitive monitoring and control over and during their speech productions.

In essence, the CR genre necessitates greater metalinguistic awareness (of form and content) in the dual task of talking the talk and walking the walk (by reference to the literature perpetuating question "they do the talk, but do they walk the walk?"). Therefore, the heavily

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metalinguisitc aspect of the CR in-group talk and meta-communication needs to be incorporated in the adopted meta-discourse taxonomy and analysis scheme.

Literary Skills

Importantly, literature plays an instrumental role in Collaborative Reasoning – both as a prompt for CR discussions and an input for students' written discourse. Literature discussions offer "an environment in which students and teachers can collaboratively construct meaning" (Almasi, 1995, p. 314). As documented, peer discussions of literary texts benefit students in cognitive, social and affective manner as well as provide valuable learning opportunities and help them better understand what they read (Almasi, O'Flahaven & Arya, 2001). Moreover, "quality talk about text [or literature]" promotes thinking, learning and language (Wilkinson, Soter, Murphy & Li, 2009). The selected literature for Collaborative Reasoning discussions also features inherent controversy that lends itself to socially-involved talk.

Engagement in an Epistemic Mode

It is thanks to the Collaborative Reasoning strivings to make students active leaders in their own learning communities, and its far evolvement from the archaic preconceptions of a classroom from the past (cf. Chen, 2009, September 24) that the Collaborative Reasoning may offer an almost remedial set of "21st century" strategies (cf. "21st Century" skills: Not new, but a worthy challenge" by Rotherham & Willingham, 2010) for the development in the fledgling fourth graders' cognitive skills and academic achievements as referenced by NAEP.

Specifically, in light of the NAEP assessments (Perie et al., 2005) which for the year 2005 revealed that less than 7% of fourth graders were able to "judge texts critically…and explain their judgments… make generalizations about point of a story and extend its meaning by

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integrating personal experience and other readings" (U.S. Department of Education, National Assessment Governing Board, 2006, p. 24), the need for classroom practices that promote students' high-level comprehension skills becomes evident. Such practices require engagement with text in an "epistemic mode", which demands knowledge of the topic ("what") and knowledge about how to think about the topic ("how") as well as metacognitive knowledge — the ability to reflect on one's thinking (Murphy, Wilkinson, & Soter, 2008, p. 744).

It stands to reason then that Collaborative Reasoning approach, by hinging on the idea of reasoned argumentation that specifically encourages students to use reasoned discourse while choosing between alternative viewpoints, promotes high-level comprehension skills, critical thinking and problem solving of the read-about and collaboratively discussed issues. Indeed CR may be viewed as the "next public school trend" (Chen, 2009, September 24) by offering a boost to the alarming state of literacy, thinking and reasoning in the US education (as NAEP report reveals, see above). The CR characteristics that have been discussed thus far range from high-level comprehension skills, metalinguistic skills that combine talk with assessment, literacy and oracy development especially in the argumentation and rhetorical domain, or socially and cognitively motivated discourse practices that reach students on the personal level while engaging them in the simulated real-world activities in the educational context.

2.4 Metadiscourse and Argument Schema Theory in Learning to Think Well

"Learning to Think Well" chapter by Reznitskaya, Anderson, Dong, Li et al. (2008), after Vygotsky (1962), puts forward a seminal argument that "thought is not merely expressed in words; it comes into existence through them,", which essentially legitimizes the discourse and metadiscourse analysis for the expression of thought-in-action in small group argumentative

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conversations and reflective writing. The use of argumentative dialogue to improve thinking and reasoning in group interactions and in different contexts has been both theoretically and empirically explored (Anderson et al., 2001; Bakhtin, 1981; Billings & Fitzgerald, 2002; Chinn & Anderson, 1998; Wilkinson, I. A. G., Soter, Murphy, & Li, 2009). It has, however, hardly ever been investigated in tandem with metadiscourse especially in young adolescent talk or writing, except for rare studies by Almasi and O'Flahaven (2001) in the US.

Effective Argumentation Moves

As research in effective argumentation and reasoning shows (Guillem, 2009), argumentation generally should incorporate at least the rudimentary form of an argument with its two indispensible components: justification for how a position was taken and the anticipation of a possible criticism to come. Importantly, during an open group discussion about the posed issue/question, children's ideas get shaped, are often challenged and swayed by the many voices of other participants (cf. Bakhtin's *heteroglossia*). It is then when their reasons, supportive evidence, suggested solutions are continuously weighed and evaluated. This complex process of reasoning seems to get amalgamated in their written arguments' formulations and justifications that follow their conversations.

Collaborative Reasoning promotes the use of 'argument stratagems', i.e., functional rhetorical reasoning moves over the literary input (Anderson, Chinn, Chang, Waggoner, & Yi, 1997), which show corroborating evidence for the relationship between peer-led discussions (over literature) and improved argumentation both in oral and written medium (e.g., Latawiec et al., in preparation; Reznitskaya, et al., 2001; Reznitskaya et al., 2008).

2.4.1 Metadiscourse and Argumentation

It is posited here that though argumentation has not been considered as "inherently good or bad" (e.g., Alexander et al. 2002, p. 796), yet it seems inherently positive or, otherwise, conducive to overall enhancement and engagement in the language use. Namely, apart from considering issues from various perspectives, it fosters motivation and ability to engage in 'issue-relevant thinking', especially when conceived as or conflated with persuasion (e.g., Petty & Cacioppo, 1979, 1980, 1981). Its inherent controversy aspect turns the communication into psychological 'stirring the waters' or 'unsettlement' acts that force students to pause and think critically as to what ideas need to be brought to a discussion or other communicative situations to achieve the intended communicative goals. By metaphorical extension, the inherent controversy basis make arguers think about what ammunition needs to be gathered to win the "duel on words", thoughts and oftentimes – on emotions. An array of empirical studies in children's argumentation documents its diverse cognitive benefits (Anderson, Chinn, Chang, Waggoner & Yi, 1997; Billig, 1987; Knudson, 1992; dyadic interaction in reasoning in Kuhn, Shaw & Felton, 1997; or collaborative discursive argumentation in Nussbaum, 2008).

Metadiscourse Prevalence in Argumentation

Interestingly, metadiscourse is especially prevalent in argumentation, which results from the fact that while arguing cases for or against a position "authors refer quite frequently to the state of the argument, to the reader's understanding of it, or the author's understanding of his own argument" (Crismore, 1985, p. 61). For Schiffrin (1980) "explanations and challenging evaluations form an argument" where "in this conversational and interactional context metatalk functions as an evaluative bracket" (p. 219). And so, metatalk can serve as an organizational

bracket when it functions on a referential, informational plane, and as an evaluative bracket when it functions on an expressive, symbolic plane (Schiffrin, 1980, p. 231).

<u>Academic Discourses</u>

Studies of metadiscourse in academic discourses that involve argumentation usually at the university level (e.g. Bondi, 2005; Crismore, 1989; Maurannen, 2001) suggest that metadiscourse may illuminate problematizing of the events or issues raised in argumentation. For example, Bondi (2005) argues that in dialectical models of arguing by balancing different opinions, metadiscursive practices contribute to "claiming significance and credibility" by 'problematizing' (signaling and showing the novelty of an issue), 'claiming significance' (relating the claim to debate within the discourse community) and 'signaling stance' (by highlighting the incoherence in evaluation of results / data/ conclusions) (p. 15). Crismore's (1989) findings suggest that metadiscourse (especially in written argumentative texts) promotes critical thinking as readers formulate their opinions in comparison to the author's and metacognitively control and "follow the author's indications throughout the text" (after Crawford-Camiciottoli, 2005, p. 87).

Clearly, oral and written argumentation lends itself naturally to the studies of metadiscourse for the reflections of "thought-mediation" in the language use, and in a composing process (Vygotsky, 1986).

<u>Review:</u>

With CR paradigm promulgating argumentative stratagems (rhetorical moves) where issues are argued for and against and constantly evaluated, metadiscourse is especially prevalent. In argumentation both speakers and writers refer to the state of argument, to the reader's

understanding of it, or the author's understanding of his own argument, which requires both rhetorical, interpersonal and meta-linguistic skills.

2.5 Metadiscourse and Pragmatics

Pragmatics has been commonly viewed as the study of language in use (Crystal, 1997; or Mey, 2001) forefronting the incorporation of context factors in discourse (Levinson, 1983). The context factors can include, for instance, the physical setting of the discourse act, and relationship between the participants (Brown & Levinson, 1987) with regard to such relationship factors as relative power, social distance, in-group membership, degree of imposition, and also the participant's state of shared knowledge about the topic of discourse and the social norms and rules.

Politeness and Public Face

It is worthwhile mentioning here that often in pragmatics following Brown and Levinson's (1978b) understanding and model of politeness, power is considered as "an asymmetric social dimension of relative power" (p. 82), as in interaction the speaker can be relatively more or less powerful than the addressee. The notion of power is related to the concept of face, i.e. "public self-image that every member wants to claim for himself" (p. 62). The face can be either negative or positive – negative face involves the desire for freedom of action and freedom from imposition, whereas positive face – need for approval. In the light of face and power explanations, speakers' strategies can show positive politeness and be damaging to their own negative face (encroaching on freedom from imposition) or in negative politeness – the opposite holds, i.e. speaker's own positive face is threatened.

Age-Group, Community, CR-group Norms

Therefore, pragmatics with its deliberation stretching beyond linguistic form and concerning itself with situated language functions seems perfectly suited to the analysis of metadiscourse in Collaborative Reasoning small-group discussions and writing, which are heavily situated in the in-group relationships between children with individual norms and rules of their ethnic community, classroom conversational interaction and CR-guidelines, shared topical knowledge about the short-story being discussed as well as knowledge about their communicative goals and expectations.

The social structure of small groups participating in CR discussions is constrained by the social patterns that the youngsters invent for themselves while being driven by peer group conformity and attempts to avoid social stigma (cf. Eckert, 1988, 1997; Stenström, Andersen & Hasund, 2002). These sociological factors, apart from the 'big four' – age, gender, social class and ethnicity, are often manifested in the language use and so most likely in metadiscourse, too.

Communicative Competence and Understanding of Speech Acts

It is noteworthy that pragmatic knowledge/competence is represented in all major models of communicative competence. What underlies the notion of communicative competence is the communicative ability, which incorporates strategic competence (Celce-Murcia, Dörnyei, & Thurrell, 1995) or interactional competence subsuming non-verbal, conversational, discursive competence in Markee's (2000) understanding, and socio-cultural competence as well as linguistic competence and some form of actional competence; the latter one can best be understood as the knowledge required to understand the "communicative intent [revealed] by performing and interpreting speech acts" (Celce-Murcia et al., 1995, p. 9).

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Pragma-linguistic and Socio-linguistic Skills

Within pragmatics, two types of knowledge of socio-pragmatics and pragma-linguistics go hand in hand, and it is best when they are mapped onto one another (Roever, 2009). After Leech (1983) sociopragmatics encompasses knowledge of the social rules of language use, including concepts of appropriateness, the meaning of situational and interlocutor factors, and social conventions and taboos, while pragmalinguistics topicalizes the linguistic forms as tools for implementing speech intentions. As Reover (2009) illustrates "if a language user has control of pragmalinguistic tools without awareness of sociopragmatic rules of usage, she or he might produce well-formed sentences which are so non-conventional that they are incomprehensible or have disastrous consequences at the relationship level' (pp. 560-561). Likewise, if language users have socio-pragmatic knowledge (e.g., of polite requesting) and yet no or poor control over linguistic tools (e.g., insufficient knowledge of modal or interrogative grammatical structures or formulaic expressions) their communication will also suffer from being incomprehensible and often missing the intended communicative goals (not reaching the targeted communicative effect).

Adjustment to others' Speech - Accommodation theory

Appeals based on group membership are generally expressed using in-group (identity) markers (Brown & Levinson, 1978), which is in line with the Accommodation Theory (Giles, 1979) that "individuals shift their speech styles to become more like that of those with whom they are interacting" (p. 46). The accommodation may involve accent convergence strategy: upward – to a more refined and standard speech perceived "as relatively higher in terms of accent prestige than [the speaker's] idiolect" (Giles, 1973, p. 90), or downward – to a less

standard speech of the addressee, or it may involve accent divergence – a move away from the less standard speech of the addressee (often exaggerating pronunciation differences to show speaker's dissociation from the addressee). In the context of fourth-graders' small-group discussions, instances of vagueness (or intersubjective assumption of common ground), adding expressions, for example "and something/or anything", kinda", or "y'know", especially when used by eloquent speakers reveal their in-group discourse orientation and a socio-pragmatic convergence (so a trend from more refined to more regional/ less refined) towards the less articulate and less refined-language users in the group. Moreover, such instances signal implicit invitations of solidarity which in pragmatics represent a strategy of positive politeness (Brown & Levinson, 1987; Yule, 1996), or intersubjectivity marking that implicitly assume the common ground thus in fact "saying less by communicating there is more" (Overstreet & Yule, 1997).

On the other hand, occurrences of question-tagging that uses standard grammar auxiliary forms may reveal a fourth grader has good pragma-linguistic control over the language but at the same time may be violating the community standards of casual talk, especially in a predominantly vernacular English group. Instances of adjusting one's speech to a more regional 'idiolect' (rather than standard variation), or using non-standard double negation by eloquent and cognitively-high speakers may be a psycholinguistic as well as a socio-pragmatic strategy establishing the common ground between the subjects of a conversation, especially when interlocutors use vernacular dialect. Stenström et al.'s (2002) argument that "teenagers are far from ignorant as to the importance of the relation between social features and language features" (p. 17) may thus be underscored by a corpus linguistic study of early adolescents' oral and written language use as proposed here.

Review:

Theories that contribute to the study's approach and analysis of CR talk and writing tackle politeness and power principles effective in face-to-face confrontations, communicative competence and ability to interpret and produce speech acts, repertoire of pragmatically motivated linguistic skills that can be adjusted not only to the communicative goals but also contextual issues including the hearer's socio-linguistic characteristics. Adherence to cooperative principles, politeness and accommodation theories are guiding factors and are intuitively applied by native speakers including children and young adolescents in their talks.

2.6 Metadiscourse and a Sociolinguistic Variation

Sociolinguistic analysis of language variation between genders in the spoken domain posited various differences between "men talk" and "women talk", for example Lakoff's (1975) claim about 'powerless' language and place of women (in the society). Fewer studies documented differences between teenage and children's talk across the sexes, especially those that would feed into metadiscourse analysis.

Vague Words as Exponents of Power

Stenström et al. (2002) in their study of teenage talk in the UK explored, among others, the use of vague words, which were considered to be "exponents of power" by such sociolinguists as Channell (1994), and as such they were meant to explain the more frequent use of vague words by girls, who were seen as less powerful than boys (as found by Coates & Cameron, 1988 or posited by Lakoff's theory of powerless features in women's language, mentioned above). Stenström et al.'s (2002) findings in the corpus of COLT, i.e. the Bergen

Corpus of London Teenage Talk (approx. half a million of words gathered across London boroughs in1993) suggest there are not many differences noted in the frequency of vague words in relation to gender and school borough.

Vague Words as Intersubjectivity Markers

The list of vague words as compiled by Channell (1994) and including some fifty plus items (e.g., "a bit", "loads of", "and crap", "and so on", etc., after Stenström et al., 2002, p. 89) when reduced and adapted by Biber (1999) and applied to spoken discourse across two COLT locations by Stenström and colleagues revealed that if only the same vague words were included, boys use more of them than girls. Nonetheless, girls were found to use somewhat more frequently the so called 'general extenders' (Biber, 1999) or 'intersubjectivity markers' (Overstreet & Yule, 1997) such as "and all that", "and stuff", "or something" – the latter one constituting 40% of general extenders' uses. In girls' conversations "like" was found to predominate as the most frequent vague word (Stenström et al., 2002, p. 92) unlike in the study by Blyth, Recktenwald and Wang (1990), where like was used more by men than by women, even though their attitudinal survey revealed that informants associate the use of "like" with middle-class teenage girls, or otherwise their connotations can be best summed up by the most frequent epithet of a 'Valley Girl', an American stereotype with social and regional connotations (p. 224; cf. Andersen, 1998; 2001).

Different Uses of Emphasis Between Genders

Interestingly, analysis of intensifiers (which in the adopted metadiscourse model would fall under category of 'emphatics') in the same corpus of COLT showed their more frequent use by girls than boys (esp. of "really" as opposed to boys' more frequent "very"), which thus

corroborates the findings of Holmes (1995) about adult women who used significantly more intensifiers than men. However, boys were found to use the superlative forms of intensifiers like "extremely angry", "absolutely stupid" or taboo words "fucking weird" (Stenström et al., 2002, p. 142). Within the same British group of teenagers an interesting phenomenon was observed that boys were especially keen on using "enough" in its switched role from a pre-modifier to post-modifying intensifier, e.g. "It's enough bad", or "My drawing's enough crap" (p. 145).

Additionally, comparison of teenage and adult uses of intensifiers as explored by Paradis (2000) showed that teenagers use twice less frequently adjective intensifiers. Paradis (2000, p. 154) explains this lesser use by teenagers' choosing other means for reinforcement such as swear words (e.g. "bloody", "fucking") or other emphasizers (e.g. "really"). Also, studies of overlapping in turn-taking sequences by British teenagers and adults revealed that teenage conversations are much richer in overlaps and interruptions, while in the chat and the discussion the amount of overlapping speech is roughly the same (Stenström, 2007, p. 121).

Male and Female Features in Talk

In the light of some sociolinguistic theories that women and men talk differently because they are socialized in different sociolinguistic subcultures (cf. Coates, 1988; or 1998), thus viewing sex differences in language in a sub-culture rather than strong or weak power approach, Maltz and Borker (1982) investigated different 'women and men features' in talk. One of their outcomes was an observation that in all –female groups minimal responses were meant to signal 'I'm listening', while in all-male groups - 'I agree'. They claim that men and women differ in talk because they internalized different norms and communicative competence for conversational interaction which were acquired in single-sex peer groups. Thus communicative breakdowns in heterogeneous interactions may be explained by women's different interpretations of men's rare

use of minimal response as lack of attention, or male's realizations that women's responses do not mean agreement (after Coates, 1988, pp. 69-70). Minimal responses may be subsumed under talk organizing metadiscourse or fillers in this study, and so their differential distribution across genders may be indicative of different socialization of the norm for responsiveness and verbal interaction.

Tags and Interactional Devices in Teenage Talk

Another important group of discursive and metadiscursive items explored for differences across gender were tags, i.e. interactional devices that are generally appended to a statement and "serve to engage the hearer or invite his response in the form of confirmation, verification or corroboration of a claim, [that] may express a tentative attitude on the part of a speaker, or […] may be polite expressions or signals of the common ground between interlocutors" (Stenström et al., 2002, p. 167). The appended expressions like "yeah", "okay", "right", "eh" (conventional 'irony marker', cf. Wilson & Sperber, 1993) and "innit" (isn't it?) as a group serve a plethora of functions (to a lesser or greater extent), e.g., epistemic, facilitative, softening, peremptory, or concept-retrieval helping, response-urging, proposal-evaluating. Importantly, tags that add pragmatic relevance to the semantic meaning of discourse proper and serve as metadiscourse by talk-organizing, talk-evaluating, hearer-engaging commentary or attenuating hedges, etc., show the usage peak at adolescence (dramatic drop after 17-19 years of age; Stenström et al., 2002, p.185).

In the same pool of COLT data, gender differences were only manifested in boys' predominant use of "yeah", while "innit" was more of a girls' thing (besides, more of a British thing too). With respect to ethnicity, distribution of "okay" showed that it is more common in white speakers' talk while "right" and "innit" - in the ethnic minority talk. As much as the

tagging studies are informative about certain trends, however they were not accompanied by explanations or attitudinal surveys, which might have revealed respondents' evaluations or even stigmatization of certain uses as in the case of "like" (by 'Valley Girls' in Blyth et al., 1990, as cited above).

Mimickry and Gestures

Distributions of mimickry, which also adds pragmatic meaning to the language in action (here subsumed under gesture or paralinguistic metadiscourse category) in general reveal prevalence among male adolescents (Stenström et al., 2002, p. 114). Interestingly an impressive variation of para-linguistic features or mimickry (incl. mimicking male/female/teacher/sexy woman's voice, a monkey, Chinese or posh accent, a yobbo hooligan, drunken man, etc.) was found in the COLT corpus to collocate with an explicit attribution, and so in metadiscourse studies may be related to attitude marking (either towards epistemic truth-values or revealing emotional orientations).

Ethnic Variation in Discourse

Studies into ethnic variation in discourse (as related to metadiscourse), however risky as prone to confounding ethnicity with race and socio-economic status (e.g., Smitherman, 1981; Wolfram, 2004), reveal among other things that African-American children's discourse patterns reflect a topic-association style that consists of a series of "implicitly associated personal anecdotes" (Michaels, 1987, p. 429) rather than topic-centered style that was attributed to European-American children in the same study into first graders' narratives during sharing time. Moreover, African American children's topic shifts were found to be signaled prosodically and also, as Garcia (1992) puts it, "to be difficult for the teacher to follow" (p. 61).

Incidentally, some of the characteristic features of African American English such as the multiple negations (along negative inversion, formation of embedded yes/no questions, or verbal markers like invariant "be" for habitual/recurrent acitivities, e.g. "Sometimes they be sitting…" in Green, 2004, p. 80) from the perspective of metadiscourse functions may be considered as the means of emphasis-adding by repetition of linguistic forms (or whole syntactic structures). For clarification, emphatics or emphasizers contribute to "the expression of modality or stance" by "strengthen[ing] the illocutionary point of the utterance" (Bondi, 2008, p. 39).

Michaels' (1981) findings when paired with McCabe's (1997) observations that African American children "plot their numerous sequences of events within the context of the individual experiences combined" (p. 460, citing Rodino et al., 1991) might be partly linked to multiple hypothetical scenarios or deductive reasoning structures revealed in metadiscourse of reflective essays as observed among non-CR exposed children by Latawiec et al. (in preparation). Similarly, most frequent linking devices of "ands" and "thens" (McCarthey, 2002) for connection of ideas and events show more semblance of the oral than written style (incidentally, the additive conjunctions which are among textual metadiscourse markers were also found to be most frequent among non-CR exposed children by Latawiec et al, in preparation).

Garcia's comment (1992; quoted above) reveals the need for caution and perhaps ethnographic deliberation when approaching and interpreting the language uses and styles of different ethnic groups, which having been learned at home are the so called primary discourses as compared to the classroom discourses learned at school (cf. Gee, 1990). This observation about primary discourse is especially potent in the context of an African American variety of English where the sociolect attributed values manifested in language echo Smitherman's

thinking "[w]hen you lambast the home language that kids bring to school, you aint just dissin dem, you talking bout they mommas" (after Wheeler & Swords, 2004, p. 472).

Review:

In the attempt to consider socio-linguistic variation in CR participating children or young adolescents, various perspectives were reviewed - on differences between women's and men's talk, talk of adults and children or young adolescents, languages of different ethnic groups, and important devices observed in the adolescent language uses – such as vague words, tagging, gestures, or mimicry.

2.7 Metadiscourse and Talk in Action

In line with Critical Discourse Analysis (CDA), both the personal and the shared aspects of cognition are believed to play a role in the production and understanding of discourse (Van Dijk & Kinstch, 1983; Van Dijk, 2001). In this understanding, both discourse and metadiscourse are viewed as a function of socially shared attitudes and ideologies, norms, beliefs, values and other forms of "social cognition" (Guillem, 2009). In the context of social construction of knowledge in the course of interactive events (e.g., Tannen, 1982), in the confrontation of an utterance with other minds (Givón, 2005) and the context, both discourse and metadiscourse are seen as not only products but also as processes of reaching shared meanings (e.g., Bokus & Garstka, 2009).

Hence socio-linguistic studies of metadiscourse, especially in the spoken mode of communication as more "open" than writing about problems encountered en route (cf. Gilbert & Mulkay, 1984), may allow for gaining better insight into individual cognitive processes, which may be seen not only as individual but joint contextually-motivated efforts. The discussion task

as compared to the task of writing reflective essays lends itself to more differences of opinions, objections, and queries. Nonetheless, both Collaborative Reasoning tasks of Big Question discussions and written essays require statements of opinions of arguable nature and therefore entail envisioning multiple stances and solutions to the raised controversial problem or question.

Metadiscourse in conversational argumentation with its frequent appeals to emotions, speaker's credibility and logic, expectations of talk evaluations (Bateson, 1972; Schiffrin, 1980), an inherent dynamic flow (Chafe, 2001), prone to vagueness/performance fillers (Channell, 1994), operative on Cooperative and communicative principles (Grice,1989), teenage-group community of practice context (Wenger, 1998) as well as ethnic and cultural norms (Stenström, Andersen & Hasund, 2002) may offer an insight into complex thinking and learning processes (Vygotskean thought mediation) of CR-exposed students' - "navigating epistemic" (Heritage, forthcoming) and socio-cultural landscapes (Cutting, 2010).

2.8 Metadiscourse Pros and Cons

An array of diverse studies provides evidence for the benefits of metadiscourse when it is put to effective use. To name a few: a better and more coherent organization of discourse (three aspects of coherence: global goal, local and thematic coherence, e.g., Goldman & Murray, 1992, or Sanders and Noordman, 2000) as well as better management of both oral and written discourse (Almasi, O'Flahaven, & Arya, 2001); metacognitive awareness (ibidem); better understanding of text demands on readers and greater resourcefulness to express a stance (Hyland, 2005); better learning from text (Meyer, 1975, Britton et al., 1982); advancing of understanding, and adding to the rhetorical force of arguments (Reznitskaya, Anderson, McNurlen, Nguyen-Jahiel, Archodidou, & Kim, 2001); better signaling of inference-ushering

moves by if-then structures and reader/listener-engagement devices in argumentation (Latawiec et al., in preparation), rhetorical technique in fiction (Booth, 1961); enhancing social performance and attitude (Crismore, 1985) or critical thinking and metacognitive control in reading (Crismore, 1989).

Discussion of metadiscourse facilitation would not be complete without a hint about the equivocal benefits of metadiscourse, as some researchers observe. Namely, metadiscourse as metatalk in group/ classroom discussions was found to be helpful initially as groups negotiate conversational conventions, but digressions and intrusions were seen as threatening conversational coherence (Reichman 1990; Hobbs, 1990). Too much metatalk (e.g., initiated by teacher's overzealous attempts at scaffolding) causes disjuncture in discussion, and propagates student reliance on the teacher to solve management related problems (Almasi et al., 2001). In either oral or written discourse, metadiscourse has also been viewed as the source of "wordiness" (Williams, 1981) or "content-less" discourse.

From the pedagogic perspective, therefore, metadiscourse may be quite difficult to fit into content-based models of information processing, and so difficult to fit into curriculum-goals of the content-based curriculum and especially in the era of No Child Left Behind observed tendencies to teach for the test, which however has negative effects on literacy and oracy (e.g., Cawthon, 2007; Dressman, 2008; Edelsky, 2007; or McCarthey, 2008).

Hopefully, from the rhetorical, socio-pragmatic and pragma-linguistic perspective, the young writer's and speaker's manipulations of their authorial voices as reflected in metadiscourse may shed light on their formulation of beliefs, goals, and attitudes/stances. These authorial voices naturally will vary as a function of the authors themselves (with the whole psychological, epistemological and attitudinal baggage), the prospective readers or listeners

(their anticipated needs, expectations and responses) and the very context of a language use (cf. Crismore, 1985; Hyland, 2005).

2.9 Metadiscourse Systems Contributory to this Study's Construct

The analyses of metadiscourse are partly doomed to be product-oriented and with the line of research mostly wrapped around what Crismore calls linguistic 'devices'. Crismore and colleagues (Crismore, Markkanen, & Steffensen, 1993) argue that writers – both professional and non-professional - "convey their personality, credibility, considerateness of the reader, and relationship to the subject matter and to readers by using certain devices in their texts. These devices (which include words, phrases, main clauses, and even punctuation and typographical marks) are referred to by terms such as 'signaling devices', 'signposts', 'gambits', 'metatalk', and 'meta-communicative markers'" (p. 40).

However, one cannot ignore the fact that these textual devices are only tools in the hands of more or less skillful writers and speakers who thus communicate with them contingent upon the context.

Wünderlich's (1979) System

Chronologically, Wünderlich's (1979) system sheds light on verb operators that bear attitudinal stance in speaking and writing, and which he named "positional functors." He distinguishes 5 group/categories in which communicators can express their position: 1.epistemic (know, think, suspect), 2.doxastic (believe), 3.ability/capacity (can, may, be able to), 4.motivational (wish, want, prefer), and 5. normative (ought, should, have to). His argument has been carried forward and is influential, as some other researchers (e.g., Crismore, 1985) found

confirmatory evidence for verbal modal attitudinal marking and thus his system is indirectly an inspiration to the present study too, as following Crismore's and his views, attitude markers incorporate verbal modals.

Crismore (1985) and Crismore et al.'s (1993) System

Crismore et al.'s system (1993; see Figure 1 for better clarity) considers illocution markers (e.g. performative verbal expressions "I name/promise/thank you" and other speech acts signals) as having intertextual rather than interpersonal function and so seems to confound major types of metadiscourse when compared with Vande Kopple's system (1997).

I. TEXTUAL METADISCOURSE (used for logical and ethical appeals)
   1. Textual Markers
      — Logical Connectives
      — Sequencers
      — Reminders
      — Topicalizers
   2. Interpretive Markers
      — Code Glosses
      — Illocution Markers
      — Announcements

II. INTERPERSONAL METADISCOURSE (used for emotional and ethical appeals)
   3. Hedges (epistemic certainty markers)
   4. Certainty Markers (epistemic emphatics)
   5. Attributors
   6. Attitude Markers
   7. Commentary

Figure 1. Crismore et al.'s (1993) Revised Taxonomy of Metadiscourse Taxonomies. Adopted from Crismore et al., 1993; reprinted with permission of SAGE Publications.

Moreover, it is unclear why textual metadiscourse is divided into textual and interpretive (cf. similar criticism in Hyland, 2005), especially as the interpretive attempt on the part of the writers demonstrates their rather interpersonal (than textual) communication with the reader.

For the balance, Crismore's system (1985) incorporates the concept of *Deontic modality* (concerned with the expression of obligation, prohibition and permission) in the attitudinal metadiscourse category, which never before was so distinctly conceptualized. It is therefore for this meritable inclusion of Deontic modality that Crismore's system has been influential and inspirational for the attitude marking taxonomy as conceived in this study.

Vande Kopple's (1997) System

Vande Kopple's (1997) system seems to take more of a pragmatic (apart from rhetorical structural or syntactically-semantic, and emotionally-attitudinal) aspect of discourse into consideration and has already been a point of reference for many studies in the domain (Hyland, 2005). As I align myself more with Vande Kopple (1997) rather than Vande Kopple (1985), let me discuss briefly his taxonomy that subsumes such sub-classes of metadiscourse as: text connectives, code glosses, illocution-markers, epistemological, modality- and attitude-markers, evidentials, and commentary, which slightly differs from his earlier system of Vande Kopple (1985), wherein in place of epistemological markers that subsume evidentials and modality markers, he used to enumerate validity markers and narrators.

Vande Kopple's (1997) system manages to account for the following functions of metadiscourse: shows relationships between parts of texts via (1) text connectives, defines or explains words, terms, phrases by (2) code glosses, make explicit what speech acts are being performed at certain points in texts by means of (3) illocution markers (incl. boosters and mitigators), indicate some stance on the part of the writer towards the epistemological status of the referred-to-material via (4) epistemological markers, subsuming two (2) sub-types of markers: (4a) modality markers – reflecting how committed we are to the truth of that material (using elements from the system of epistemic rather than deontic modality, i.e. concerning duties and

obligations which thus form attitude imparting function), and (4b) evidentials (adopted by

Vande Kopple, 1997 after Chafe, 1986) that show what basis we have for referential material,

reveal what attitude or emotional orientation authors have towards referential material thanks to

(5) attitude markers, and provide commentary/directives/imperatives by addressing readers

directly in a (6) commentary (e.g. readers' probable moods, views, hoped-for stance or simply

conversing with them).

Shiffrin's (1980) System

Shiffrin's (1980) research into meta-talk has been inspiring too, as she distinguishes

between two major met-communicative functions in talk – organizing and evaluative. These

meta-functions seem to bracket the discourse. Organizing bracket acts as discourse bracket that

initiates or terminates slots in discourse. Examples of organizing meta-talk are explanations or

justifications like "the reason is", "the point is", "for instance", "I mean", etc. Her evaluative

bracket is wrapped around opinion-making, which helps identify the speaker's stance. In practice,

she lists examples of agreement or disagreement, positive or negative evaluations or insinuations

and similar uses. Her theory of organizing and evaluative bracket has been very convincing as it

seems that those brackets converge with the textual and interpersonal Hallidayan metafunctions

of metadiscourse and also align with Vande Kopple's (1997) system that maintains the systemic-

functional textual differentiation between textual and interpersonal.

Hyland's (2005) System

Hyland's (2005) system of metadiscourse also springs out of the functional approach

which considers metadiscourse as the ways the writer refers to the text, to the writer or the reader,

His distinctions between interactive and interactional resources (following Thompson & Thetela,

1995) acknowledge the organizational and evaluative features of interaction in discourse. He also includes stance and engagement features, thus further developing Hyland's (2000) model. His interactive resources utilize transition markers (conjunctions and adverbials), frame markers (text boundaries signals), endophoric markers (references to other text parts), evidentials (representations of ideas from another source), and code glosses (rephrasing, elaborations, explanations). As for the interactional resources, these include hedges, boosters, attitude markers (writer's affective rather than epistemic attitudes to referential material), engagement markers (explicit reader's addresses, comparable to Vande Kopple's commentary) and self mentions (1st-person pronouns and possessive adjectives).

It is noteworthy that the last category of self mention is the only resource not tapped by Vande Kopple's (1997) model. Due to an extra-fine grain that Vande Kopple's system provides especially with respect to illocutionary/speech acts and textual devices (global and local coherence connectives) having more clear cut divisions and specializations, I find his system more comprehensive and so adopted in this study; though not devoid of criticism perhaps (cf. Hyland, 2005, p. 33), and lending itself to amendments as (Xu, 2001). Inspired by Hyland's evaluative category, I refined it to talk-evaluating (as especially manifested in the spoken metadiscourse), while Crismore et al.'s (1993) idea of deontic modality influences the expansion of attitudinal metadiscourse as posited in my model.

Review:

For the analysis of children or young adolescent metadiscourse especially in the spoken modality, adjustments and expansions have been made to primarily Vande Kopple's (1997) model to account for the specific demands as well as constraints of the teenage language both in

reflective essays and in the communicative flow of in-group interactions (to be thoroughly explained in the Methods section).

In the analysis of Collaborative Reasoning discussions, in which the communicative acts of fourth-grade children are situated in an educational and social context, an attempt will be made to take into account how communicative goals are achieved with the diverse linguistic forms targeting different functions of metadiscourse (macro- and micro-functions, such as "rapport–talk" (cf. Tannen, 1991) to negotiate relationships [macro], or "commentary" to engage a reader/interlocutor in a kind of a dialogic interaction [micro]) by different groups of CR-exposed children (e.g., boys and girls, of low and high academic aptitude, Afro- or European-Americans, from rural or urban backgrounds,) thus revealing tendencies to use certain metadiscursive elements rather than other for particular goal accomplishment.

Pragmatic considerations may allow for observations and inferences as to how these forms and functions demonstrate the children's communicative success that hinges on the correct assessments of the state of knowledge of one's interlocutors (Cook, 1989) or recipients of communicative acts (readers of reflective essays or interactants in CR-discussions), including the knowledge of 'good-discussion' or argumentation. Rhetorical considerations and socio-pragmatic combined will help determine how metadiscourse diverse uses help flow or impede meaning in the discourses.

Thus, the inquiry into the fourth graders' metadiscourse will assume primarily qualitative and descriptive functions focusing on the community and CR-genre interactional preferences and only then be followed by validating frequency counts and quantitative analysis to support qualitative observations and comparisons (cf. Hyland, 2005).

2.10 Metadiscourse Study Goals

Since the focus of the study is on the relationship between metadiscourse in verbal small-group CR interactions in the process of co-constructing shared meanings, on the one hand, and participant's individual learning as externalized in written expression of thought, on the other, the study necessitates a complex model of discourse. The current analysis of metadiscourse posits the discourse model that operates not only on the ideational, textual, and interpersonal planes of language (cf. systemic-functionalism - Halliday, 1994) but also on the performance and action planes (cf. sociolinguistic model of Schiffrin, 1987) in the language use in the CR pragmatic context (Levinson, 1983; Mey, 2001).

Overall, the purpose of the proposed study is to investigate how children use metadiscourse and how functionally it interplays with discourse proper in their interaction with peers in collaborative small-group discussions and reflective writing.

Specifically, the study aims to (1) analyze metadiscourse used in small group discussions by CR-exposed children as well as (2) analyze the metadiscourse in their written essays. The analysis of videotaped and transcribed discussions when paired with their essays will enable a search for (3) any correspondences between children's metadiscourse in two modalities and help determine (4) how metadiscursive patterns are used by CR-children as a function of gender, ethnicity, academic aptitudes or school location in small group discussions and essay writing, and (5) how those metadiscursive patterns add to the flow of meaning in their oral and written argumentation.

The proposed study will examine data from a major study entitled "Social Propagation of Argument Stratagems." This major study was conducted in fourth-grade classrooms in public schools in central Illinois in 2001-2003. During a five-week period of Collaborative Reasoning

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discussions, the fourth-grade children and teachers' oral discourses were videotaped and transcribed, and children wrote persuasive essays at the end. Several analyses of the videos and transcripts from the project have been completed, describing the emergence of child leadership (Li et al., 2007), children's response to teacher scaffolding (Jadallah et al., 2011, under review), and children's use of analogy (Lin et al., in press).

In years 2008-2009 metadiscourse in persuasive essays of CR-exposed and non-CR exposed fourth-grade children (N=180) was analyzed (Latawiec et al., in preparation) and revealed distinctive metadiscursive patterns of children participating in the intervention. Their recurring metadiscursive patterns, especially of CR females and CR students with above average MAT scores, indicated that CR students were more likely than comparable control students to signal reasoning moves and to engage in explicit "If...then" inferencing that help to shape argumentation in the characteristic moulds of Modus Ponens (If A, then B; A, therefore B) and Modus Tollens (If A, then B; not B, therefore not A). Essays written by CR-exposed children tended to contain more explicit and elaborated argumentative structure with clearer references to belief sources, signaling of inductive reasoning, direct address to and engagement of readers via commentary, and boosted illocutionary acts. Also, the CR writers' attitude and emotional orientation marking in the less self-centered manner indicate their trend towards more common-good-oriented authorial expression (e.g., "It is unfair/bad/not nice to the other kids"). The essays of CR students had greater coherence than the essays of control students — due to logical connectives that more explicitly showed text sequencing and global text binding. In contrast, control students made more emotional appeals by means of emphatics and by means of hypothetical scenarios, both self- and other-centered. The propositions in the essays of control

students were, however, more frequently linked with the simplest, least globally-coherent additive conjunctions (cf. Goldman & Murray, 1992; Sanders & Nordman, 2000).

Further Steps:

To pursue the study goals which are two-fold in terms of methods, qualitative corpus analysis - (1) for the richness of forms and functions in both modalities (study goals 1 & 2) - consecutively leads to its quantitative comparative analysis with their written metadiscourse in reflective essays (Latawiec et al., in preparation) (2) to establish metadiscursive correspondences between the two modalities (study goal #3), as used by the same CR-exposed groups of children yet (4) as function of gender, academic aptitude, school locality background, different ethnicities (while taking into account their succinctness or prolixity in talk and writing), as well as (5) to help determine and evaluate how metadiscourse adds to or impedes the flow of meaning in both modalities.

In the first stage, the analysis focuses on the video clips, their transcripts and field notes from a subset comprising two discussions (discussion No. 5 and 8) from two classrooms x three groups each from 2 different locations for primarily - (1) the identification of metadiscursive forms, their density and functions in oral modality. Secondarily, (2) participants' reflective essays that were analyzed for the usage of written metadiscourse in the previous study (Latawiec et al., in preparation, as cited above) are re-analyzed and re-coded for the occurrence of the newly added supra-codes (the three major brackets of organizing, evaluating and intersubjectivity). Then, the data from analyses of both corpora are (3) compared for the possible correspondences both in the following statistical analyses and qualitative evaluations of their patterns and functionality of use.

Chapter 3

Methods

3.1 Participants

This study springs from the previous study (Latawiec et al., in preparation) that analyzed metadiscourse in persuasive essays of fourth-graders (N=180) from 3 different schools that were matched in socio-economic status and ethnicity that participated in the major study Social Propagation Study (2001-2003). The secondary data available for metadiscourse analysis in two corpora – written (essays) and oral (discussions) were collected from 78 CR-exposed students or otherwise 4 classes - each sub-divided into 3 heterogeneous conversational groups (red, yellow and blue) being a representative cross-section of the class. Altogether 4 CR-exposed/ experimental classrooms and their 4 CR-involved teachers from 2 different locations in Illinois, one rural and one urban, participated in the project. The schools were matched in SES.

In terms of ethnic background, the major study's pool (Social Propagation study in 2002-2003), consisting of 6 CR-classes (and 6 non-CR), showed the following breakdown: 33% African-Americans, 3% Latin-Americans, 1% Asian-Americans, and the remaining were European-Americans. Likewise, the selected sample's overall ethnic make-up (from the above pool) is 32% African-Americans (N=22), 4.2% Latina (N=3), 1.4% (1) Asian-American and 62% European-Americans (N=45). One of the analyzed schools (rural location) has solely European-Americans in CR-exposed groups, which means that all the other ethnicities come from the other school (urban).

In terms of gender, originally 61 girls and 46 boys participated in Collaborative Reasoning exposed groups, and so the written corpus of the data has been analyzed for this

whole pool. In this pilot study sample, 38 girls and 33 boys participated in both analyzed CR discussions (6 students participated only in the later discussion, and 6 have no written essays); these contribute to the oral corpus, which has been analyzed and compared across two equally intriguing and controversial discussions (medial and later one in a series) in the first stage.

Participants' scores varied across the Metropolitan Achievement Test, with the largest amount of below median achievers in the urban school.

3.2 Procedures

An array of activities took place in the main project (2001-2003). The activities were integrated into the regular reading instruction. At the onset of the project and prior to the intervention, children were given a battery of individual tests, including Metropolitan Achievement Test (MAT), to assess their reading, vocabulary and spatial reasoning. Moreover, the children filled out a socio-metric questionnaire including peer-evaluations in terms of openness to talk and participation in discussions. At the end of the project, children took two more tests that assessed their reasoning and appropriation of argument stratagems. One of the post-intervention measures, i.e., persuasive essays, constitutes the written corpus analyzed for the occurrence of metadiscourse by fourth graders exposed to Collaborative Reasoning intervention.

At the beginning of the main project, the teachers who participated in the study were given a half-day long workshop on conducting Collaborative Reasoning discussions. Then, teachers from the experimental groups conducted 30 discussions in their classrooms - 3 groups out of each classroom had 10 discussions each. Following the series of discussions the teachers participated in a 30-minute interview, which was conducted by a research assistant at the end of the project.

In the course of the project, the CR-exposed children read selected short stories and upon reading of the literary material engaged in 10 Collaborative Reasoning small group discussions about the issues raised in the stories; children from the contrastive/control groups did not receive any Collaborative instruction. Children in the CR-exposed groups engaged in 2 discussions per week for the period of 5 weeks. All discussions were video-taped and then transcribed. Field notes were prepared by a research assistant about debriefing sessions that were held with teachers after each day of Collaborative Reasoning intervention in their classes.

Thus, in terms of materials - the videotapes and their transcripts (incl. field-notes) of small-group discussions are the focus of this analysis - to be further compared with reflective essays that children wrote in response to the big question related to a controversial issue prompted by the story.

It has to be emphasized that students did not receive any instruction in the written organization of arguments, as the targeted Collaborative Reasoning modality was speaking in small group, free-flowing, peer-led discussions, ideally with adherence to the suggested main principles of "good discussion." Specifically, the good discussion principles that were reviewed by teachers at the beginning of the early discussions (especially), and debriefed at the end of each discussion included both socio-pragmatic (participatory) as well as rhetorical argument schema-fostering dimensions. For instance, children were urged to invite others to join in conversation, respect others' opinions, support opinions with information from the story or personal evidence, provide supporting reasons for their position or otherwise justification, and present counter-arguments as well as listen and respond to their peers' counter-arguments. Thus, as evidenced with the micro-strategies above, the CR discussants had been given opportunity to

develop a habit of good collaboration as well as collective reasoning that hinged on the reciprocity of idea formulations and their pragmatic interplay in language.

However, for every small-group two 'co-conspirators' were selected and RA-instructed about how to orient towards certain argumentative moves to later suggest and promote among their peers in their small group discussion, thus instilling so called "social propagation" of argumentative stratagems (e.g., Anderson et al., 2001; Reznitskaya et al., 2001). It may be anticipated that their discourse and participation may be affected by their co-conspirators' roles. For the sake of the pilot study their names have been withheld to ensure better objectivity of analysis and coding procedure.

The small-group discussions selected for this study (as any other CR- discussions over the literary input) were based on two short stories that are wrapped around a complex multidimensional controversy – on psychological, social, cognitive and moral dimensions. Those 2 stories – story No 5 and No 8- were ostensibly chosen in order to take place further in the series – not too close to the initial 3 baseline discussions, while excluding discussion 10 which was an outlier by introducing too many complex perspectives for a debate (about a nuclear power plant).

The story number 5, titled Marco's Vote (interchangeably titled Crystal's Vote, Nguyen-Jahiel, 1996) is about Marco and Crystal who are student members of an advisory committee in their school. The committee has to decide whether they should replace the worn out 5th grade math textbooks with new ones or buy a computer program that teaches mathematics. After hearing the arguments for and against each side, Crystal and Marco have to decide how to vote, and so the Big Question posed to students' deliberation is: Should Marco/Crystal vote to buy new textbooks or the new computer program? Story number 8 titled Stone Fox (Gardiner, 1980)

tells a story of little Willy who enters a dog sled race hoping he can win the prize in order to pay back the taxes on his grandfather's farm to avoid its being taken over. In the race the little Willy is pitted against the best dog teams in the country, including the India Stone Fox, notorious winner, who needs money as badly as Willy as he plans to use the prize money to buy back land for his tribe which was deprived of it. Willy's dog dies a few feet from the finish line – just when it was ahead of everyone else, including Stone Fox. And so everyone wonders whether Stone Fox, who follows at a short distance, will grasp the opportunity to win the race. The Big Question for discussion epitomizes the dilemma by asking, Should Stone Fox let Willy win the dog race?

Regarding literature prompt for writing, following 10 sessions of small-group discussions, in a five week long CR-intervention, students (CR and non-CR-exposed, 2001-2003 data set) read the Pinewood Derby (McNurlen, 1998) about Thomas, who cheated in the school model car race, and his classmate, Jack, whom he confided with this troublesome fact while withholding the information from other classmates and the Teacher. Students were then asked to write persuasive essays in response to the question, Should Jack tell on Thomas? They were given 40 minutes to complete the task. The writing prompt read as follows:

In the next few pages, write whether or not you think Jack should tell on Thomas. Remember: Do your best and write as much as you can. You can go back and re-read the story if you like.

Studies into appropriation of argument stratagems in their analysis of written argumentation (e.g., Kim, Anderson, Miller, Jeong et al, 2011) found what Reznitskaya et al. (2001) dubbed "portable knowledge", i.e. oral discussions' facilitation in transfer of argument schema to the written modality (which found confirmatory evidence on the basis of argument structure analysis). This study in oral and written metadiscourse, which builds upon the major

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study as well as the previous study in metadiscourse in reflective essays (Latawiec et al., in preparation) which offered promising confirmatory evidence, hopes to find corroborating evidence for the occurrence of portable knowledge. Hence, it is assumed that some evidence for the similar transfer of such metadiscursive and discursive patterns that may contribute to enhancement of children's argumentation in speech and writing can be established as the result of this study too.

3.3 Data Analysis

The discussions were transcribed using Transtool (Kumar & Miller, 2005) and then coded using Windows Access - to be continued with Nvivo 8 (QSR, 2009). Primarily, the qualitative dimension of the study first explored the links between linguistic forms and functions contingent upon the social context of children's conversations (which will be presented in Chapter 4, Qualitative Results sub-section). Upon establishing specific functionality of the identified forms, the latter contributed to the major categories that evolved into a complex scheme (see adopted Taxonomy Figure 2, further in Chapter 3), and used for qualitative evaluations and quantifying data analysis.

3.3.1 Speaking 'turn' defined

As befits conversational analysis with any grammar of turn-taking in mind (e.g., Ochs et al., 1996) of the interpreter as well as interactants, the conceptualization of the basic conversational unit of a turn is a fundamental step. Thus, bearing in mind diverse elements of contextualization of the students' discourse within their discourse community of fourth graders, of a Teacher as the main authority (in the classroom), in the context of Collaborative Reasoning

"good-discussion" principles as well as the story context, the turn's scope or delimitation has to be complex enough to encompass the different dimensions of contextualization (cf. Cutting, 2000), and yet simple enough for the clarity and consistency of a metadiscursive coding scheme and its reliability (including inter-rater reliability).

For this analysis, an individual speaker's action accomplished by talking and para-talk that was determinant in meaning and more or less complete, even if interrupted but continued in the course of conversation, was considered a turn-in-interaction. This conceptualization of a turn included syntactically diverse structures – from very brief nuclear structures of Subject + Verb, or just Verb/Predicate or another part of speech rendering illocutionary/speech Acts (e.g., "right", "Ok", "Yes/No" or more informal - "Yeap/Nope"; cf. Stenström, Andersen & Hasund, 2002) to very complex ones with multiple subordination and stretching onto many lines of talk. To clarify, longer strings of talk usually fashion many Turn Constructional Units or TCUs in Schegloff's (2007) understanding of a turn that consists of TCUs or otherwise "recognizable actions in context" as building blocks (p. 4, emphasis added). Aborted expressions, incomprehensible language, repetitions that did not expand meaning (resting upon socio-pragmatic theory of meaning, as noted in Literature Review; cf. Fraser, 1998, or Schiffrin, 1987b) were not counted among the metadiscursive codes unless some of them fulfilled a filler-like or placeholder function and then were coded as Fillers.

In practice, this meant that for this study even incomplete clauses or fragments, including overlapping speech and back channeling (brief utterances ensuring talk-progressivity, e.g., "yeah", "right" in different phonetic realizations; cf. Yngve, 1970; or Fraser, 1990 for interjections which stand alone as answers, e.g., "aha", "yuk" or "because" – understood differently as the function of falling/flat or rising intonation) were considered as turns since the

determinant criterion was interpretability and the link of form to function and vice versa. Moreover, gestures that were meaningful in the talk-in-interaction exchanges and rendered metadiscursive functions (and solely those) – be it inter-textual (text organizing) or interpersonal - were also included.

3.3.2 Coding Scheme

Initial data-driven analysis of video-clips yielded links between an array of linguistic forms and functions and resulted in the evolution of the coding scheme. In terms of the language interaction observations, both physical (gestures, prosodic and paralinguistic behavior) and socially based (interpretable within social norms) scheme (cf. Bakeman & Gottman, 1997) assumed two-fold hierarchical structure, as dictated by the study goals, which on the one hand aim at exploration of the density of metadiscursive forms and functions in Collaborative Reasoning interactions, and on the other – identification of correspondences between the spoken and written metadiscourse generated by CR-exposed students.

Hence, the coding scheme has been adjusted to two more levels, (1) one for comparison between discussion and essays (less molecular), and (2) the other more molecular and inclusive of embodied and interpersonal involvement categories (gestures and fillers) - for the comparison platform between discussions.

It is believed that the adoption of the more fine-grained scheme that may provide more detailed data may suggest something unanticipated to the author of this study, and perhaps "may reveal something of interest to others too whose concerns may differ from ours" (Bakeman & Gottman, 1997, p.25).

The need for more fine-grained taxonomy and adoption of the two coding schemes may be motivated by the actual niche of the socio-linguistic dimension in studies of children's metadiscourse. Another more refined US study of the metatalk of children by Almasi, O'Flahaven and Arya (2001) distinguished only between teacher- versus student-initiated metatalk, and topic- vs. group-process-management metatalk (predominantly encouraging others). Additionally, the multi-layered scheme of metadiscourse analysis has been hypothesized to reveal micro-genetic differences in the patterns of use (as was the case of written metadiscourse study by Latawiec et al., in preparation). The molecular scheme allows for lumping of some categories together to trace their use in macro-functions fulfillment that may be differently realized by different groups of interlocutors.

It is believed that the combinations of macro-functional and micro-functional categories in the measuring instrument (taxonomy) may allow testing of some conversational analysts' or sociolinguists' hypothesis, otherwise ungraspable or impossible to verify. Among such theories (some of which are discussed in Chapter 2) is Tannen's (1991) proposition that females and males' (adults, alas) speaking differs in overall/macro-functions, namely "while men do 'report-talk' or 'public' speaking to negotiate status, inform and perform, women do 'rapport-talk' or 'private' speaking to negotiate relationships, interact and establish connections" (cited after Cutting, 2000, pp. 110-111).

3.3.3 Adopted Taxonomy and its Mechanics

This section treats the taxonomy adopted for the 2 corpora and two methods of analyses – quantitative (including micro-genetic and cross-sectional) and qualitative analysis. The categories are described in great detail and illustrated with uses from both modalities. Pertinent

references are made to either empirical or theoretical studies that help justify or clarify the proposed categories' inclusions in the taxonomy or their functioning per se. The Coding scheme and procedures are further described following the explication of all codes used from elementary to broad bracketing level, to be followed by results from inter-rater reliability coding, to move on to quantitative and qualitative results in the subsequent two sections of Chapter 4.

Taxonomy:

For the quantitative purposes the essays in Latawiec et al. study (in preparation) were analyzed using the augmented taxonomy inspired by Vande Kopple (1997), Crismore et al. (1993) or Schiffrin (1980). This study further adapted the taxonomy to accommodate the spoken discourse of children (see Figure 2), which is being explicated in detail further on. Bearing in mind the prospect of exploring oral-written correspondences, ostensibly the categories of metatalk have been devised frugally.

I. TEXTUAL METADISCOURSE (shows how textual elements relate to one another)
1. Text Connectives
   - Announcements of material
   - Reminders of material
   - Sequencers
   - Topicalizers
   - Logical~Temporal Connectives
     o Additives
     o Contrastives
     o Causatives
     o If- conditionals
2. Code glosses
   - Definitions
   - Explanations

II.INTERPERSONAL METADISCOURSE (conveys essentially interpersonal meanings)

3. Illocution Markers:
   - Speech Acts
   - Boosters
   - Mitigators
4. Epistemology Markers
   - Modality Markers:
     o Hedges:
       ▪ Morphological
       ▪ Modal verbs
       ▪ Adverbs
       ▪ Lexical verbs
       ▪ Other cautious elements
     o Emphatics:
       ▪ Forefronting
       ▪ Repetition
       ▪ Intonation (equivalent of Orthographic/punctuation)
   Evidentials:

       ▪ Personal belief
       ▪ Induction
       ▪ Sensory experience
       ▪ From someone else
       ▪ If/since …, then
       ▪ Deduction: Abstracting others in scenario
       ▪ Deduction: Abstracting oneself=myself in scenario
       ▪ Aposteriori/ Retroduction intended
5. Attitude Markers (explicit)
   ▪ Implicit Attitude Markers
   ▪ Deontic Modality Markers (forbidden, obligatory, permissible, possible, non-obligatory)
6. Perlocutionary Commentary:
   - Commentary Vocative/Directive
   - Commentary Interrogative
7. Metalanguage
8. Fillers/Placeholders
9. Non-Verbal (Gesture, Body Language)

Figure 2. Taxonomy of Metadiscourse categories based on (Latawiec et al., in preparation).

As noted above, the current taxonomy has been based on Latawiec et al. (in preparation) and its changes have been necessitated by the specificity of the more embodied oral communication and reasoning "genre" of CR conversation that incorporates peer-debriefing and/or a teacher-reviewing stage with the focus on meta-communication and entails heavy metalanguage use. Specifically, some categories assumed their spoken equivalency, for example, Emphatics by Orthography-Punctuation has been replaced with Emphatics by Intonation, some were further split – written Commentary category (NB, engaging the reader in a form of a dialogue) now falls into Commentary Vocative (Vocative and Directive form of address) and Commentary Interrogative (syntactically interrogative address/direct reference to a recipient), and some were added: Gesture (other non-verbal/bodily-communicative codes that fulfill intertextual or interpersonal functions of language) or Fillers (Placeholders or Stallers).

Included in the taxonomy, there are also supra-codes like two broad brackets of Text/-Talk-Organizers (/text-/talk-tying, text-/talk-directing and redirecting, and ensuring talk-progressivity/-sequentiality) and Talk-Evaluatives (self or others' talk assessment - epistemic and attitudinal stance revealing), both of which fulfill over-arching functions of other more discrete codes (lumping and double/ tandem coding), and so were excluded from the taxonomy table (i.e. Figure 2), as well as a side-bracket of Pragmatic Intersubjectivity Vague Markers (establishing shared meaning/co-conception of the world and revealing social closeness/ speaker's solidarity orientation = mostly via vague expressions). Metalanguage encompasses text/talk-reflexive forms or otherwise a functional set of expressions that "focus on properties of the code per se" (on 'langue') or "the language used in speech situation ('on parole')" (Schiffrin, 1987, p.3). Metalanguage is used in combinations with other codes mostly, and in fact can be used as embedded in organizing and evaluative categories.

3.3.4 Broad Bracketing and Building-Block Categories in the Coding Scheme

Metalanguage

Metalanguage category has been assigned whenever a child referred to the language as a code per se and/or its use in action. Metalanguage generally has 'designata' in aspects of language and language use (cf. Weinrich, 1966). Metalanguage then mostly included lexical items that deal with talk, speech, argumentation, participation in a discussion and the rules of the Collaborative Reasoning dubbed otherwise as "good discussion principles" to which students referred to – sometimes by mere mentioning their numbers (e.g., "we did well on number 1"). Thus, metalinguistic items (mostly nouns) often co-occurred with talk evaluations. Especially the debriefing sessions lend themselves naturally to metalinguistic practice on reflexive and interpretive strategies. Metalanguage is used in texts too whenever similar lexical items as quoted above are used, e.g. first *problem*, here are my *reasons,* etc.

Text-/Talk-Evaluating Bracket (T-E)

Evaluating also arose mostly during debriefing sessions, as this is when students are encouraged to think about how they interacted (so participatory technique) and how good their ideas and their expressions were in the group-reasoning (argumentation stratagems). Thus, comments upon how they adhered to or deviated from the adopted conceptualization of the good discussion as collaborators and arguers as well as according to their own individual sets of norms for a heterogeneous group-talk in the school context, which befits limited range of vocabulary and forms of expression (e.g., excluding vulgarity or some slang on the one hand, and obsolete, too sophisticated lexicon or too refined 'stiff-upper-lip' register - on the other). Individual self-deprecating or self-appraising as well as others-appraising/deprecating linguistic forms were as

Talk-Evaluators supra codes (yet subsuming attitudinal quantifiers so sometimes over-lapping

with Attitude Markers), oftentimes supported by citations (e.g., X said that….and I think it is a

good idea/point) or rendered by rising-questioning Intonation (then double coded with Emphatics

by Intonation). Following Schiffrin's (1980) view of evaluating bracket functions as such that

show speaker's stance whenever opinions are said, written Text-Evaluating brackets convey

same meanings and functions. Intensifications and mitigators of any sort (emphatics and hedges

illocutionary boosters or mitigators) are elementary bricks of the broad bracket otherwise best to

be viewed as a plane or dimension. For example, evaluating uses are mostly when opinions and

agreements or disagreements are ventured or their subsequent evaluations.

Text-/Talk-Organizing (T-O)

    Talk-Organizing occurred whenever a child attempted to adhere to the Cooperative

principle (Grice, 1975) and provide a response that would be of a preferred type rather than its

lack. Moreover, Talk-Organizers functioned as propellers of the talk, directing and redirecting,

managing the traffic of talk by prompting sequentiality of turn-taking, or shifting to the main

topic or appointing prospective 'turn-takers' – individually or collaboratively (e.g., in a longish

sequence of nudging a quiet child). Thus, numerous linguistic forms and other codes too

contributed to this supra-function. Namely, performative Speech Acts and Directive /

Interrogative Commentaries or even some appended tags of the connective sort "because…" or

"so" (with a distinct elongated intonational rise) were used in their non-canonical function, i.e.

not as coordinating conjunctions (textual metadiscursive function falling under the category of

text connectives) but primarily as imposing on other subjects the role of 'continuers' of

talk/argument.

Generally all categories that add to coherence building (globally binding, not only on the surface level) contribute to *Textually Organizing* brackets, which according to Shiffrin (1980) are usually used as discourse brackets that initiates or terminates slots in the discourse. Talk-Organizers that managed topics such as shifts to new or old topic and sustaining topics (linkages, embedding topics, returning to topic) or making performed Speech acts explicit were also subsumed under the broad brackets. Thus, for this study the subsumed categories fulfilling common organizing meta-function are conceptualized to include other componential categories such as: Topicalizers, Announcements or Reminders of Material, Sequencers, Speech Acts, or explicit Induction/Deduction, Commentary Directives or Interrogatives. Instances from students work may include: That's my opinion. The reasons for… are: As you said, or I think that… (more in Form to Function Table in qualitative results section, Chapter 4).

Pragmatic Intersubjectivity/Vagueness (I-S)

Intersubjectivity markers are rooted in the pragmatic theory of meaning (cf. Literature Review) that applies within and across sentences (Fraser, 1998) and interactional–variationist approach to discourse (Schiffrin, 2001) to account for socio-linguistic variation in collaboratively constructed discourse. As earlier studies into written metadiscourse (cf. Vande Kopple, 1997; Crismore, 1985; Hyland, 2000), including the study on the same sample of CR essays (Latawiec et al., in preparation), have been missing in or revealed deficit in this area of language use that carries vital meanings especially among young adolescents, intersubjectivity has been ventured to complement the 2 major brackets/ planes of flow of metadiscursive meaning (along evaluative and organizing brackets).

Notably, this study does not adhere to the pragmatic markers division as posited by Schiffrin (2001), who differentiates between 3 different sets of pragmatic markers – basic

(signaling illocutionary force, e.g., please), commentary (encoding of another message that comments on the basic message, e.g., frankly) and parallel (encoding of another message separate from the basic and/or commentary message, e.g., damn, vocatives).

Yet, this study does not scrutinize one sub-group of commentary pragmatic markers (called discourse markers) solely. Instead it investigates an array of metadiscursive elements among which intersubjectivity pragmatic markers are one of 49 categories thus to avoid overwhelming granulation of the coding scheme and processes, the study adopts a somewhat more universal conception.

Intersubjectivity pragmatic markers as proposed here are conceptualized in line with Andersen's (2001) view of pragmatic markers that are interpretational and do not directly contribute to propositions but provide constraints on the interpretation process or otherwise hearer's or interlocutor's prospective procedural encoding. Especially, as after Wilson and Sperber (1993), explicit meaning resides not only in propositions but in higher-level *explicature*s, i.e. information as to what speech act the utterance is used to perform and information about speaker's attitude (also Andersen, 2001; or Carston, 1995).

Thus, intersubjectivity vague markers enhance the sense of common ground, sharing of individual subjective co-conceptions of the world with others, and so evoking or enhancing social closeness, "establishing camaraderie" (Östman, 1981, Jucker & Smith, 1998, p. 196) or solidarity feelings among co-communicators/ collaborators. They also belong to a group of expressions commonly viewed as interactional "vagueness" or "performance fillers" (Channell, 1994) or "coordination tags" (Stenström et al. 2002), and so encompass linguistic forms that fulfill other metadiscursive code functions of Fillers, Code Glosses (and something, or anything, etcetera, bla bla bla; cf. "general extenders" or "continuers" in Overstreet & Yule, 1997), and/or

Hedging (e.g., like, kind of/kinda; cf. "presentation pragmatic markers" in Andersen, 2001 or Schegloff, 1992) or Commentary (y'know; cf. "inviting solidarity" markers of Brown & Levinson, 1987).

Therefore, this supra-code necessitates double-coding with the other more –molecular categories (as envisaged in the taxonomy, NB adopted after Vande Kopple, 1997), which similarly to the other supra-categories (T-O, T-E, ML) adds to some constraints of the analysis.

Gestures or Non-Verbal (Body-Language)

Gestures fit into the posited model of discourse and metadiscourse by tapping the *actional* and *interactional* aspect of the communicative competence, which, as already mentioned (see communication models in Literature Review), is considered successful when it achieves its communicative effect. And so, as long as the non-verbal behavior adds relevance and "semiotic" meanings to the verbal dimension and thus helps to organize and more fully interpret it, gestures fulfill metadiscursive textual and interpersonal functions in the unique constellation of events of the pragmatic ever-changing context. Instances of gestures (as evidenced in the Function to Form Table 10 (Chapter 4), perhaps, would best be explained by showing their three-dimensional functionality, i.e. by screening the video clips. Nevertheless, observations from the sample viewed for gesticulation, relevant gaze directional indexing and other body – language (e.g. elbowing) reveal that CR students used them to fulfill functions of dramatized/ "theatricalized" simulation of Myself in Scenario, Evidentials: From somebody else, or Boosters of Illocutionary Force of Speech Acts (as in the Table above), Emphatics, Talk-Organizing and Talk-Evaluating or Commentary -Directive, for example in a back-channeling manner - pointing a finger when Teacher or another participant comments on the group

performance, thus indicating whose responsibility is conceived by him/her or directing/ prompting others to take turns in actions.

Fillers

Fillers or Placeholders have been defined by Channell (1994) as expressions used "when people cannot remember the name of a person or thing", i.e. dummy nouns which can stand for item or persons' names (p. 157, 164), for example "whatsit", "thing", "thingy", etc. (incidentally all defined as slang by Cassell's Dictionary of Slang, 2000). In this study to better capture the group dynamics and verbal interaction across successive discussions, the category fillers/placeholders has been expanded by other verbal devices that speakers used just to 'hold their place' in the discussion and so not giving the floor to the others, such as "uhm, but", or "what if, um, eer", followed by the main topic continuation mostly.

Major Classes of Categories and Functions

All the above categories have been an expansion to the fundamental framework of categories as dictated by the observed multiple functions of metadiscourse in both written and spoken discourse, adopted after Vande Kopple (1997) and Crismore (1985; Crismore et al., 1993; cf. Figure 1).

The framework as follows has been augmented for the children's uses of language that reveal the following functions of metadiscourse (in both modalities; written excerpts marked by ID #, oral excerpt marked by discussion index and timestamp).

- shows relationships between parts of texts via **(1) text connectives:**

    o reminders of material (as I said/noted),
    o announcements of new material (what I want to say),

- topicalizers that reintroduce old information and connect the new - to the old info (these are, as for, in regard to, well…, back on the question/topic),

- sequencers (first, next), as in the following essay extract:

    ID 149 "Jack should tell on Thomas. Here's why. First, Thomas cheated. His brother built event though Thomas was supposed to. Also, if Jack doesn't tell, Thomas won't ever learn to do things for himself. Plus it isn't fair to the other race[r]s that Thomas won…"

- logical-temporal connectives (which subsume various types of coordinating conjunctions: miscellaneous logical-temporal relations (then, at the same time), additive (and), contrastive (but, however), if-conditional, and non-canonical uses of "so" (other than causative) and causative (so, because)

- defines or explains words, terms, phrases **by (2) code glosses** (so called, what some people call, sort of, I'll put it this way/ what I mean to say),

- makes explicit what speech acts are being performed at certain points in texts by means of **(3) illocution markers** (My/The point is, to sum up, I say/argue/I pick yes, I promise, for example), and boosts or attenuates the force of certain discourse acts by adding adverbials dubbed boosters and mitigators (I most sincerely promise),

- indicates some stance on the part of the writer towards the epistemological status of the referred-to-material via **(4) epistemological markers** subsuming two sub-types of markers:

(4a) modality markers – reflecting how committed we are to the truth of that material, using elements from the system of epistemic rather than deontic modality (i.e., concerning duties and obligations which thus form attitude imparting function): hedges which allegedly "make things fuzzier or less fuzzy" (Lakoff 1972, p. 195) such as "perhaps", "seem", "might", or shields (plausibility shields such as it's possible, perhaps, surprising(-ly), and emphatics (clearly, it's obvious/clear that, I'm/ it's certain that; Believe me, it was an error!)

(4b) evidentials (adopted by Vande Kopple, 1997 after Chafe, 1986) that show what bases do

we have for referential material, stemming from: personal beliefs (I believe, I think), our

knowledge (evidently, I induce), our sensory experiences (it feels/sounds/looks like), from

what we heard from others (as Tabitha/ the book/ the rules say, according to Professor X (cf.

Chafe ,1986 and his "hearsay evidentials"), or from our deduction (X should be able to,

presumably, oddly enough, of course),

- reveals what attitude or emotional orientation authors have towards referential material thanks

to **(5) attitude markers** (unfortunately/ fairly…, I am sorry/happy, I wish/am grateful, How

awful!/How alarming!), and generally the use of qualifiers that reveal evaluations (positive or

negative), i.e. whether something was preferred or dis-preferred by a speaker or writer

- provides commentary by addressing readers directly in **a (6) commentary**, their probable

moods, views, hoped-for stance or simply conversing with them, e.g. "Could you imagine/ say

think…? ", when in an interrogative syntactic structure, or declaratives: Some of you will be

amazed that… , or directive and vocative structures: "Go for it!"

Textual Connectives

Among textual connectives especially scrutinized were Causatives (alias causals) alongside

Adversatives as both "signal specific type of elaboration" (Goldman & Murray, 1992). While

causatives signal cause-effect, antecedent-consequent, or problem-solution relation between

conjoined clauses or sentences, adversatives "signal contrastive elaborations" (Goldman &

Murray, 1992, pp. 505-6). Therefore, all occurrences of metadiscourse that would "specify a

disjuncture or departure from the logical argument developed up to that point in the text" (further

on, p. 506) were included in the sub-category of logical–temporal connectives thus labeled as

adversatives (e.g., but, however, in contrast). Causatives (e.g., because, therefore, as a result, so)

were given special prominence in this study as by their nature firstly, they are critical to the plot coherence in narrative discourse (e.g., van de Broek, 1990), and the antecedent-consequent or problem-solution argument structure (e.g., Sanders & Nordman, 2000), as well as - in expository texts – causatives convey important contingency relations among states and events (after Goldman & Murray, 1992, p. 505, e.g., Saul, 1991), as in the following example "so" and other occurrences in the meaning of "thus" or "therefore":

- ID 103 "He did not build it so does not deserve it."
- ID 60 "If Jack told Thomas that he cheated Thomas would have told because he would want to win the race so there fore I pick yes."

Interestingly, the findings of Goldman and Murray (1992) indicate that conversational English may contribute to the development of an imprecise understanding of causal connectors such as so, thus, and because, as the over-attribution of causal relations would suggest. It is therefore suggested by the authors that they may serve as "pseudobridges" rather than as true causals. Consequently "greatest overuse of the causal connectors would be expected for those students whose dominant experiences with English have been informal, conversational contexts" (Goldman & Murray, 1992, p. 517). Interestingly, a similar overuse has been found by Corrigan (1975) among children learning English as a native language. Having completed the analysis of the fourth-graders' essays, I am tempted to argue that often the pseudo-bridging of causatives is indeed overused for chaining or simply adding new information.

For better illustration, let's compare the following "pseudo-bridging" uses of "so" which often has just phatic function of maintaining or furthering the train of discourse (e.g., ID 182), and in the last occurrence (ID 12) – is a slight misattribution more aimed at rendering the purposeful "so that", unlike the above cited uses:

- ID 182 "[The] directions say that he should of done it to him self like everyone they so he should tell on him so Jack did the wrong thing so the other kid ked of won."
- ID 12 "And that's why he cheated and told his brother to make it for him so he can get revenge."

Additives (e.g., and, moreover) are considered in Goldman and Murray typology (1992) "the least constraining of the semantic relations between the clauses or sentences related by the connector" (p. 505). The additive occurrences, therefore, were hypothesized and also found to be more frequent among writers who develop their arguments in the list-like rhetorical structure, which is considered least binding (e.g., Meyer, 1975; and Latawiec et al., in preparation indeed found most frequent use of additives in Non-CR exposed student writing).

Code Glosses

After Vande Kopple (1985), they can be defined as such occurrences that "help readers grasp appropriate meanings of elements in texts" (p.84). Two main categories of code glossing devices can be identified – definitions ("so called") that though meant to define do not expand referential material, and explanations ("I mean…") that add some explanatory details as to how strictly or how loosely the referential material shall be interpreted. For example:

- ID 198 "reason 1 why he shouldn't is Because he told him that he would not tell on him and that was a promise that he made." (definition)
- ID 755 "If I was Thomas I would say to myself I am going to do this project by myself because than the award is for me not me and my brother. I would say I do the work I get the trophy." (explanation)
- in discussion 5 about Marco's Vote in Ms. Palinski's class (PAL_5MVR; 9:38.37) "But sometimes the teacher makes them take them home. And if she makes them take it home, then – it'd be- it'd be all ripped up and stuff since [inaudible, fades]", (explanation + pragmatic intersubjective vagueness marker).

Illocution Markers

According to Vande Kopple (1997) illocution markers are such elements with which we as writers "can make explicit to our readers what speech act or discourse act we are performing at certain points in our texts" (1985, p. 84). And in this understanding of illocutionary markers as emphasizers of performative function I align myself also for the spoken modality not only writing. Also, those words that attenuate the force of a speech act are called Mitigators (e.g., "I hate to say this…" or tag questions), while those that boost illocutionary force are called – Boosters. Since students' persuasive essays or discussions were prompted by the instruction to answer the "Big Question" whether or not somebody (e.g., Jack or Marco) should or should not take a particular course of action?, their says and/ or stances usually are verbalized in the following illocutionary acts which are expressed by either performative predicate (ID198) or decisive and / or exclamatory "yes" (ID 25) or "no" that function as a Booster.

- ID 198 "I think that Jack should and shouldn't tell on Thomas Because reason 1 […]"
- ID 125 "I know how Jack feels I bet he feels sad that he didn't win."
- ID 25 "so yes jack should tell on Thomas yes his big brother Dainty his home work…"
- or in discussion PAL_8SFR: I am sorry, but I would pass him (6:55.53), or I'm saying yes.

It is noteworthy that polysemous expressions as ID 25's illocutionary statement often have double functions and so necessitate double-coding (also admitted by Crismore in personal communication, 2009). Like in the following excerpt,

- ID 400 "That's why I think Jack should tell on Thomas",

where "I think" carries a meaning of "I claim/ I argue" but also as a provider of evidence arrived at by induction (so called Evidential by Induction).

Epistemology Markers

       Epistemology markers are metadiscursive elements that reveal concern with the truth-value of the propositions in the discourse proper. The two major categories of epistemology markers, both fulfilling interpersonal functions, were labeled after Vande Kopple (1997) as Modality Markers and Evidentials (cf. Taxonomy Table). When doubts or "small notes of civilized diffidence" (Williams, 1981, p. 49) are sounded, we can talk of Hedges or Plausibility Shields a subgroup of Modality Markers which can be rendered by morphological signals (not impossible), adverbial expressions (probably, rather), modal verbs (may, might), some lexical verbs (seem, guess, suppose), or other cautious elements like "at least it seemed to me". Some hedging expressions in students' discourse follow:

- ID 45 "But maybe Thomas might feel jealous that Thomas won and he didn't."
- ID 154 "Thomas's brother could have been 20 years old or something like that." (as revealing uncertainty as to the exactness of the age given)
- Or in PAL_5MVR 14:32.62 "But if they spill it on a cord…" "They don't mean??? [SOFT] spill on a cord.[SOFT] (hedging rendered by de-emphasized intonation which is another cautious element)

On the other hand, Emphatics are used by writers to underscore the truth value of referential material. In this study there are posited codes not only for the general group of Emphatics (as in Vande Kopple, 1997) dubbed but also for specific sub-categories of Emphatics miscellaneous (e.g., exactly, just), Emphatics by Forefronting, Repetition and Punctuation-Orthography which in oral modality is substituted with Intonation

- ID 414 "It was a secret that I think he can keep for a really really really long time." (Repetition)
- ID 76 "All Thomas did was paint and put the Stickers on the car", (1st – Forefronting, and 2nd - Orthography-Punctuation)

- or in CHA_8SFR19:17.00 "I just thought of something um it says it was taxes but there's going to be more taxes, right? So how can he stull keep his house because he's going to have to pay taxes [EMP] over and over again! [EMP] (Emphasis rendered by Intonation and Repetition, plus Gesture as Student waves w. her hand rhythmically over every syllable of "taxes over and over again")

The other major group of Epistemological Markers – the so called Evidentials – combines various expressions that reveal the writer's stance that has to do with the kinds of evidence or, in other words after Chafe (1986), such expressions that show the bases that we have for referential material (cf. Barton, 1993). Especially in argumentative type of writing such expressions will abound since they contribute to the soundness of the argument, specifically its justification as "they guide the reader's interpretation and establish an authorial command of the subject" (Hyland 2005, p. 51). Since evidentials show the basis for referential material, they are categorized along the ways the propositions were arrived at by personal beliefs (I believe, I know), sensory experience (it feels/sounds looks like), from somebody else (as it was said in the book, as the Teacher said), or forms of reasoning: induction (evidently), which in terms of formal logic is subservient to propositions being made about a class of phenomena on the basis of observations on a number of particular facts (here often: examples of behaviors) or in arguing from a part to a whole, or by deduction (presumably, should be able to).As predicted, metadiscursive references to the bases for the referential material in other people's work ("hearsay" evidentials or otherwise From somebody else) were quite common as well as evidentials by Induction or – by Deduction. Let us demonstrate some of the uses of induction evidentials in the following excerpts:

- ID 214 "The reason he should tell is that so he wouldn't fell [=feel] hurt."
- ID 769 "That's why Jack should tell on Thomas. (Induction following a series of observations leading to a proposition thus made)

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- or CHA-8SFR 15:31.96 "I think they should let Stone Fox win cause um who cares if they take a little bit of someone or his property because, or, take some of the white people's property because the white people have like so lots of states and stuff and land and everything. So I think Stone Fox should win."

As evidenced above, "that's why" or "the reason is that" (the latter being double coded with Speech Act) in the essays, in the move from particulars (evidence) to generals (conclusion) are similar to certain logical-temporal connectives like "therefore"/ "thus" that play a similar role of introducing conclusion (causative antecedent "because" – conclusive "so"). However, author's voice stands out more from the propositional material with the use of evidentials like "that's why" than textual connectives "so", in other words, is a lot more audible. Evidentials by induction (understood as inference à particularis by Peirce, 1865) seem most crucial in the argument structure due to their function of explaining, orienting and pointing readers in the direction the argument is being built by the author. They add to the Aristotelian logos building (logical appeal).

Evidentials by Deduction, otherwise inference à priori (to further use Pierce's terminology, 1865) resembling Toulmin's (2003) kernels of argumentation in relation to the argumentative rhetorical moves, there are numerous deductive thus equaled with hypothetical, conjecture-, guessing–like constructions that either involve "oneself" or "others" and modal verbs typical of 2nd conditional sentences ("hypothesizing") or "if...then"/"what if" structures (only 6 occurrences of the latter ones though) as well as intended Retroduction or à posteriori speculations with the use of 3rd conditional type of sentences (so called "unreal past"). Speculative sentences when they function as "inference of a to the best explanation of b" are called as abduction or retroduction in formal logic. Thus, wherever students, like little detectives in Sherlock Holmes' manner, tried to generate past hypotheses for observed facts in the present time, they resorted to modal verbs of "could have", "would have", "should have" or "might have"

to explain an occurrence of the consequence (sometimes an almost fallacious post hoc, ergo propter hoc), as in the excerpt below:

- ID 217 "Maybe Thomas could of made friends with his cool [student's emphasis] car but he can make without his car. And he probably would of got in trouble wouldn't win the trophy but he would be truthful and being truthful get him a long way like at U of I. But he would be a bigger bully if Jack had told Thomas would have been really mad." [student's limping punctuation preserved]

Here, children's uses of 'intended aposteriori" forms (could of made, would of got in trouble, etc.) resemble successive approximation of the best explanation of a set of known data, like in the abductive validation process (i.e., a method for identifying the assumptions that will lead to your goal). Whereas "he can make [without his car]" is a potential deduction (thus, an inference à priori) that differs from retroduction in the direction in which the rule "a entails b" is used for inferencing. Here deduction modal verb forms refer to still realizable hypothesis (in the present or future). Comparable to Vande Kopple's "should be able to", "presumably", "I deduce that", or "oddly enough", fourth graders deductive structures include Deduction: Others in scenario (IDs 105 & 129) or Deduction: My-self in scenario (ID 929) as utilizing (I, me, my pronouns), If… then and also what if structures.

- ID 129 "After you see your friend's trophy you might want to earn a trophy by yourself". (Others in scenario + Commentary engaging w. direct "you" pronoun)
- ID 156 "Maybe they should hold another race" (Others in scenario)
- ID 929 "If I was his mother he would be grounded.[…] If I was his teacher the class would get a party and he would have to do the work." (Myself in scenario)
- or in CHA_8SFR 17:58.45 "It might have been the rule [Aposteriori/ Retroduction] if that you had to win the race with your dog but if like if your dog was too strong enough and broke out and like ran off or something like ran out of the leash or something then they couldn't if there was a rule [If…then] to win the race if he have to go to get the dog

and latch it back on…and so they could finish the race but they'd probably be in dead last. [Others in scenario]

In Toulmin's (2003) argumentation model, in the move from the Data to the Claim there are "hypothetical bridge-like statements" (p. 98) called Warrants ("Since") and possible reservations/rebuttals ("Unless") before the Claim can be ventured – with or without a likely Qualifier ("Presumably"). Thus the observed occurrences of metadiscursive 'If/ since …then' and 'what if' structures mirror the argumentation proper kernels of warrants and rebuttals respectively, while the claims may have been signaled in the more or less assertive manner with the inductive metadiscursive elements ("evidently"="that's why") following multiple observations, thus arguing from many instances to a general statement (inference by induction, Encyclopedia Britannica online, http://www.britannica.com) or deductive ("presumably" or "should/should be able" and other modal verbs structures).

Since cogency success in persuasion to a large extent relies on establishing authorial credibility (trustworthiness, reputation, expertise) during the course of discourse – otherwise known as ethos in Aristotelian terms, it is posited here that evidentials contribute a significant share to building this authorial credibility by supporting the author's persona with the bases for their reason (see more in Literature Review). Argumentation structure is also more coherent and transparent with framing of reasoning (induction, deduction, retroduction) in explicitly signaled patterns of "if/since…then", "what if …then" that shape argumentation in the characteristic moulds of Modus Ponens (If A, then B; A, therefore B. / A ⊃ B; A, therefore B.) or Modus Tollens (If A, then B; not B, therefore, not A.), i.e., two types of inferences that can be drawn from a hypothetical proposition "If A, then B", and are otherwise called "method of affirming" and "method of denying" (Encyclopædia Britannica Online; cf. Latawiec et al., in preparation).

Attitude Markers

Crismore et al. (1993) argue that attitude markers signal affective values, opposite to epistemological markers, which signal writers' commitment to truth-value in the referential material., and so in an eclectic manner it is posited that whenever authors express "an implicit assumption that the reader will experience the discourse in the same way" (Hyland, 2005 p. 82) by using specific linguistic items it is where attitude markers reside. Vande Kopple's taxonomy has been primarily expanded here (cf. Literature Review; or Latawiec et al., in preparation) by the addition of modal verbs of obligation (must, has to, should), NB as posited by Crismore et al. (1993), or lack of obligation (need not, does not have to), permissibility (let, can, could), prohibition (must not, cannot, should not), as forming the so called Deontic Modality markers. Deontic Modality markers are based in deontic logic (a branch of formal logic) that studies the permitted, the obligatory and the forbidden (Greek, deontos: "of that which is binding", e.g., Encyclopaedia Britannica, 2008). After Wünderlich (1979), who argues for 5 categories of verb operators to be viewed as "positional functors" in their role of attitude marking (both in spoken and written modalities), two categories converge with deontic modals as proposed by Crismore at al. (1993); namely, a group of normative verbal modals (ought, should, etc.) and capability/ability (can, may, be able to). It is noteworthy that obligation /normative modals and the forbidden category that reveal attitudinal stance have been subsumed under the Evaluating Bracket, along all other attitudinal markers exclusive of remaining deontic modals.

Also, a category of Implicit Attitude Markers has been added to account for attitude/ assessment by implicature rather than explicit denotation. Similarly to Schiffrin (1980, p. 201) whenever a child uses a higher level or otherwise two-argument predicates (higher level operators) like 'It is true/ right/ wrong that X is the case' which evidently operate

metalinguistically as "complex modifications of propositions" (so render metadiscursive function of discussing the propositions or otherwise "discoursing about discourse"), author's emotional attitudes and evaluations are implicitly revealed - in tandem with the explicit content material.

- ID 414 "I would feel bad if he told"; (Attitude markers incl. "I would")
- ID 229 "I think if I was in his position I would tell and if I was in the other kid's position I would want him to tell on Thomas too because it wouldn't be fair if he didn't." [Explicit Attitude Marker is underlined, Implicit Attitude Marker - italicized]
- Or in CHA_8SFY 13:06.21 "Well, I think if he could give them like two or something so that he'll still have more, but it'll be really, it'll be like a fair match, […] So I think he should give him two of his dogs and then see who wins, because that would be like the only fair thing to do. Just kind of like let him win." (Implicit Attitude Marker)

Naturally, the above occurrences show that attitude markers (irrespective of its explicitness or implicitness) are germane to an emotional appeal or otherwise – Aristotelian pathos (NB gradable by its nature).

Perlocutionary Commentary

The function of commentary-like expressions is that of "draw[ing] readers into an implicit dialogue" (Vande Kopple, 1997, p. 8), by either commenting on the readers' "actual or hoped for stance" or for example recommending "a mode of reading" (further on p.6). Thus, as prompted by the very definition, the category may subsume either declarative or vocative or even interrogative syntactic structures – the latter especially in rhetorical questions, i.e. mostly when the author has a ready answer in mind.

- ID 878 But I'm glad that he just been nice and glad that he had won the first round but he still sound of told the teacher that Thomas got help and did not obey the rule that you made so can I have that prize for telling you that he did not do that car by his self?

- Or CHA-8SFY 18:54.10 "I still think that he should let him win, but he would have to put the dog on the sled and push him all the way up there and then maybe Willie could have $300, because they're paying $500. Right?" (Commentary Interrogative + Talk Evaluating by self-accuracy checking)
- PAL_8SFY 22:06.92 Okay, you give a reason (Commentary directive/vocative)

In a nutshell, emotionally engaged stance of the fourth-graders via attitudinal and commentary otherwise considered engagement/involvement markers towards their assertive claims strengthens their propositional/ ideational persuasion by helping "to convey a credible persona and relate to an audience in ways that seem familiar and engaging" (Hyland, 2005, p. 71).

Review of the coding scheme:

For the statistical analysis aiming at (1) establishing distributional patterns for each modality separately and for cross modal correspondences (between talk and written discourse), an array of 49 common categories have been used (see taxonomy Figure 2). The categories were inspired by established taxonomies in written metadiscourse. Therefore, to meet the needs of the analysis in both corpora, another dimension of 3 supra-codes from oral studies have been grafted upon the extant 40 plus categories, and also supplemented with 2 elementary codes that are specific to the more embodied oral modality.

While most of the categories assumed oral modality equivalency (like Orthographic-Punctuation Emphasis in written modality substituted with Intonation in the oral corpus), 2 oral-modality specific categories of Gestures and Fillers/ Stallers that have been aural-oral corpora-specific did not, and so they could be used only for comparisons between both discussions, i.e. (2) for investigating relationships between the discussions in their progressive (para-microgenetic)

aspect. The Micro-genetic analysis was then run to determine developmental or reductionist trends in metadiscourse as used in "talk-in-action" as the discussions progressed in the series.

3.3.5 Coding Process

The coding of the discussions assumed two stages. First, the transcripts were read and analyzed for the occurrences of potential metadiscourse. Then the video clips were analyzed for the phonetic, intonational and performative realizations of turns of talk. Observations from the audio-video data allowed for the evolution of the coding scheme and better accuracy in the attributions of linguistic items into metadiscursive categories.

The rating of essays from the previous study in written metadiscourse by Latawiec et al. (in preparation) yielded inter-rater agreement on 20% of the essays (N=180) that amounted to 95% (Cohen's Kappa .89). With the data from both corpora, 77 students' data from discussions yet only 71 for both discussions and 71 essays, 20% of essays and 20% of discussions were coded by 3 trained raters. Disagreements were consulted and resolved in an iterative process of refining coding. The inter-rater reliability between the three shows agreement in coding that amounts to 79% in average.

Chapter 4

Results

<u>Discourse Analysis Results</u>

The present study of 12 small collaborative groups (4 yellow, 4 red and 4 blue ones), yielding in total 24 discussions of various lengths (from 150 to 700 turns or otherwise 20-32 min.), comprised over 10,000 turns of talk in interaction, otherwise ca. 600 minutes of continuous talk of 77 students (6 students participated only in the latter discussion). The analysis of written metadiscourse comprises 71 essays of CR-exposed children (that participated in the major study in 2001-2003, N=107), from two different school locations – one urban and one rural - in the state of Illinois. The analyses, using a three-partite taxonomy of metadiscourse, yield in oral modality over 35,000 uses, while in the written corpus – over 10,000, thus amounting to almost 50,000 occurrences total.

4.1 Quantitative Results

First of all, the frequencies of metadiscursive codes (codes to words ratio as used in the whole discussion or per essay unit) have been analyzed with simple descriptive statistics. The results are further documented and illustrated with graphs showing the patterns holding for each modality separately, to demonstrate the major study goals.

The focus has been on exploring metadiscourse in discussions (goal 1) and writing (goal 2), and correspondences between the two linguistic corpora (study goal 3).

Secondary strand of analysis was wrapped around (study goal 4) investigation of socio-linguistic patterns as a function of gender, reading ability, school and ethnicity. Simultaneous

validation of the measuring instrument in the form of an adopted taxonomy has been attempted as the results serve both quantitative and qualitative purposes.

The pursuit of study goal (5), i.e. qualitative explorations of the effect of metadiscourse on the flow of propositional meaning, with which it intricately interlaces and interacts, is qualitatively discussed in the other section of Chapter 4.

In the Qualitative Results section, it is demonstrated how valency–like patterns of attribution mechanism proceeds - from elementary variants to the major class categories finally streamlining to the broad supra-codes or brackets, and how rhetorically, logically and pragma-stylistically based interpretations and evaluations are arrived at.

Fortunately, the adoption of the complex hierarchical structure or even a sort of *functional grammar of metadiscourse* (understood as system based on functions) as used in spoken and written modality afforded results usually available in corpus linguistics studies (especially using tools and techniques available for corpus analysis).

The results of coding along the three-partite scale yielded count data of numerous categories, many of which did not have a normal distribution.

Primarily, the count data allowed for computing and plotting the frequencies of discrete, major classes and bracketing metadiscourse variants for better demonstration of their differential patterns of distribution in two corpora separately and then compared with one another.

Secondly, for the overall analysis of metadiscourse used in both modalities an (overall) Poisson regression model has been used as best suited to the type of data available.

Thirdly, the metadiscourse frequencies have been further compared using Pearson r correlation s, $p < .05$, and t tests between the counts of metadiscourse used (as a dependent

variable) in consecutive discussions, including micro-genetic analysis, and those used in essays by 71 students.

In the whole sample of 78 CR-exposed students, some data were incomplete, either lacking in essays or individual discussions and so were excluded from analyses that required averaged discussions. Since the overall t tests for the available data in essays and in both discussions were carried out prior to those within groupings, the observed trends for the overall data within the written or oral corpus will be reported followed by similar tests within groupings. The groupings for comparisons were according to independent variables of school, ethnicity, academic achievement and gender.

Study Goal #1: Results for Spoken Modality

Overall within modality comparisons can best be captured by visual graphs rather than lengthy tables of frequencies that explicitly show distributional patterns for each modality separately. Therefore, the findings for discussions averaged have been compiled in the following plot (Figure 3) that illustrates the frequencies of discrete metadiscourse categories on average in both discussions. All actual scores have been multiplied by 100 for ease and normalization to the same baseline (across all frequency tests, as shown in consecutive tables notes).
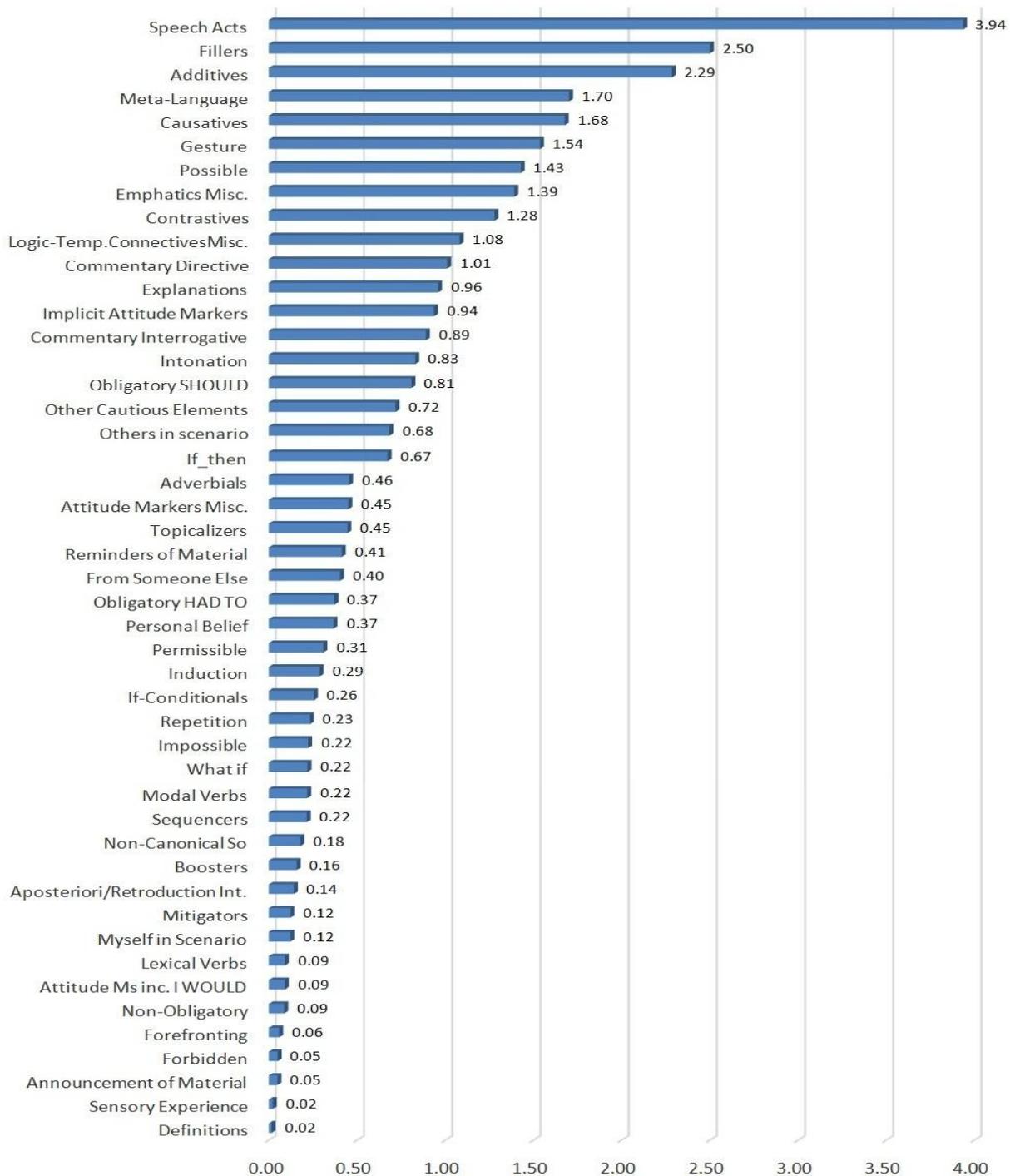
Figure 3. Frequencies of metadiscourse in averaged discussions (discrete categories w/o brackets).

As illustrated in the plot (Figure 3), the most frequent categories in oral modality were those of Speech Acts, Fillers, Metalanguage, textual Connectives (Additives, Causatives, Contrastives and in this order), Emphatics (by Gesture – embodied and solely oral modality specific, sic!; and Miscellaneous). With Perlocutionary-force-bearing Commentary Directive/ Vocative and Glossing by Explanations (e.g., I mean, sort/kind of, like) the frequencies gradually drop (below 1 instance per 100 words). The top frequency codes (around 1 and above per 100 words) of performative Speech Acts or Commentary Directive, or Code glossing with "I mean" which were generously used by CR small group discussants feed into the Text-Organizing Bracket, while evaluative uses of Speech Acts (e.g., I agree/disagree, that doesn't mean…, yeah/nope, Ok! Right!) are embraced by Talk-Evaluative meta-function.

High uses were also noted for Implicit Attitude Marking (incl. complex 2-argument evaluating structures "it's not right/fair/true/untrue that …X is the case") of slightly below 1 time per 100 words, Interrogative type of Perlocutionary Commentary, emphatic uses of oral modality specific Intonation (sic!), Obligation revealing modal verbs of Should/Must (stronger) and twice less frequent Had to (weaker form), If-then and Others in scenario deductive structures, or slightly lower - globally cohering Topicalizers and Reminders of Material (within textual global coherence connectives). Approximately 20 categories, as shown in the graph below the evidential From Someone Else (.40) and Obligatory Had to (.37), show frequencies between 40 to 2 per 10,000 words.

Notably, versatility of fine metadiscourse categories, though most revealing, may be somewhat overwhelming, and so some strikingly diverse patterns of use and function are highlighted in a Form-to-Function table in a Qualitative Section of Chapter 4.

For an ease of grasping the larger patterns, I grouped the discrete categories within the major ones and the three supra-codes which are thus illustrated separately in another graph (Figure 4). The meta-functions of organizing, evaluative and intersubjectivity brackets as well as totals, or otherwise major metadiscourse categories (instead of the 40 plus discrete categories) are shown below.
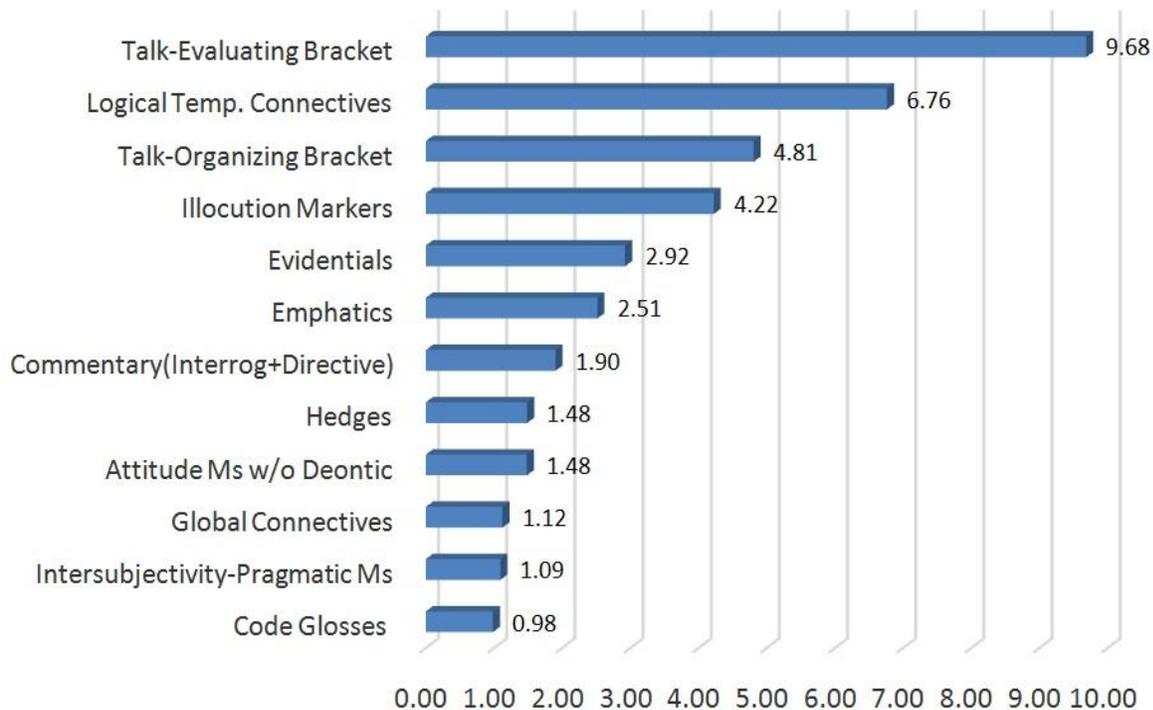
Figure 4. Metadiscourse frequencies for brackets and totals in averaged discussions

Figure 4 shows that students use approximately twice as much overall talk-evaluating (10.4) than talk-organizing (5.3) categories of metadiscourse. In spoken modality, Intersubjectivity-Pragmatic marking occurs as frequently as almost 1 time per 100 words (which when compared with the other 2 brackets amounts to 7%). Notably, the highest use of 6.8 per cent, apart from the brackets, are found for Logical-Temporal Connectives (comprising Miscellaneous Logical-Temp. connectives, Additives, Contrastives, Causatives, If-conditionals, and Non-canonical uses of "so"), and at 4.2 per cent - Illocution Markers (Speech Acts, incl.

Boosters and Mitigators). Evidentials (NB, comprising nine elementary categories) occur at 2.9 words per 100, and a bit more often than Emphatics with M=2.5 (incl. intonation, lexical and syntactic repetition, miscellaneous lexical choices, e.g., 'really', 'so', 'exactly', 'only'; found increased commitment in American rather than British conversations by Precht (2003). Also high frequent use of were found for Commentary (collapsed interrogative and directive categories) with a frequency of 1.9 per 100 words. Some use of various Hedging devices (modal, lexical, adverbial, or other cautious devices incl. soft-intonation) can be noted too, as above 1.48 occurrences per hundred words, and equally frequently occurring were Attitude Markers, when grouped as a class with the exclusion of Deontic Modality Markers (with individual elementary codes shown in Figure 3). Global Coherence connectives (grouping Topicalizers, Sequencers, Announcements and Reminders of Material) were also found to have slightly above 1 occurrence per cent, precisely M=1.12. Code Glosses which group just 2 codes of Explanations and Definitions fall slightly below 1 (with M=.98).

High frequencies of Evaluative codes (Talk-Evaluating Bracket), Modality markers and perlocutionary/ coercive Commentary uses indicate a pattern typical of highly-engaged style and high commitment (e.g., documented by Precht, 2003).

Micro-Genetic Analysis of the Oral Corpus

With the data from coding of 2 discussions, the micro-genetic development between discussions was afforded in this study too. Hence, in order to trace micro-genetic development Pearson r correlations, p<.05, were run between discussions # 5 and #8. The correlations show many strong positive relationships for metadiscourse codes used in discussion 5 and 8. The strongest relationships hold for the categories of 'Perlocutionary' Commentary Interrogative, Personal Belief, Impossible, Fillers. Several strong and moderately strong relationships have

been found for Sequencers, Contrastives, Causatives, Metalanguage, and Adverbial Hedges. Also, weak relationships have been found for If/since-Then, emphatic codes of Repetition and Intonation, as well as Obligatory "Should/must" and Gestures. These relationships indicate that the more these codes were used in discussion 5, the more they were used in discussion 8 too. Thus, the results suggest a pattern in their usage by CR-discussants rather than a one-time phenomenon.

Moreover, dependent samples t test was run to investigate differences between the two discussions for all students participating in both discussions (n=69). The results, $p<.05$, reveal that the earlier in a series of discussions, that is discussion 5, shows more frequent uses of Sequencers, Pragmatic Intersubjectivity/Vagueness Markers along such metadiscursive categories as 2 evidentials of What if and If then, Deontic Modality markers of Possible and Obligatory Had to. While in the later discussion, Discussion 8, more frequently used codes include Topicalizers, Speech Acts, Commentary Interrogative, Obligatory "Should", Metalanguage as well as Talk-Organizing and Talk-Evaluating Brackets (see Table 1).

Table 1

Frequency of Metadiscourse in Successive Discussions 5 and 8 (df=68)

Metadiscourse Category	Discussion 5		Discussion 8		t	Sig.
	Mean	SD	Mean	SD		
Talk-Evaluating Bracket	8.81	3.92	11.63	5.09	-3.72	.00
Talk-Organizing Bracket	4.35	2.55	6.42	4.47	-3.21	.00
Intersubjectivity-Pragm.	1.32	1.3	.94	1.16	2.05	.04
Meta-Language	1.29	1.1	2.03	1.64	-3.83	.00
Topicalizers	.31	.46	.53	.67	-2.43	.02
Sequencers	.27	.37	.14	.24	2.95	.00
Non-Canonical So	.03	.14	.29	.67	-3.33	.00
Speech Acts	3.38	1.68	5.52	4.98	-3.45	.00
What if	.39	.74	.13	.27	2.88	.01
Personal Belief	.26	.52	.51	.81	-2.90	.01
If-then	.82	.93	.43	.61	3.33	.00
Aposteriori/Retroduction	0	0	.20	.48	-3.46	.00
Forefronting	.10	.24	.03	.08	2.59	.01
Commentary Interrog.	.77	.87	1.04	.92	-2.73	.01
Possible	1.84	1.7	1.05	1.1	3.48	.00
Permissible	.07	.19	.56	.83	-4.71	.00
Obligatory SHOULD	.61	.95	1.05	1.28	-2.58	.01
Obligatory HAD TO	.49	.65	.26	.50	2.22	.03
Impossible	.32	.45	.14	.24	3.62	.00

As noted above, the micro-genetic findings show the trend toward more frequent use of metadiscourse categories in the later discussion (in a series of 10) that fulfill functions of Talk-Organizing and Talk Evaluating Bracket as well as stronger stance expression by obligation or speech acts. Seminally too, metalanguage use also shows a developmental progression in use.

Study Goal #2: Results for Essays

As for the written modality, the statistics show the top frequencies for predominantly text-organizing metadiscourse categories, as represented in Figure 5. Specifically, the most frequent Speech Acts' (4.4) rank no. 1 owes its high usage to multi-purpose functions as either performative verbs of evidential type (I think/say/know/don't know/believe) or evaluative (I agree/disagree, and alike). And the second and third top frequencies are those of text-binding connectives of Causative (3.3) and Additive (2.8) type, both adding to Text-Organizing Bracket (in Figure 6). Next in a row come attitude and stance revealing Obligation modals Should/Must (otherwise dubbed as "positional functors" by Wünderlich, 1979), Emphatics Miscellaneous (1.7) and Implicit Attitude markers (1.4) - that all feed into Text-Evaluating Bracket (shown further, in Figure 6).
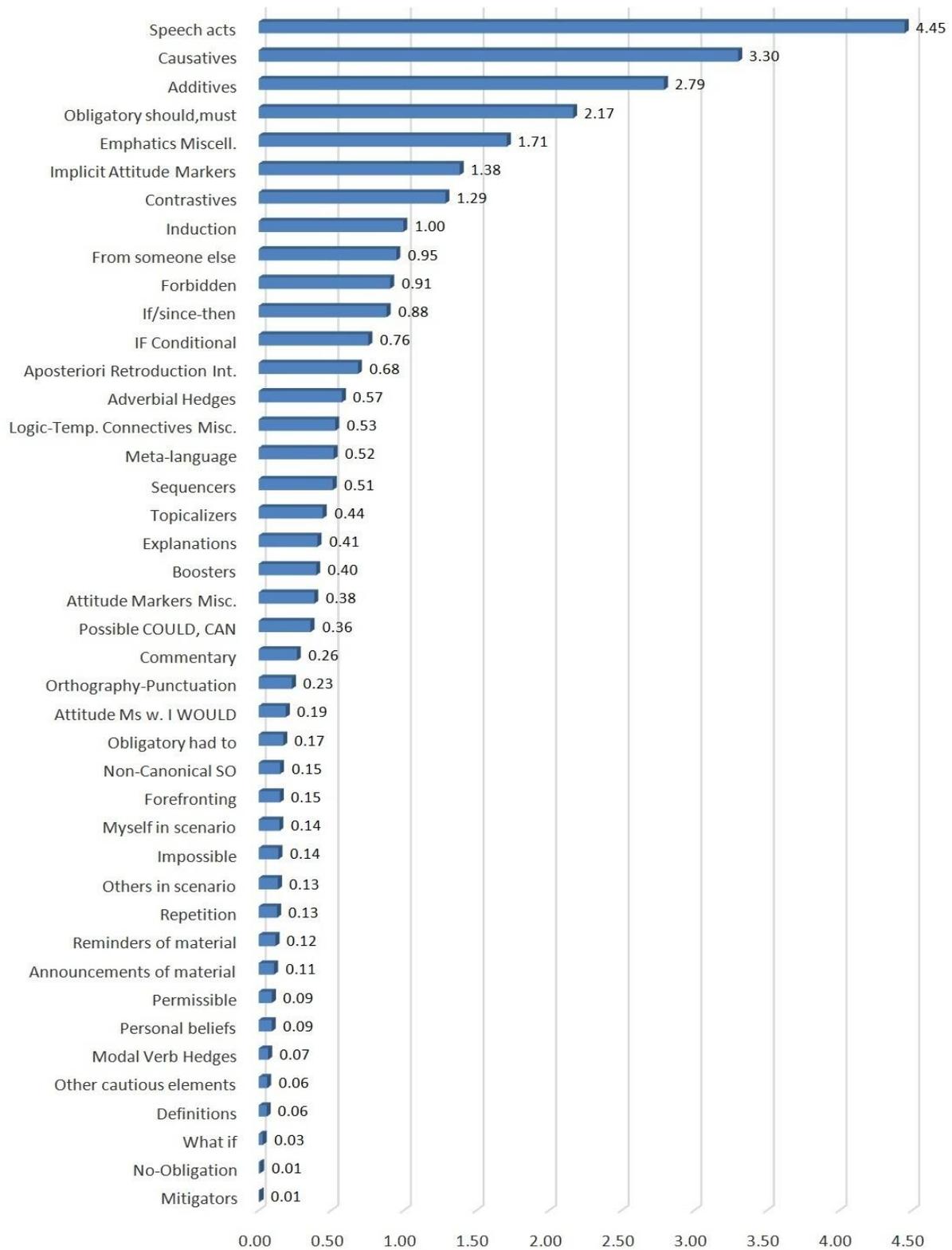
Figure 5. Frequencies of metadiscourse in essays (discrete categories w/o totals or brackets).

Importantly, with frequencies around 1 per 100 words other codes have been found which highly contribute to text-organizing or text-integrating, such as Contrastives (1.3), evidentials like Induction (1.0) and hearsay evidential "From Someone Else" (.95) and almost equally frequent -"If/since…then" (.90). On the other hand, very high frequencies of positional functors of Forbidden category (.9) and less frequent Adverbial Hedges (probably, possibly, maybe) contribute to the broad Text-Evaluating Bracket.

Other integrative or otherwise text-organizing codes such as If- Conditionals (.8), Logical-Temporal Connectives Miscellaneous (.5) and more globally binding Sequencers (.5) or Topicalizers (.4) occur also very frequently in CR students' writing – together with relatively high Metalanguage uses at a rate of 5 per 1,000 words (e.g., point/ problem/ reason/ argument/ position/ comment/ decision/decide, etc.).

Less frequent uses - 4 times per 1,000 words have been found for 21 discrete categories (which constitute the lower half of graph 3), among which Boosters of Speech Acts (.4) or Perlocutionary Commentary deserve a special mention as they considerably impact the persuasiveness of written discourse by intensifying the Illocutionary force of Speech acts (boosters) or by urgency-adding or action-reaction prompting (Commentary) - thus highly increasing engagement of intended readers.

Further examination of metadiscourse uses as grouped by major classes and the broad brackets allows us to grapple with the written array more easily (see Figure 6).
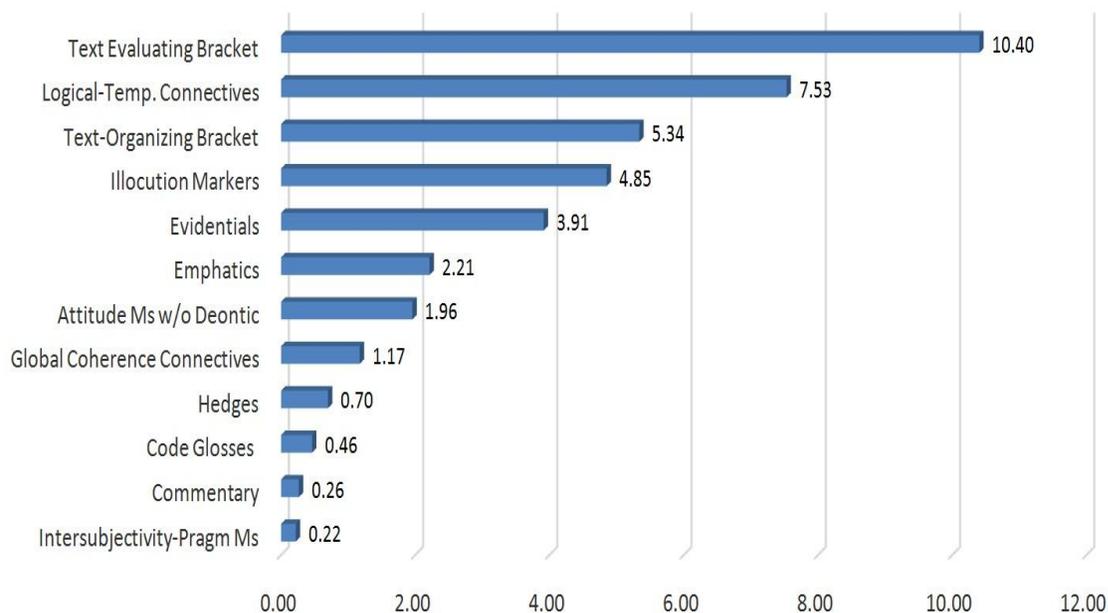
Figure 6. Metadiscourse in essays – frequencies for totals and brackets.

As shown in Figure 6, still in the lead is Text-Evaluating Bracket (10.4) and as second comes a group of locally binding Logical-Temporal connectives (7.5). Text-Organizing (5.4) is again almost half as frequent as Evaluating Bracket: however it occurs more often than in comparative oral discourse (as shown in Figure 4). Illocution Markers again come at one of the highest frequencies with a mean at 4.8 (higher than discussions mean). Emphatics in total show frequencies of 2.2 words per cent (.3 lower than in discussions), while total Hedges show considerably lower means of 7 occurrences per 1,000 words (M=.7), and also twice lower than in oral modality. Attitude markers (excluding Deontic modals but inclusive of Implicit, Explicit/ Miscellaneous, and "I would" markers) near 2 uses per 100 words (M=1.96). Emphatics, Hedges, and Attitude Markers all contribute to the frequencies of the broad category of Text-Evaluating Bracket. For a change, the organizing bracket category of Code Glosses with M=.46 was used half less frequently than in discussions. Similarly, Commentary shows much lower frequency (.26), which is almost 10 times lower than in discussions. Notably, the third bracket forming

Intersubjectivity-Pragmatic marking appears 2 times per thousand words, which is five times lower than in group-discussions.

Study Goal #3: Results for Inter-Modal Correspondences

To investigate possible correspondences between the patterns of metadiscourse used in discussions and essays (study goal #3) by the same CR participants (on two different tasks and different times of measurement), t tests for dependent samples (n=71) for the comparison of metadiscourse in essays and the averaged discussions (#5 and #8) were run.

The results for the overall pool of CR-exposed students showed significant differences, p <.05, for 21 pairs of codes in the mean of discussions (see Table 2, and corresponding Figure 7).

More frequent in essays were categories of deontic modality labeled as Obligatory Should/ Must and Forbidden as well as evidentials by Induction, From someone else, Aposteriori/ Retroduction Intended or If-Conditional structures (mostly incomplete 'if-then'-inferencing structures).

Table 2

Frequency of Metadiscourse Used in Essays and Across Both Discussions (df=70)

Metadiscourse Category	Writing		Discussions		t	Sig.
	Mean	SD	Mean	SD		
Logical-Temporal Connectives Misc.	.50	1.40	1.00	.60	-2.88	.00
If-conditionals	.80	1.20	.20	.30	3.44	.00
Reminders of Material	.10	.40	.40	.50	-3.75	.00
Other cautious elements: Hedges	.10	.20	.70	.70	-7.20	.00
Modal Verbs: Hedges	.10	.30	.20	.50	-2.20	.03
Hedges Total	.70	1.40	1.50	1.20	-3.38	.00
Mitigators: of Illocutionary Acts	.00	.10	.10	.30	-3.91	.00
Induction: Evidentials	1.00	1.70	.30	.30	3.36	.00
From Someone Else: Evidentials	.90	1.50	.40	.30	3.13	.00
Aposteriori/Retrod. Intended: Evidentials	.70	1.20	.10	.30	3.84	.00
What-If structures: Evidentials	.00	.20	.20	.30	-4.13	.00
Personal Belief: Evidentials	.10	.30	.40	.60	-3.78	.00
Sensory experience: Evidentials	.00	.00	.00	.10	-3.30	.00
Explanations: Code Glosses	.40	.90	1.00	.80	-4.76	.00
Commentary	.30	.80	1.00	.70	-5.80	.00
Forbidden: Deontic Modality	.90	1.50	.10	.10	4.72	.00
Obligatory Should/Must: Deontic Modality	2.20	2.10	.80	.80	5.51	.00
Obligatory Had to: Deontic Modality	.20	.60	.40	.40	-2.91	.01
Non-Obligatory: Deontic Modality	.10	.10	.10	.20	-3.68	.00
Permissible: Deontic Modality	.10	.30	.30	.40	-3.70	.00
Possible: Deontic Modality	.40	.80	1.40	1.00	-7.37	.00
Intersubjectivity Pragmatic Markers	.20	.70	1.10	1.00	-7.95	.00
Metalanguage	.50	1.30	1.80	1.30	-5.71	.00

Note. Actual scores have been multiplied by 100. p <.05

For a change, the averaged discussions have shown more frequent codes of Reminders of

Material and Logical-Temporal Connectives, 3 types of various Hedging devices (by Modal

Verbs, Other cautious elements, Mitigators of illocutionary acts), 3 codes within a major

category of evidentials – What if-structures, Sensory Experience, and Personal Beliefs. Also, there were higher frequencies of Commentaries (Directive/Vocative & Interrogative), Glossing by Explanations, Intersubjectivity Pragmatic Markers and Meta-language, as well as various categories of verb operators (NB "positional functors" in Wünderlich, 1979) that are fulfilling deontic modality functions such as the Permissible, Possible, Non-Obligatory or Obligatory Had to.
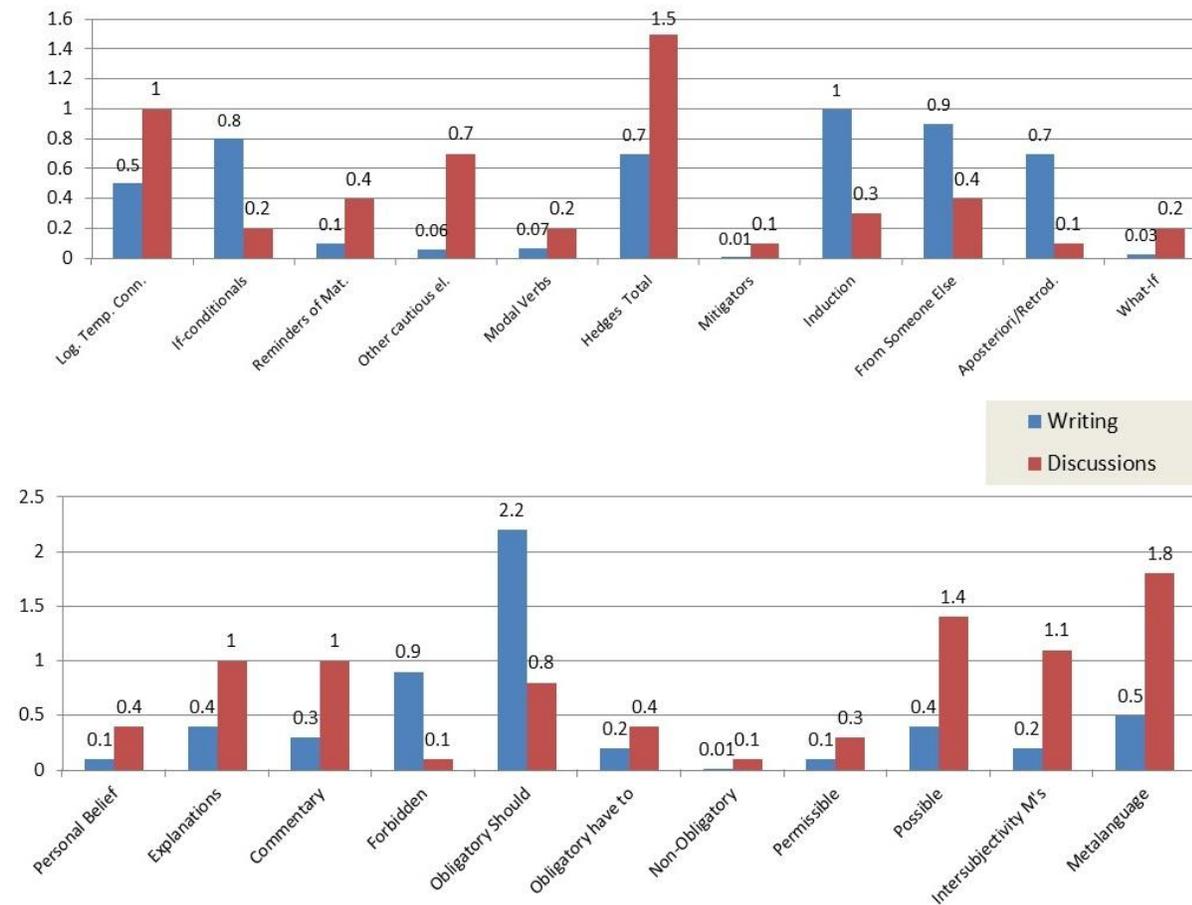
Figure 7. Frequency of metadiscourse in essays and mean discussions (df=70).

As mentioned in results section for study goals 1 and 2, the patterns of metadiscourse uses for both modalities assume different structures. The significant differences, p<.05, (as illustrated in Figure 6) suggest that within textual categories in discussions prevail codes of globally binding Reminders of material (.4) or Code Glossing by Explanations (1.0; for example,

"I mean"). Among interpersonal metadiscursive uses prevalence has been noted for attenuating/ Hedging devices (1.5) and weaker forms of Obligation by Had to (.4), explicit statements of Personal Belief (.4) or Metalinguistic designata (1.8), as well as Hearer-targeted Perlocutionary Commentaries (1.0; e.g. nudging) and What if- prompting or rhetorically questioning (.2) forms of evidentials. Interestingly, significantly higher uses of Logical-Temporal Connectives Miscellaneous (1.0) for propositional binding – textual category, and likewise, considerably higher frequencies of Intersubjectivity Marking (1.1) have been observed for interpersonal metadiscursive uses in discussions rather than essays.

In contrast, in essays significantly prevail If-conditional (.8) connecting devices (nota bene, usually used in tandem with hypothetical/deductive structures) that often entail Aposteriori Intended forms (.7) too, i.e. grammatical past perfect tense and 3rd conditional/ "unreal past" syntactic structures, classed as evidentials together with hearsay evidential From Someone Else (.9). Alongside the evidential uses, highly text-organizing Induction markers (1.0) as well as stronger forms of Obligation Should/Must (2.2) and Forbidden (.9) have been found to prevail in essays over discussions too. Pertinently, these findings for Obligation Modals may be linked to the finding of a robust pattern that shows more frequent verbal modals uses in American rather than British conversations by Precht (2003), further discussed with an issue of stance marking in Chapter 5.

Poisson Regression

To further investigate the correspondences and better model the specificity of the count data a Poisson regression analysis was run to explore what associations hold between discussions (treatment) and essays (written as the final post-intervention product), when essay length variance is controlled for and variances in other variables are held constant. The Poisson model

was selected as best capturing this count data distribution, whose frequencies deviated from normality, yet whose fitted values turned out not to be much over-dispersed as the deviance and Pearson dispersion indicated (e.g., Cameron & Trivedi, 1998). Counts in individual metadiscourse categories in written essays were dependent variables, while counts in mean discussion codes, essay length, gender, or MAT score were predictors.

Table 3

Poisson Regression Results for Mean Discussions (as Predictor)

Metadiscourse categories	β	S.E.	Sign.	Exp (β)
Talk-Organizing BRACKET M	-.01	.01	.014	.99
Talk-Evaluating BRACKET M	-.01	.01	.019	.99
Meta-Language M	-.09	.04	.020	.92
I.TEXTUAL METADISCOURSE 1. Text Connectives:				
• Total Global Coherence Connectives M	-.05	.02	.020	.95
• IF-Conditionals M	-.39	.13	.003	.67

II. INTERPERSONAL METADISCOURSE
  2. Epistemology Markers
    • Modality Markers:				

o Emphatics: Repetition M	.59	.25	.019	1.80
• Evidentials Total M	-.03	.01	.000	.97
o Induction M	-.26	.12	.025	.77

Note. Values are shown in comparison with corresponding metadiscourse category (reference group) in essays. "M" at the end of the parameters stands for the Mean of both discussions.

As shown in Table 3, after controlling for Essay Length, Gender and MAT score, the results of the Discussion codes (Alpha = .05) for both Organizing and Evaluative brackets indicate that for one occurrence of both categories in discussions the expected log counts for Talk-Organizing and Talk-Evaluating codes will show increase by 1% in writing (chances are 1 %

higher). This means that the two bracketing codes are predicted marginally less frequent in the oral modality. Likewise, chances for Metalanguage in discussions are lower by 8% (per 1 time/ use of written metalanguage). Two textual categories of Global Coherence Connectives and If-conditionals show similar relationships, i.e. predicted higher chances of use in writing by 5% and 33% respectively (or otherwise, reduction in discussions). Also, higher predicted log counts in writing have been found for Induction markers and totals of Evidentials - by 23% and 3 % respectively (compared to oral modality). However, emphatics via Repetition are likely to show 80 % increase in use in discussions in comparison to essays.

Study Goal #4: Results for sociolinguistic variation across modalities

To complement the explorations of patterns that hold for each modality (study goals #1 and 2) and between modalities (goal #3), the *sociolinguistic* component of quantitative analysis was added to investigate goal # 4, that is metadiscursive uses across both corpora as a function of gender, reading ability, school location and ethnicity as vital factors influencing the language use in general.

Therefore, independent samples t-tests were run for each grouping and across written and oral datasets gathered via the application of the same complex taxonomies for metadiscourse analysis.

Comparisons of the means in a grouping by gender that is between boys' (N=38) and girls' (N=33) uses of written metadiscourse revealed that girls used significantly more hypothetical Myself in scenario and Logical-Temporal Connectives, while boys used significantly more Causatives for binding their propositional content in essays. The exact figures are presented in Table 4.

Table 4

Frequency of Metadiscourse in Writing for Gender (df = 69)

Metadiscourse Category	Females[a]		Males[b]		t	Sig.
	Mean	SD	Mean	SD		2-tailed
Logical-Temporal connectives	.85	1.74	.15	.47	2.24	.03
Causatives	2.42	1.89	4.32	2.51	-3.64	.00
Myself in scenario	.27	.57	.00	.00	2.71	.01

Note. Actual scores have been multiplied by 100. [a] N=38. [b]N=33. p <.05.

Further analysis of independent samples t-test of metadiscourse uses grouped by gender across both discussions shows that boys use Boosters (M=.23, SD=.26) twice as much as girls do (M=.10, SD=.15) in order to intensify their Illocutionary Speech Acts.

When the grouping variable was low or high reading achievement score in the Metropolitan Achievement Test (MAT), it has been found in written metadiscourse that students with high scores on the MAT (n=37) more frequently used the Text-Organizing Bracket (M=6.68, SD=7.20), subsuming Speech Acts, Topicalizers, Reminders of Material, 'Perlocutionary' Commentary and Induction/Deduction signaling codes, than their peers with low MAT scores (M=3.87, SD=3.34). It has to noted that actual scores have been multiplied by 100 across all tests - for ease and normalization to the same baseline.

Within the same grouping by different academic achievement levels across consecutive discussions (#5 and #8), the results show that students that scored low on the MAT (n=37) demonstrated statistically higher use of performative Speech Acts, while their higher achieving peers showed more frequent uses of 5 codes. Table 5 below shows the seminal frequencies.

Table 5

Frequency of Metadiscourse for Low and High MAT-scores Across Discussions (df=75)

Metadiscourse Category	Low MAT (n=37)		High MAT (n=40)		t	Sig. 2-tailed
	Mean	SD	Mean	SD		
Sequencers	.15	.22	.28	.30	-2.25	.03
Speech Acts	4.47	2.72	3.44	1.18	2.19	.03
Others in scenario	.54	.51	.81	.64	-2.01	.05
Aposteriori/Retroduction	.07	.21	.21	.36	-2.02	.05
Intonation	.64	.66	1.01	.93	-1.99	.05
Emphatics Total	2.16	1.27	2.84	1.39	-2.23	.03

Note. Actual scores have been multiplied by 100. $p < .05$

Namely, high-MAT scorers used more often Sequencers, deductive-hypothetical structures putting Others in scenario and Aposteriori/ Retroductive ones (both function as evidentials) as well as more frequent modality marking with Emphatics Total and emphatics by Intonation.

Similar independent samples t-tests with grouping by school location of metadiscourse in children's essays show that students in rural school (n=36) used more codes feeding into a supra-code named Text-Organizing Bracket (Speech Acts, Topicalizers, Reminders of Material, 'Perlocutionary' Commentary and Induction/Deduction signaling codes) as well as more discrete codes of Contrastives and Personal Beliefs. For a change, their comparative counterparts in the urban school (n=35) used more metadiscourse that is subsumed under the Text-Evaluating Bracket (Modality Markers and Attitude Markers, evaluative Speech Acts and deontic modality of Obligation and the Forbidden category), as shown in Table 6.

Table 6

Frequency of Metadiscourse in Writing Across Two School Locations (df = 69)

Metadiscourse Category	Urban School (n=35)		Rural School (n=36)		t	Sig. 2-tailed
	Mean	SD	Mean	SD		
Text-Organizing Bracket	3.88	3.37	6.75	7.26	-2.13	.04
Text-Evaluating Bracket[a]	12.18	8.10	8.67	4.99	2.21	.03
Contrastives	.58	.91	1.98	2.01	-3.77	.00
Personal beliefs	.00	.00	.18	.40	-2.66	.01

Note. Actual scores have been multiplied by 100.
[a]Evaluating Bracket comprises evaluating Speech Acts, Emphatics, Hedges, Attitude markers w/o deontic modality and deontic modals of Obligation and Forbidden.
$p < .05$.

Results of independent samples t tests between two school locations across the averaged discussions (#5 and #8) showed primarily higher frequencies for the Rural school children spoken discourse (in Table 7). Specifically, the rural CR discussants used several types of Hedges (Adverbial, Other Cautious Elements and Hedges total) and two categories of Attitude Markers (Total and implicit attitude) as well as 2 major brackets of pragmatic Inter-Subjectivity and Talk Evaluating (so mostly, interpersonal metadiscourse). Rural school students also utilized more Code glossing by Explanations, more Speech Acts and Sequencers to organize their talk in action, and several types of emphatic modality marking by Forefronting and Emphatics Miscellaneous (again interpersonal and evaluative meta-functions). By contrast, schoolchildren from the urban location show more frequent use of 2 organizing codes of Reminders of Material and Perlocutionary Commentary Interrogatives (thus both subsumed under Talk-Organizing bracket) and an evidential category of hypothetical Aposteriori/Retroduction (see Table 7).

Table 7

Frequency of Metadiscourse Across Schools in Averaged Discussions (df = 75)

Metadiscourse Category	Urban School[a]		Rural School[b]		t	Sig.
	Mean	SD	Mean	SD		
Intersubjectivity-Pragmatic Markers	.72	.66	1.51	1.05	-3.99	.00
Talk-Evaluating Bracket (Broad)	8.51	3.29	11.02	2.57	-3.70	.00
Sequencers	.15	.27	.29	.25	-2.41	.02
Reminders of Material	.51	.53	.30	.32	2.16	.03
Speech Acts	3.30	1.28	4.66	2.62	-2.94	.00
Other Cautious Elements	.54	.75	.92	.61	-2.46	.02
Adverbial Hedges	.31	.54	.62	.55	-2.54	.01
Personal Belief	.24	.28	.51	.74	-2.16	.03
Aposteriori/Retroduction	.21	.36	.06	.18	2.17	.03
Forefronting Emphatics	.03	.08	.09	.13	-2.18	.03
Emphatics Miscellaneous	1.10	.86	1.72	.76	-3.33	.00
Commentary Interrogative	1.09	.82	.66	.56	2.64	.01
Explanations	.63	.51	1.33	.88	-4.34	.00
Implicit Attitude Markers	.67	.70	1.24	.63	-3.70	.00
Hedges Total	1.09	1.06	1.93	1.16	-3.31	.00
Attitude Markers Total	1.23	.85	1.76	.66	-3.04	.00

Note. Actual scores have been multiplied by 100. [a]N=41. [b]N=36. p <.05.

The last comparisons of metadiscourse were those as a function of ethnicity between European Americans and African Americans (see Table 8), though run with caution as ethnicity was confounded with school (one school has been dominated by European American population). Here the results in essays reveal more frequent uses of Contrastives and Emphatics total by European Americans, while more frequent "I would"-based Attitude Marking by African American children.

Table 8

Frequency of Metadiscourse in Writing Across Ethnic Groups (df = 65)

Metadiscourse Category	African – Americans[a]		European- Americans[b]		t	Sig. 2-tailed
	Mean	SD	Mean	SD		
Contrastives	.49	.64	1.66	1.93	-2.76	.01
Attitude Markers w. I WOULD	.44	.92	.08	.26	2.49	.02
Emphatics Total	1.29	1.50	2.42	2.40	-2.03	.05

Note. Actual scores have been multiplied by 100. [a]N=22. [b]N=45. p <.05.

Interestingly, metadiscourse usage across both discussions shows greater diversity for the ethnic grouping than in essays, as represented in Table 9 respectively.

Table 9

Frequency of Metadiscourse Across Ethnic Groups in Averaged Discussions (df = 71)

Metadiscourse Category	African Americans[a]		European Americans[b]		t	Sig. 2-tailed
	Mean	SD	Mean	SD		
Intersubjectivity-Pragmatic Markers	.64	.52	1.30	1.04	-3.09	.00
Reminders of Material	.61	.59	.30	.31	2.92	.00
Non-Canonical So	.32	.49	.11	.28	2.36	.02
Additives	1.98	.89	2.46	1.00	-2.04	.05
Speech Acts	3.28	1.32	4.32	2.47	-2.02	.05
Others in scenario	.51	.47	.81	.62	-2.11	.04
If-then	.42	.39	.80	.84	-2.15	.03
Aposteriori/Retroduction Intended	.22	.35	.06	.17	2.60	.01
Repetition	.32	.32	.19	.22	2.08	.04
Forefronting	.01	.04	.09	.13	-2.98	.00
Emphatics Miscellaneous	1.14	.79	1.61	.85	-2.32	.02
Hedges Total	1.10	1.13	1.67	1.17	-2.02	.05
Explanation Glosses	.65	.50	1.13	.88	-2.58	.01
Commentary Interrogative	1.18	.93	.73	.57	2.57	.01
Implicit Attitude Markers	.73	.76	1.13	.66	-2.35	.02

Note. Actual scores have been multiplied by 100. [a]N=27. [b]N=46.   p <.05.

In the averaged discussions, African-American children have been found to use more Perlocutionary force imposing Commentary Interrogatives, organizing Reminders of Material, as well as Non-canonical "so", used for connecting the propositional content, and hypothetical Aposteriori/ Retroduction scenarios or emphatic Repetition. Their European-American peers have been found to use more Intersubjectivity Pragmatic Markers and code glossing Explanations as well as more Additives to bind their talk. European Americans utilized more Speech Acts and hypothetical Others in scenario, as well as several types of modality markers such as emphatic Forefronting, Emphatics Miscellaneous and Hedges Total (thus contributing to Talk-Evaluating Bracket). Their discussions bear twice as frequent Implicit Attitude Marking and inferencing If-then structures as those by their African-American CR co-discussants.

<u>In summary:</u>

Analysis of metadiscourse within each modality (written and spoken) revealed significant differences in the distribution patterns of both discrete elementary categories and major classes with over-arching brackets. Findings between the modalities also showed systematic differences as well as some correspondences that were thus established, among others that the ratio of Evaluating Bracket to Organizing Bracket is ca. 2:1 in both modalities (to be further discussed in the Qualitative Section), with Intersubjectivity amounting to 7% in discussions and 1%- in writing. Organizing Bracket comprises: globally cohering Announcements and Reminders of Material, Topicalizers, Sequencers, Glossing Explanations, performative Speech Acts, and Induction/Deduction marker. Evaluative Bracket subsumes: evaluative Speech Acts (agreement/disagreement), Emphatics, Hedges, Attitude markers w/o deontic modality, Obligation modals of "should", "had to" and Forbidden category. In overall discussions, high frequencies of Evaluative codes, Modality markers and perlocutionary/ coercive Commentary

uses suggest a highly-engaged style. Overall analysis within written modality shows that text organizing codes (Logical-Temp. connectives, Global coherence totals, Glosses, Illocution Ms. and Text-Organizing Bracket) show higher frequencies than in discussions.

Micro-genetic analysis across both discussions found many positive correlations and dependent samples t-test analysis show an increased use of many Talk-Organizing categories and Talk-Evaluating (including stronger forms of obligation) or Metalanguage, with a notable decrease in the use of Intersubjectivity-Vagueness Bracketing code).

The analyses of metadiscourse across both modalities as a function of gender, reading ability (MAT), school location and ethnicity also yield many significant results thus revealing distinctive patterns of use by the compared groups. Among other findings, results for grouping by gender show more uses of Boosters by boys in their talk and more Causative connectives in essays, while girls were found to use more Myself-oriented scenarios and Miscellaneous Logical Temporal Connectives in writing. High MAT-scorers used more Organizing Bracket in writing, while in their speech – more Sequencers, hypothetical scenarios, and various Emphatics. Low MAT-scorers used more performative Speech Acts in discussions. Analysis of essays by school location shows greater use of Organizing Bracket and Contrastive connectives by a rural school, whereas more Evaluative bracket by an urban school. Ethnic comparisons show higher uses of Contrastives and Emphatics total by European-Americans, whereas "I would"-Attitude Marking by African-American students in writing. Analysis of discussions reveals many more differences than analysis of students' writing as a function of ethnicity. Though, ethnic grouping is confounded with school location, and so need to be cautiously interpreted.

4.2 Qualitative Results

Study Goals #1 and #2 intend to:

(1) analyze metadiscourse used in small group discussions by CR-exposed children as well as

(2) analyze the metadiscourse in their written essays.

Primarily, analysis aiming at establishing links between an array of linguistic forms and functions has yielded rare and interesting observations about children's specific uses of metadiscourse for the achievement of various communicative goals.

Also, in an elementary-to-holistic approach, the adoption of three-partite system of metadiscourse, from building-block elementary categories via major classes to broad brackets of metadiscourse, resulted in yielding results on three levels of complexity – 1) very discrete functions of 'grass-root' level, 2) major classes, and 3) the broad meta-functions of supra-codes.

Notably, the supra-codes helped to 'curb' the diversity of the discrete codes which resulted from a split of major codes into the fine ones - often tapping similar functions though differently (by different means, like various subcategories of emphatics, hedges, evidentials, or attitude marking - especially with an array of deontic modality verbs or otherwise "positional functors", as in Wünderlich, 1979).

The specificity of the richest meta-communicative functions of selected meta-discursive uses is presented in Table 10, titled "Form to Function", as one of the outcomes of the pursuit for the two (2) major study goals – to analyze discourse in group discussions and to compare it to the metadiscourse in the written essays (as laid out in Chapter 2). Therein the illustrated metadiscourse category is highlighted, while the other categories are inserted below the "at" (@) symbols, which are included to better demonstrate the density of forms within a turn-at-talk. The

Form to Function Table sets out 'valency' patterns for the emerging grammar of metadiscursive categories that have never been explored in such a context and scope, i.e. never (1) in combination of elementary and more bracketing functions, and (2) across two modalities.

Following the reported richness of form-to-function relationships (Table 10), authentic episodes and stretches of texts with the highlighted phenomenon are shown and discussed to further demonstrate the outcomes of the pursuit of the 3rd and 5th goals.

Specifically, major similarities between metadiscourse in both modalities as used by CR-participating children are tracked and combined with assessment of the identified metadiscursive patterns with respect to how they add to the flow of meaning in oral and written argumentation of CR-children (to pursue study goal #5), which thus conclude the chapter.

Table 10

Form-to-Function and Function-to-Form

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
Metalanguage, meta-communication (ML)	Stephanie: @I think@ it went good, @because@ nobody was @like@ @really@ arguing @or@ fighting over who it was @or anything./ Shelby:@I think@ we did better at @like @a lot of people sharing their ideas @and@ not @just@ sitting there @and@ not giving ideas. (CHA_8SFY) ---- -Richard: @I think@ that @it went all the way@, @because@ you're supposed to, @you could have different opinions about this story@ @and@ you could @like@, @umm,@ fight about, @you could @like@ fight about your position@ @and@ try to get somebody else and change their mind, @but@ you @got to@ @ take turns while you're fighting@, @like@ have one person do it, @and@ have somebody else. […another student's interjection] Tabitha: @And@ if you're fighting, you @got to@ @at least take turns@ fighting. (CHA-8SFR; 24:31.68) Other uses of 'language as a code' (from excerpts): sides of the issue, think and talk critically, arguments/reasons, ideas, problems, blame, criticize
Talk -/ Text-Organizing (T-O)	Jeremy: I @still@ think@ that he @should@ @let@ him win, @but@ he would @have to@ put the dog on the sled @and@ push him @all the way@ up there @and

(table continues)

Table 10 (continued)

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
	then@ @maybe@ Willie @could@ have $300, @because@ they're paying $500 @right?@ (Talk-Organizing + Rhetorical Question=Commentary Interrogative + Hedge) (CHA_8SFY; 18:54.10); Danielle: @I think@ that Stone Fox, @I mean@ I think that Willie @should@ @just@ @um@ take his dog home on the sled @and@ he walk home @and@ @um@ Stone Fox @would@, $you know$, let@ him have {some} dogs @and then@ @like@ race, go back @like@ a mile @and@ race again. (T-O + Pragmatic Intersubjectivity Marker) (CHA_8SFY: 15:35.55) Chillbrisha: One person at a time please! (T-O + Commentary Directive +Emphasis by Intonation in Exclamatives) (PAL_8SFY; 19:00.15) T-O then subsumes: Performative Speech Acts: *I think, I know/say, the problem/ idea* is Topicalizers*: well, so, now; ok, then…* Reminders of Material*: Like/As you said* Sequencers: *first, second, plus, and then/next* Announcements of Material: *here are* my reasons*, here I'll tell* you Code Glosses: *I mean, like* (in explanatory sense) Induction/Deduction Markers: *That's why/ So* I think/ I would…
Talk-/Text Evaluating (T-E)	Kevin: No@, @well@ @I mean@, @what if you were the dog, @OK{!?},@ @and@ you were in a race @and@ you died,@ wouldn't you be like@, @I mean@ what if you were, @@what if you were a dog @and@ you @had to @be, you were @like@ whipped@@ @and stuff@ to race, to run, @@wouldn't you be @kind of@ mad @@at the trainer?@ (self-T-E+ Com-Interrogative by Intonation) (CHA_8SFY: 08:44.33)
	Bryan (shrugged his shoulders) Shelby: @Bryan,@ @@that's not acceptable.@@ @Could you give us some of your ideas?@ (CHA-8SFY: 01:22.00) Other uses from excerpts: *Yeah. No!* – when standing on its own, as cries of agreement or disagreement *I agree/ disagree* (Speech Acts + T-E) *True. Right. OK!* (as expressions of agreement, not Topicalizers) *That's not the point! That's not true!* (Speech Act +T-E) *Dang!* (T-E + Intersubjectivity M*) What you mean?!* (Commentary- Interrogative + T-E*) *That doesn't mean…* (Code Glossing + T-E) *I am not saying ….!* *TE Subsume class categories of Emphatics, Hedges, evaluative Speech Acts (agree/ disagree), Attitude Markers w/o deontic modality, Modals of Obligation and Forbidden category.*

(table continues)

Table 10 (continued

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
Commentary Vocative/Directive	Kevin: @Bryan,@ @what do you think?@ (Commentary Vocative + Commentary Interrogative) (CHA-SFY: :05:57.11) Dylan: @Back on the subject@,@guys.@ @Ok?@ (Commentary Vocative + T-Organizing +"the subject"= Metalanguage + "OK?"=Commentary_ Interrog.) (PAL_5MVR; 11:58.09) Other common uses: *Say it again, Pointing fingers (in a nudging gesture to speak, take turns)*
Commentary Interrogative	Why do you say that, Stephanie? (cd) (CHA_5MVY) – involving directly an addressee or Rhetorical questions: Shayla: If he got $500 and you give it all to the one people how you you gonna have some more money to buy a new dog? DeAngella: Who says he gonna buy a new dog?! (PAL_8SFR; 10:24.99) Shelby: @Anybody got any ideas?@ (T-O+ Commentary Interrogative) Other common uses (excerpted) : *What would you say if….? So what if he cheated?!* (other Rhetorical Questions" or Hanging uses of connectives with rising intonation, e.g.,*You'd do it, soooo?)*
Fillers	Kevin: @Shelby@, @you said that@{Reminder of Material +"hearsay"Evidential} they should shorten the race by @like@{cautious elem.} one or two miles, @I agree@ with you,@ because@ @what if@ you had like {=e.g., so a Speech Act) a little German Shepherd, @like@ five, @like@ almost a year ago, @and@ he was @really@ strong @and@ he run @real fast@, you didn't know it was @like@ that long. @And@ it @just@ died, @like@ @right in the middle@ of the race. (CHA_8SFY:05:14.91) ❖ Stallers – "really, really, sort of, you know" (when one doesn't know the word or doesn't know how to proceed)–resorts to repetitions of any linguistic forms & elongation of sounds: o *Phatic* function of sustaining communicative flow or a place-holder/place-mat
Gestures	Asha: That don't mean you can hit people upside the head.[…] Joey: No but? push him like that. [demonstrates pushing with shoulder] Shavon: @But@ @what if@- @I'd be-@ [makes snapping noise and pretends to pop Joey in the head] (Myself in scenario by Gesture) (PAL_8SFY; 19:03.25] ***

(table continues)

Table 10 (continued)

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
	Shavon: [EMP] @Then no,@ @'cause-@ @I need the five hundred dollars to raise taxes for the farm.@ @Period.@ [EMP, gesturing with both hands, then (playfully) shoves Chillbrisha] (Speech Act + Booster by Gesture & Intonation) (PAL-SFY; 05:59.77) *** Danielle: @Yeah,@ @because@ @I think@ it's Stone Fox @should@@let@ him have one of his dogs and Kevin: No,@ two, @because@ he has four dogs @right@ there. Shelby: No,@ he has five. @See@, one… [Shelby points to a picture cover of the story and finger-counts dogs] (Gesticulates Evidential: From sb else) (CHA_8SFY;12:48.64) Gestures frequently combine functions with other categories (double-coding): With Talk-Organizers (indicating for maintenance of talk) Talk-Evaluating (Nodding Yes/No) Evidentials: From Someone Else (indicating sources/basis for knowledge in text, illustration) Commentary directive or interrogative (indicating with head/hand/finger "you" addressee and imposing perlocutionary force/ prompt action or re-action)

Pragmatic Inter-Subjectivity/ Vagueness Markers (I-S)
 	
Or otherwise "coordination tags" (Stenström, Andersen, Hasund, 2002) „or sth", „and things/and stuff (like that)"& other VAGUENESS or Performance "FILLERS"(Channell, 1994, w. British English data)
	- "You know" = (1) implicitly invites solidarity (in pragmatics represent a strategy of positive politeness, e.g. Brown & Levinson,1987; or Yule, 1996) as a basis of "saying less by communicating there is more" so similar to Glossing: Explanation
	
	- (2) Intersubjectivity MARKER to assume the common ground; completion is assumed to be known by the Listener (Y'know and stuff "On being inexplicit and stuff in contemporary American English", Overstreet & Yule, 1997).
	
	- "Like" use for exemplification functions as "for example", functioning as a Speech Act + T-O, as ensuring progressivity of "talk in action". For example, "It's like, they are all stupid and stuff" (Homer Simpson) – Sloppy talk (cited after Overstreet & Yule, 1997)
	
	- Perfomance Fillers of adjunctive ("and stuff") or disjunctive ("or something", "or anything") type that
	    ○ appeal to Listener to construct referential category
	    ○ implicit appeal to shared experience or knowledge
	    ○ signal social closeness, and so in turn, are "indicators of

(table continues)

Table 10 (continued)

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
	intersubjectivity" by sharing individual, subjective co-conceptions of the world with our interlocutors (Schegloff, 1992; Schiffrin, 1990) >>>Thus, oftentimes Fillers+ Other cautious elements: Hedges or Glossing: Explanations)

	- "Like", apart from being an obligatory pragmatic marker in a quatative complementiser function "I went like…" or in "analogy" structures may have a meta-representational function (Stenström, Andersen & Hasund, 2002) , in "I was like…" marking off the following material as a thought, an attitude or a feeling which is metarepresented (p.116). (Logical-Temporal Connective)
	    o An approximative function = similar to "kind of, sort of" (Glossing: Explanation)
	    o Exemplificatory function ("for example" so a Speech Act, in Vande Kopple, 1997)
	    o Hesitational/linking (Other cautious elements: Hedges)
	    o Metalinguistic (ML, when word-searching)
	    o Phatic Function = Filler

	"Yeah" - INTERACTIONAL /Interpersonal Functions: - imagination appealing and a concept-retrieval helping (Reminder of Material) - even in the mid-sentence position, or checking "Are you following my story?" (Speech ACT + T-O, e.g. "Yeah, but…"), - or Mitigator/Hedge at the end of the sentence, question tag "yeah?"/ "right?" - Commentary when appended to Yes/No-Questions serving as a further urge for the hearer to respond: "Is it $300, yeah?" - or "an epistemic tag" (pronounced with rising intonation) appended to a statement or after interrogatives/imperatives "that serve[s] to engage hearer or invite his response in the form of a confirmation, verification & corroboration of a claim" (Stenström, Andersen, & Hasund, 2002, p.167), checking if the hearer is "getting" the preceding conceptual information; close in meaning to "you know [what I mean]" (p.175) – so coded as a Pragmatic Intersubjectivity Marker, as "indicative of the speaker's presumption that interlocutors' cognitive background consists of mutual assumptions" (ibidem) - Talk–Evaluative, "is it OK if I continue" - Reception marker – to acknowledge receipt of info that is new to the discourse but consistent with currently active info (Jucker & Smith, 1998, p. 179), or to acknowledge info that is re-activated (refers back). These uses illustrate "the principle of grounding" proposed by Clark (1994; 1996) that a contribution must be acknowledged by the partner to be complete.

(table continues)

Table 10 (continued)

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
	Likewise, "Okay" as a tag! Or "Right?" Commentary Interrogative & Talk-Evaluating here: - Tabitha: I just thought of something um @ it says@ it was taxes @but@ there's going to be more taxes, @right?@ @So@ @ how can he @still@ keep his house because he's going @to have to@ pay taxes @over and over again@?! [Gesticulates and Emphasizes by raised Intonation over "taxes over and over again"] (CHA_8SFR: 19:17.00) "Yeah" and "Right" TEXTUAL Function – ability to chunk sequentially related pieces of info - Plus add to the structure of a narrative (Stenström et al. 2002, p. 167)/ thus ensuring progressivity of talk, so Talk-Organizing MD, or sometimes both T-Evaluating and Spech Act (combined), when it stands alone as a "response cry" (Goffman, 1978) in meaning "I agree", or like Fraser's (1990) interjections (e.g., "oh", "aha")

Interesting Density and Combinations of Forms & Functions	"Well" functions as Topicalizers:
	
	 Andy: Well, @I agree@ with Cody @cause@ the Indy, white people would @just@ be losing a little bit of land @but@ the Indians @well@ {hedge} the Indians wouldn't be losing anything @because@ the farm isn't on the land that the Indians would buy. (CHA-8SFR; 9:16.62)
	
	 as Contrastives (a 'weak-token'):
	 - Shelby: No, he has five. See, one…(gestures)
	 - Kevin: Well, it looks like he has four (CHA-8SFY; 13.02.70)
	 as a Hedge (other cautious elements):
	 - Shelby: Why do you say that? (Commentary_Interrogative)
	 - Kevin: @Because,@ @well@, Indians usually, @like@ long time ago, Indians used to @like@ kill each other @or something,@ @I think@ @and@ @well, @like they said@ he better win, @@he said, he was like @really@ trying to win@@ @and@ @if it didn't look like he let them win, then@ they wouldn't @like@ be really mad at him @or something@, @so@ he wouldn't lose all his friends. %@It'd look like it was @really@ close to a tie, @but@ @so@ it wouldn't look like he let them win.@% (CHA_8SFY)
	
	 "Now"- Logical-temporal Connective (1) in general, and/or
	 - (2) Contrastive, or
	 - (3) Reminder of material (tying back), as in here:
	     Danielle: But@ if, @I think@ that they @should@ @let@ the dogs @like@ run off now(1), @because@ Stone Fox has @like@ four or five dogs @and@ Willie @only@ has one.
	     Jeremy: @Now@(2 &3) he has none.

(table continues)

Table 10 (continued)

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
	"Oh!" – indexes the shift in knowledge – from Knowledge (K-) to Knowledge (K+) to use Heritage (1984) terms or otherwise adjustment or acceptance of "epistemic gradient", i.e. a knowledge gap between a questioner and respondent (Heritage & Raymond, forthcoming, p. 4): - Cody: She is talking about Stone Fox. - Richard: @Oh@ @you're talking@ about Stone Fox. (CHA_8SFR; 2:20.63), "Oh" to be <u>coded as Talk-Evaluating.</u>
Constraints: **Issues with Double coding**	A: Yes B: No A: Yeap B: Nope B : No. / Yes, he does/ Yes, he can. No, he doesn't/ can't. "Yes/Yeah/Yeap/" or "No/Nope" considered as Speech Acts (=Illocutionary Act Markers of Affirming or Disconfirming) and double-coded with Talk-Evaluating – in sequential context reflect attitude : positive = *I agree*, or negative = *I disagree* (yet not in Searle's decontextualized understanding; after Cutting, 2002, p. 125, paraphrasing Heritage's point), and in that way reflect Talk-Evaluating: Katie: @Yeah.@ Do you write in math? [EMP] $@Yes!@$ [EMP] ("Yeah"- T-O ; "Yes!" Speech Act + **Booster** (by exclamation =**!**) - if EMPHASIS added in Intonation (**!**) than Boosters (as above) - if SOFT-spoken than Mitigated Speech Acts - <u>yet,</u> if directing talk and ensuring its progressivity, preferred over dis-preferred silence or lack of response then function as Talk-Organizing metadiscourse category that is when "Yeah" does not really mean the agreement but rather "I'm getting you" e.g. "Yeah but…" (T-O) Katie: Yeah but the thing is you need to practice writing… and learning (SpAct+T-O) Dylan: Writing?... They're s'pposed to be a math er-… [taps text] @yeah@ a math program. (Speech Act+ Talk-Evaluating) (PAL_5MVR: 15:31.51) Tabitha: They might not have had television. Richard: Yeah. They probably didn't have television back then cause they didn't cause it wasn't on they didn't say anything about on the news or anything. (Speech Act) (CHA_8SFR: 17:08.51)

(table continues)

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Table 10 (continued)

Metadiscourse Categories	Metadiscourse Forms, Functional Affordances and/or Constraints
	"As you/Andy/X said"… "and I agree with you" - Reminders of Material (Textual-orientation), and so double-coded with T-Organizing (as the bracket sub-component) Also often as "Hearsay" Evidential (showing basis for epistemological stance in referential material) - Shelby: Danielle, you said that if you took the CD disk out, it would break and I agree with you because books wouldn't like break automatically or something, if somebody accidentally stepped on them, but if you probably stepped on a CD, it might break, and I agree with you. (CHA_5MVY;5:19.46)
	"You"= meaning Everybody functions as "Others", so depending on the contextual cues can be coded as 'Others in scenario' or 'If-then…" deductive/ hypothetical structures with Modal Verbs (can/could, will/would, may/might, shall/should) Kaycee: If the electric went out, you would not have a computer you could go home and the electric, you can do your homework at your house, and with a (Emphasis] mathbook [Emphasis], and I'm, and some people don't have computers at their house, and um (CHA_5MVR: 7:23.21; while voicing inferiority of computers to textbooks) - Equally in Aposteriori/Retroduction Intended structures "You would've+ V-ed", etc. - conventionally indicator of a Commentary Vocative or Interrogative ('reader-addressing'), as in writing.

Table 10 encapsulates some crucial qualitative findings with respect to the written and oral diversity of meta-discursive forms functioning. The table also includes systematic attributions of discrete categories to major codes. Plus, it reveals some affordances and suggests possible constraints in the qualitative and quantitative analysis, which will be discussed in Chapter 5.

Study Goals #3 and # 5 addressed

Study goal (3) was set to establish any correspondences between children's metadiscourse in two modalities, and study goal (5) - to determine how they add to the flow of meaning in their oral and written argumentation.

As a reminder, the bracketing broad categories comprised codes on the basis of common meta-communicative functions that have been theorized to be of organizing, evaluating and intersubjectivity types. In effect, the supra-categories of text- /talk-organizing, text-/talk-evaluating or intersubjectivity marking show a 'rough orientation on the map of the texts' or discourses when shown in print, and as a reprint of coding.

Let me illustrate the effect of the application of the three-partite scale of meta-discursive categories to both modalities in order to (1) show successful uses of metadiscourse that help the flow of meaning in argumentative talk or text, and (2) those that impede it – in respective modalities.

<u>Helpful Uses of Written Metadiscourse</u>

The first essay [1] with response to the big questions Should Jack tell on Thomas, bearing anonymous ID number 209, falls within the shorter essays range, as it has 89 words, and on average girls' essays had 115 words while boys' – 60. Thus, the essay is representative of the sample's pool average, and in no way resembles lengthy essays amounting to 250 or 300 words.

[1]   ID #209

<u>No</u> because Thomas finally has someone to tall to without pushing or shoving. <u>Jacks mom said</u> be kind to whomever doesn't have any and telling is sure isn't nice in Thomas's mind. <u>Jack said to himself</u> that *maybe* Thomas never won anything in his life. In the story they still shook <u>Thomas's hand and said</u> "what a fast car" he, had Thomas was *so happy* so I'm thinking he

maybe never won anything in his life. ▓That is why▓ I think **No** Jack **shouldn't** tell on Thomas.

Italics: Modality Markers (Hedges/Emphatics) = part of T-Evaluating Bracket
Italics+White Type (color reversal) =Text-Evaluating Bracket
▓Grey Highlight▓ =Text-Organizing Speech Acts and/or Induction, here
<u>Single Underline</u> = Hearsay Evidentials "From someone else", inter-textuality organizing

Essay 209 [1] shows the Text-Organizing uses of metadiscourse (as marked with grey highlight) by signaling: the changes in the point of reference for evidence, whose source the student found in the story (for example, "in the story they […] said"), and thus reminded of the material that is being discussed or at stake, thus adding to *Intertopic coherence*, which is created when students make linkages between old and new topics (explicit referentiality and *inter-textuality* function of metadiscourse, as argued by Almasi, O'Flahaven and Arya, 2001). Also, Text-Organizing bracket comprises here performative Speech Acts of declaring his/her position in an assertion "I think" and "I am thinking", as well as in meta-communicating a reasoning type called Induction that helped him/her arrive at the final decisions following the evidence presented, i.e. in "so" and "That is why" preceding the performative Speech Act of asserting. As can be easily seen, the Text-Organizing almost brackets (except for the initial position) the flow of information and transactional meaning therein. The various instances of text-organizing (by speech acts, induction or evidential marking) also help signal the direction of the flow of information.

The Evaluating Bracket (italicized in [1]) is both at the text initial and final positions as well as interspersed throughout the text. The bracket encompasses not only an evaluative speech act of disagreement ("No", which is equivalent to "I don't agree/ I disagree"), as well as instances of Hedges ("maybe") and Emphatics (e.g., "so happy"), together forming a major category of Modality Markers, and a "positional functor" (after Wünderlich, 1979), revealing the

child's attitudinal stance by the use of a modal verb of Forbidden category (shouldn't). There are no instances of Intersubjectivity marking though.

In conclusion:

At a glance at essay #209, it becomes evident that the use of both evaluating and organizing bracket is more or less balanced; when raw counts juxtaposed, Text-Evaluating covers ca. 47%, and Text-Organizing - 53 % of metadiscourse uses. Upon reading, it turns out that metadiscourse as used by student ID #209 helps the flow of propositional meaning rather than impedes it. It is *just the right side* of attitudinal Text-Evaluating (bracket broad), and Text-Organizing metadiscursive bracketing of propositional meaning. Even though it is not among the most rhetorically rich in text-organizing devices from the analyzed sample, the student's use of metadiscourse still helps its proper propositional flow.

Impeding Uses of Written Metadiscourse

Another essay, ID #111 [2], is a bit longer as it has 149 words. It is neither exceptionally long nor exceptionally well written. Nevertheless it has been selected upon inspection of other essays for illustration of the metadiscursive uses that may impede the flow of propositional meaning.

[2]   ID#111   **Yes**, I think that he **needs to** tell on him because, he didn't make it on his own, his brothers did. Mr. Howard said to do it on his own. His brothers made sure everything was perfect **even** the wood, they made it smooth. The tires were **even** straight **and stuff** but everybody else's were **kind of** crooked. Jack **has to** tell because **it wasn't fair** to the other kids that were in the race. If his brothers were in it they could have done it but **it's not fair** to the others because he didn't do it right like Mr. Howard said to do it. **Even though** it's neat **don't**

mean you don't have to not tell on someone **even though** it's neat you can't **even** resist it you **need to still tell** no matter what happens **still** tell on him because he didn't do it by himself.

Plain Bold - Intersubjectivity/Vagueness Bracket, e.g., Code Glosses
Double Underline - Emphatics Misc. & Attitude Markers, under Text-Evaluating Bracket
Black Highlight & White Text - Text Evaluating Bracket by Evaluative Speech Acts
Grey Highlight - Text-Organizing: performative Speech Act, or evidential
Discrete Underline – Obligation Markers/Positional Functors, within Text-Evaluating Bracket

The concentration of the black highlight (w. color reversal), including double-wave underlining in [2], indicate evaluative metadiscourse uses. Specifically, numerous instances of Emphatics (even, even though, still [tell]) that are accompanied by Attitude Marking operators "it wasn't fair" and "it isn't fair" along the evaluative Speech Act "Yes" (signaling 'I agree' as an answer to the Big Question in the prompt), or code glossing "don't mean [you don't have to]" as well as multiple deontic modality verbs of mild Obligation "has to" or "needs to", all contribute to the Text-Evaluating bracket. Though differentially, all reveal the attitudinal and evaluative stance of the writer.

A couple of Intersubjectivity-Marking by pragmatic vagueness signaling code glosses by means of "kind of" and general extender "and stuff" (both suggesting how loosely or how strictly/ precisely to interpret the propositional material to follow) add some interpersonal meta-discursive meanings rather than the organizing ones (similarly to the evaluative bracket).

On the other hand, there are few instances of Text-Organizing that include a performative Speech Act "I think" and a reference to a "hearsay evidential" labeled in the adopted taxonomy as From Someone Else - "Mr. Howard said" - that reminds of the material that contributes to the topic or theme of reflective discussion in writing. Evidently, essay #111 suffers from the underuse of metadiscourse meta-functioning as Text-Organizing as compared to the Evaluating meta-discourse. The reader receives too many signals of stance manipulating evaluatives – be it

signals of emotional orientation towards the propositional material or epistemic modality showing degrees of commitment to the truth value of the propositional material, or even of deontic modality that signals the degree of "binding" (in Greek deontic logic means "of that which is binding'). Such numerous uses may seem excessive, too pressing in the subjective marking and even result in readers' developing resistance forewarning effects to such manipulative attempts, as found by Kamalski, Lentz, Sanders and Zwaan (2008). They argue that, similarly to some blatant uses of coherence markers, subjective marking may "cause readers to recognize an attempt to influence them, [then readers] build up resistance and it becomes difficult to persuade them. Also, subjective marking causes readers to recognize the persuasive author's intent more easily. Furthermore, subjective markers seem to cause resistance to persuasion, whereas objective markers improve integration of information (p. 545)."

To conclude:

As visualized above by the concentration of black highlights and double underline, evaluative metadiscourse uses in essay ID #111 [2] prevail (ca 80% as compared within the group of 3 major brackets), to the detriment of text-organizing (approx. 10%), which thus leaves the reader with too little textual guidance, that is one of the meta-functions (*to guide* the reader rather than inform him/her), and possibly with resistance to persuasive force of the propositions put forward. In result, the Text-Evaluating bracket's generous use in the presence of parsimonious use of Text-Organizing categories of metadiscourse may be viewed as an impediment to the flow of propositional meaning rather than its facilitator.

Helpful Uses of Oral Metadiscourse

The dialogic episodes that were coded using a similar taxonomy, yet with gestures and intonation added as only aural-oral modality specific, show plentiful instances of helpful and impeding metadiscourse. First, let me demonstrate how metadiscourse may help the flow of the propositional meaning.

Since in oral discourse much of the meaning resides in context (not only in the text), let me briefly sketch out the context of the discussion #8 that is based on the Stone Fox story. CR children are discussing the Big Question whether Stone Fox should let Willy win? In the story, the little boy called Willy participates in a dog sled race where he is pitched against Stone Fox, an Indy who needs the prize money for the land for his people, while little Willy needs the money to keep the grandfather's house, which otherwise may be taken over for taxes. Just when Willy's sled is about to win, his dog dies just a few feet before the finish line.

At this stage of discussion, Teacher announces wrap-up and children are to "say' their votes, i.e. positions with respect to the Big Question, and their "strongest reasons" why they think so. Following her three peer "votes" (each of which shows numerous uses of metadiscourse), Victoria (fictitious name, here) states her position followed by justification (as cited in [3]). The transcriber's marking of /numbers/ indicate instances of other kids' overlapping speech, while [GEST] within square brackets indicates onset and the end of Gesture, which is a coder's comment external to the talk.

[3]   00:24:54.50*Victoria   I say Yes because kids aren't like grown ups, grown ups |1| |1|... well if, if you're old, then you would die faster out in the cold, but a kids, they an't, they... ain't like a parent,|2| |2| and um, a kid doesn't need to be out with no home, and he can get *really* sick and *um, like* [*GEST]die from being sick[GEST],* and he could freeze to death, and um, and um, **and so** the Stone Fox he if, if, he ain't happy what he gets then that's not what he gets. |3| He

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can be better back in Wyoming |3| and not |4| |4| Mis- Mis- Minnesota. And *um,* it's Yes.

Grey Highlight - Text-Organizing: performative Speech Acts, Topicalizer, Induction
Bold Italics – Emphatics, either Miscellaneous or Emphatic gesture, subsumed under *Talk-Evaluating Bracket*
Broken Underline & Italics – Hedges, Other cautious elements or Mitigators - under *Talk-Evaluating Bracket*
Broken Underline – Evidentials signaling inferencing by "If-Then"
Bold Underline – Evidential by Induction/ Deduction, also Text-Organizing Bracket
Dotted Underline – numerous Text-Connectives, organizing talk locally
Double Underline – Topicalizer, Text-Organizing Bracket

In Victoria's turn [3], there is an evident Talk-Organizing Bracket *sandwiching* the flow of propositional meaning between the initial and terminating Speech Acts of stating and restating her position with performative verbs "I say Yes", otherwise - "expositives" in Austin's (1962) classification, which make clear how our utterances fit into the course of conversation or an argument (e.g., *I reply, I argue*, etc.). Her position being in favor of the presupposed Big Question (whether Stone Fox should let Willy win) is then followed by the reason signaled by an inter-clausal connective 'because' (local coherence and cohesion marker, like other connectives used there, incl. "but" or "and"). In the initial position of the next sentence she chose to use a Talk-Organizing element by Topicalizer "well", which "focuses attention" on the phrase that indicates the shift, re-introduction, changes in topic or is brought up "to set a particular contrast in stark relief" (Vande Kopple, 1997, p.2). Here, the topic is understood as being not only "what is being talked about but what is being said *about* what is being talked about" (after Cutting, 2000, p.27; emphasis in the original). With those explicit performative Speech Acts, Topicalizer, evidentials by inductive ("and so") and deductive reasoning structures (along "If-then"), which help shape discourse and reasoning in the logical Modus Ponens frame, the flow of propositional meaning is evidently facilitated by the organizing markers.

Evaluative metadiscourse in Victoria's turn includes a few instances of modality marking with a hedge (Other cautious elements) as well as a Mitigator of a Speech Act, emphasis adding emotional Gesture of 'despair' and an Emphatic Miscellaneous ("really"). Thus, the mere look at the proportions of organizing and evaluative metadiscourse reveals an optimal balance between the two major brackets (maintaining balance between objectivity and subjectivity, or otherwise neutrality - necessary for integration of information/ knowledge).

Impeding Uses in Oral Metadiscourse

Some preceding lines to Victoria's turn [3] and so leading to the aforementioned episode, there are a few turns of Lauren and Mary's in fragment [4], which when scrutinized reveal some impeding uses of metadiscourse.

[4]   00:23:44.70 *Lauren   Um, I say yes, because if Willie doesn't get the money, he could be homeless, live on the streets, *or whatever*. And Stone Fox, if he doesn't win it, he still has his own land in Wyoming. He wouldn't be as happy as he would in Minnesota, but...I don't know, I'm changing again... I can't Now I'm No because... I mean,.... people forced to no, now I'm maybe.

00:24:19.50 *Mary   I'm a yy- |1| I'm a y- |1| Yes because I mean, I don't think Willie **really** want to be livin on the streets *or anythin,* and I don't think it'd be **really** nice...and he doesn't want to go to an orphanage cuz he can't um (Logan sighs), gran-....granpa can't pay the taxes and I Oh no...Lauren ......

00:24:20.80 *Vanessa |1| You two come on |1|. (Lauren Laughs).

00:24:51.50 *Lauren   What?

00:24:52.00 *Mary   I'm changing! (Mary and Lauren laugh, continue laughing while Victoria is talking)

Performative verbs that are labeled Speech Acts in Lauren's turn that most often serve as either *initalizing* or *terminal bracket*, apart from an opening bracketing use "I'm a Yes", are condensed towards the end, when she announces 3 different positions. In those speech acts she is 'performing' a point making and also externalizing her sources for thus performed claims, which

lie within her beliefs like in the Speech Act of thinking ("I don't think"). There is some propositional flow of meaning which includes an attempt at elaboration of her point-making in which she explains that she changes "because people […] forced to no", still broken by a glossing insert of "I mean" (Talk-Organizing, NB). Thus, the turn seems too packed with metadiscourse impulses of Speech Acts or glossing ("I mean") that are unaccompanied by propositional elaboration and evaluative signals. In essence then, bearing in mind Petty and Cacioppo's (1979; 1980; 1981) argument that elaboration and persuasive appeals foster engagement in issue-relevant thinking and add to the psychological cogency of persuasion, the fragment loses on the persuasiveness value rather than gains it due to *too much of metadiscourse with too little elaboration for the given context*.

A more explicit case of *over-stimulation of the talk flow* with bare repetitive Speech Acts is demonstrated in Mary's following turns, where metadiscourse in fact adds to the wordiness and repetitiveness of talk and so rather impedes than helps the flow of propositional meanings. Specifically, in the following turns Mary only spells out the performative Speech Acts in a repetitive fashion with no elaboration or justification in the propositional material. Except for self-deprecating exclamative "Oh, no…" in an affect display and two instances of Emphatic Miscellaneous 'really' (which confirms the girl's specialty as suggested by Stenström et al.'s, 2002 findings in the corpus of COLT, i.e. the Bergen Corpus of London Teenage Talk), but not much other evaluating and metalingusitic metadiscourse going on. Mary's talk reflects somewhat "interpersonal semantics" (Eggins & Slade, 1997) in an affective display of dissatisfaction with her own speech and possible negative evaluations by others (in fact affectively displayed by an outburst of laughter) but there is little metacognitive and metalinguistic control over talk, generally executed by evaluative bracket, for example by mitigating, hedging or emphatic

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devices, or attitude marking via normative or motivational verb operators (by reference to Wünderlich's, 1979, conception of attitudinal stance marking by so called "positional functors", including should, shouldn't, mustn't or could/ couldn't, etc.).

However, metalinguistic communication is not always helping the flow of the discourse proper. To illustrate the phenomenon, let me cite a few lines [5] from the same discussion, just further following Victoria's turn, Lauren keeps repeating "ain't" forms (heard in Victoria's talk) and continues to laugh, both having a distracting effect on the conversation about the topical Big Issue. Then he ventures:

[5]. 00:25:53.50*Lauren Just a question. <u>Could you refer ain't as another word</u>? Ain't. You **always** say 'ain't'.

00:26:00.00	*Mary		1	(I don't use it)	1	
00:26:00.20	*Mary	What is it **in the dictionary for ain't**?
00:26:02.00	*Mary	Which in **the dictionary** you know.
00:26:03.80	*Lauren	I don't know.
00:26:04.80	*Teacher	There's lots of words in the dictionary that aren't allowed in school though.
00:26:09.00	*Mary	Like <u>ain't</u>? (Looking at Teacher)
00:26:10.50	*Teacher	OK
00:26:12.00	*Victoria	*Ain't no problem* with <u>that</u>*!* (laughter)

The above meta-communication about the usage of "ain't" in [5] is side-tracking the main conversation topic of saying positions about (what is being said *about*) the Big Issue, thus impeding the flow of discourse proper. Therefore, for some rhetoricians the conversation's goal not being achieved in [5] and Grice's maxim's of quantity (be as informative as required) and relation (be relevant) being infringed especially in Victoria's final answer, the exchange may be viewed as not successful because it does not bring in much of propositional meaning into communication.

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Nevertheless, it is an interesting and rather rare phenomenon that 4th-grade students indulge in the communication about norms regulating their talk. CR-group discussion here more resembles a court situation where Lauren's seemingly simple question about Mary's "ain't" form in fact implies an accusation of a normative nature, which is intensified with Attitude Marker Miscellaneous (in the study's taxonomy) by "*always* [say ain't]" thus alluding to what is socially viewed as proper or improper in talk. This metalinguistic comment carries a baggage of cultural, ethnic, in-group expectations and evaluations, and is contingent on social patterns. Mary's final response in an evaluative Speech Act (Talk-Evaluating bracket) that is intensified by raised volume and prosodic changes and phonetic contour (Emphatics by Intonation) that repeats the criticized form "ain't" (in saying that she doesn't have a problem with that) meta-communicates her attitude towards the implied accusation and her lack of conformity. From the Speech Acts theory perspective, her remark is not relevant in the sense that it should be *relevant in relation to another remark* (cf. Smith & Wilson, 1979; or Sperber & Wilson, 1986) or here – a question by implicature "why she is always using ain't", which in fact meta-communicates Speaker's problem with that not hers, as she is the one who freely uses the 'problematic' linguistic form.

However, Mary succeeds in terms of *communicative competence* by recognizing the intentions of Lauren's speech act and by performing her own speech act adequately to the need of preserving her own public "face" ("self-image that every member wants to claim for himself" in Brown & Levinson, 1972, p. 62) in the inner desire for freedom from imposition ("negative face" preserving, cf. my Chapter 2). Again from socio-pragmatic perspective, Mary's response threatens her own positive face (need for social approval) when she meta-communicates her intentions not to converge her 'idiolect' to the standard of talk to which Lauren alluded (and

which accepts other words rather than "ain't"). Thus, Mary indirectly communicates that she will not accommodate to the interlocutor's imposed standard (thus defying Accomodation Theory standards). By doing so she reveals her dissociation from the recipient (here, Lauren) and his alluded norms and consequently - the need for public face acceptance, or otherwise being liked by the recipient, her classmate named Lauren.

All in all, her final response not only succeeds in meta-communicating her emotional attitude (emphatics, part of Talk-Evaluating bracket) to the 'topic' raised by Lauren, but also meta-linguistically ("problem") and by clever use of anaphoric "that" (backward reference) signals how she is using those words like "ain't" (that she '<u>ain't have *a problem*</u> with <u>that!</u>), that is without a problem. In other words, by combined uses of metadiscourse stance marking, a speech act combining metalinguistic term "problem", seemingly superfluous repetition of the 'ain't' form and co-textual anaphora (with the referent in an 'always use of ain't'), Mary aptly renders a counterargument and rebuttal in one turn, of the negative view of using idiolect form, without losing her public face and endangering group integrity. Thus, her successful refutation of the criticism cannot be overestimated in argumentation.

<u>To conclude:</u>

This meta-linguistic exchange initiated by Lauren may also be seen as helping the flow of meaning, however not much of the topic-relevant ideational flow, as the topic was about stances to the Big Question stating, but the pragmatic (socio-pragmatic) and interactional (part of communicative competence; cf. Celce-Murcia et al, 1995; or Markee, 2000) flow of meaning.

<u>Other metadiscursive uses impeding flow of meaning </u>of discourse proper oftentimes are demonstrated in heated parts of small-group discussions where emotional factors come to play

and children in fervor of the conversational persuasiveness use all sorts of metadiscursive

evaluations as well as vague intersubjectivity pragmatic markers.

The following brief excerpt [6] from another discussion – about a vote for either

computers or textbooks to be bought for a school (Marco's Vote) - illustrates such impeding uses

of intersubjectivity markers "like", "or something", "you know" or "just", whose meaning so

much resides in the context of use.

[6]   00:02:18.17 *Jordan I think that computer would be more helpful coz you could *just* do <u>like</u>
math on the computer <u>like</u> if you have <u>like</u> some math problem disc <u>or somthin</u> you could *just* put it and
do it on the computer instead.
       […] (an insert of a few turns of other discussants)

00:03:15.89 *Cory   I agree, because <u>you know</u>, I can (??) the computer for more money   so
<u>like</u> if you go to WalMart <u>or something</u> you can buy some (cans) for 69 cents <u>or something</u> and you can
buy <u>like</u> a (Gol car) <u>or something</u> which you can make more use out off.

Both Jordan's uses of "like" and Cory's uses of "or something" in excerpt [6] appeal to

shared knowledge basis, which are so much important for the in-group behavior signaling in face

to face confrontations (NB, considerably much higher than in students' writing). By roughly

meaning 'how loosely' (rather than strictly) to interpret the following propositional content, the

uses have basically a function of Code Glosses (Explanations - in the adopted taxonomy). Also,

the notorious "like" due its numerous functions (as delineated in Form to Function Table) is

rightly used as a quotative complementizer for instance in "I went like…" or similarly in

analogies where it has a meta-representational function (when it is coded as Logical-Temporal

Connective Miscellaneous; cf. Stenström et al., 2002), or for exemplification purposes (similar to

Speech Act "for example"). But in adolescent uses as those in [6] it can easily be removed from

the talk, and the flow of discourse proper would not suffer from that. However, the content may

sound somewhat artificial as the authorial voice or "subjective" component would not be authentic – not aligned with the authentism of the writing persona (cf. Crismore's ,1985 study into subjectivity of metadiscourse in social science books).

This seeming redundancy may prove vague and superfluous contribution of "like" to the propositional flow of meaning, and similarly other inter-subjectivity pragmatic markers (nota bene, grouped in this study under one bracketing category). However, their contributions to 'social closeness' signaling or 'social lubrication' (Overstreet and Yule, 1997), and indication of inter-subjectivity (by sharing individual, subjective conceptions of the world with interlocutors in Schegloff, 1992; or Schiffrin, 1990) cannot be over-estimated. Uses like these are especially for interpersonal flows of meaning, for 'face saving' and in-group appealing, when venturing a face threatening opinion in the heat of arguments or in signaling a non-flouting attitude to the group conformity, and consequently - for avoidance of social stigma (cf. Eckert, 1988, 1997; Stenström et al., 2002).

Overuses of metadiscourse can also be found within the Talk-Organizing Bracket – not only within evaluative or intersubjectivity- vague marking brackets. In example [7], the same discussion about Stone Fox ensues, and one of the adolescent discussants takes up the idea of little Willy boy ending up in an orphanage when his grandpa dies.

[7] 00:26:15.50 *Lauren   Steven?

00:26:16.50   *Steven   Yes? Because um, it wouldn't be good for him to be um, for Willie to be homeless. And then Stone Fox's might be a bit crowded, but next year Willie probly wont' be able to enter cuz he doesn't have a dog. And then Stone Fox could just win the race for the next few years. And then eventually get enough money to get back. [During Steven's turn Maisie and Lauren were engaged in a side talk, most of the time, that was inaudible]

While the Speaker signals the temporal projection of propositional meaning into the future (next year, next few years), he also signals logical-temporal continuity and sequencing of ideational flow with "and then" and "eventually". Thus, in an attempt to maintain the discourse proper flow in the temporal/ sequential rhetorical pattern the signals "and then" seem most relevant and facilitating the organization of talk; besides, indeed Talk-Organizing uses (60%) exceed those of Talk-Evaluating bracket (40%) in this single turn.

The student, though, uses them for any additive relation, in fact in place of "and", and in result binds the stretch of talk (here, a hypothetical deduction-type, while putting "Others in scenario") in a more additive-like manner. The temporal-sequence signals (like those of globally binding sequencers "first", "then", "next") seem to lose their potency, as the Hearer realizes their additive or even coma-like role. Evidently, uses of "and then" in a similar fashion lead to their 'de-ranking' from more globally binding sequencers to less-global as inter-clausal binding of logical–temporal connectives type. The phenomenon illustrated in [7] has been documented in other studies too, for example in studies of pseudo-bridging "so" uses (devoid of causative function) or in studies of narrative cohering in African-American writing or talk with frequent "and" followed by "then" (McCarthey, 2002; Michaels, 1981), often co-occurring with a topic-associative pattern of narration.

In summary:

The 'bracketing' role of 3 supra-categories helps to demonstrate the overall organization and proportions if not valency of meta-discursive uses in children's stretches of talk or text. The form-to-function compiled table helps to demonstrate the systemic patterns for functions to be carried out by particular linguistic items, which reveals their distinctive categories that are in turn used for grouping into classes or broad brackets of major meta-functions.

The fine-grained codes of a very discrete nature allow for identifying the immense richness of functions that various forms of metadiscoursal elements can fulfill. The discrete codes also allow for indexing how they feed into the bracketing meta-functions, and tracing the interlacing of functions between themselves (organizing, evaluative, intersubjective, interpersonal, etc.) and linguistic forms. In this way, the interlacing between the metadiscursive uses and the flow of propositional meaning (discourse proper) becomes more 'visible to a researcher's magnifying glass' and leveraged to a due scrutiny of talk-in-action - not only within turns but whole flows of discussions per se, and depending on the context of use by CR-exposed children.

For optimal qualitative and quantitative effect of this exploratory study, it is believed that a combination of broad scales with the fine-grain adding discrete micro-categories ensures greater informativeness of results and determination of systematic patterns of metadiscourse uses (as the outcomes of the present study suggest).

Chapter 5

Discussion

In pursuit of the diverse study goals from (1) the analysis of discussions (2) via essays and (3) their correspondences to (4) socio-linguistic variation and, finally, (5) the explication of successful and impeding effects of metadiscourse, the multi-fold taxonomy has managed to capture *systematic differences* in the functions of each metadiscourse category.

Thus, the adoption of the complex hierarchical structure or a *functional grammar of metadiscourse* used in spoken and written modalities afforded results usually available in corpus linguistics studies.

The two different tasks that utilize two different modes of communication - speaking and writing - show different functional patterns of metadiscourse, as used by young adolescents participating in the Collaborative Reasoning paradigm.

Spoken and Written Modalities

Overall findings for discussions (as shown in Figure 3) indicate that Speech Acts (performative verbs naming actions being performed) are the most frequent category irrespective of modality. This finding corroborates results from the corpus linguistic study by Biber et al. (1999) that investigated overall distribution of the most common verbs in British English in different registers: conversations, newspaper language, academic prose and fiction on the Longman Spoken and Written English Corpus. Biber et al. (1999) found that among the 12 most common lexical verbs are *say, get, go, know think, see,* or *mean,* and they occur from around 9,000 (*get*) to 1,000 times per million words with "say" (about 6,000) reaching the top frequency across all registers. These high frequencies show the Speech Acts to be ubiquitous whenever

speakers or writers want to report something. Their top-ranks also reveal communicators' intentions to make those speech acts explicit enough to immediately impact the recipients with their illocutionary force. Thus, the distribution of metadiscursive discrete category of Speech Acts that hinge on lexical verbs (such as *I say/ I pick/ I think 'yes'*) should not be surprising, though it is good to see that the results from this study with young adolescents converge with other researchers' findings based on adult use.

Most of the discrete frequencies and those in classes or brackets, as mentioned earlier, are relatively high compared to the most common lexical verbs documented by Biber et al. (1999). Therefore, the observed high frequency distribution of textual connectives, comprising of additives, causatives, contrastives, and logical-temporal, at a similar rate as some of the documented most common verbs, is especially important as it shows a pattern of *surface binding* by CR speakers, which results in greater cohesion of their talk, and *high inter-clausal signaling.*

Importantly, Meta-language, which is among the most frequent categories, attests to the specificity of CR language uses, which put high premium on talking with assessment activity (cf. Goodwin & Goodwin, 1992; or Chapter 2 of this study). The CR metalanguage necessarily entailed resorting to meta-linguistic nouns, verbs or even somewhat 'coded linguistic terms', like rule 1 or 3 used by CR students to refer to norms and principles of 'good discussion' reviewed in small group debriefings. Also, the very high frequency of metalanguage both in speaking and writing confirms its hypothesized salience and impressive functionality in the Collaborative Reasoning communications in 4th grade context (thus, indirectly validating its inclusion in the coding scheme).

Likewise, observations made about CR discussants' high use of Gestures in the course of preliminary (exploratory) study and implementation of a more recent CR project (the Wolf

project) allowed for hypothesizing about the prospective high frequencies in the overall metadiscourse uses. However, it comes by surprise how frequent and how important this means of para-verbal communication is for the young adolescents in CR discussions. The fact that they used so many Gestures and even more Fillers suggests their very engaged style, where every attempt is made to use the resources available or opportunity to grab the floor, especially when words do not come easy to express the student's idea or feeling.

It is also noteworthy that Gestures, apart from adding emphasis when complementing the verbal message, contributed to the flow of meaning similarly to some other language-based metadiscourse categories. For example, the CR discussants oftentimes used a wide repertoire of gesticulation to contribute to the function of many other codes, such as Sequencers (1st, 2nd, 3rd– finger counting), Evidentials (showing sources of knowledge in the text), Talk-Organizing (indicating whose turn it is), or Talk-Evaluating (grimacing and facials with paralinguistic voice expressing critique, self-/others-deprecation or approbation). Whenever those meanings were determinable and clearly fulfilling meta-communicative functions, they were double-coded and thus they contributed to the repertoire of the major categories (as evidenced with CR children's communication).

The inference about the high-level of engagement finds further evidence in the very high distribution of miscellaneous Emphatics (really, lovely, so) and *perlocutionary* force imposing category of Commentary Directive, together with a slightly less frequent use of Interrogative Commentary. The Perlocutionary Commentary reveals the agentive role of CR speakers, who, by directive/ vocative or interrogative forms, try to force their interlocutors to take action. In a way, similarly to relay racers they prompt or nudge the recipients to take up the metaphoric button in the flow of conversation as in a relay race. The finding seen in these discussions has been

documented in the experimental study by Latawiec et al. (in preparation) that compared metadiscourse in essays of CR and controlled students. It has been found therein that Commentary was used considerably more often by CR-exposed writers than controls, and as such can be attributed to conversational practices and dialogues of Collaborative Reasoning small-group discussions, thus corroborating cross-modal transfer, also documented by Reznitskaya et al., (2001) with regard to argument structure, and interestingly dubbed as 'portable knowledge'.

Importantly, in stylistically rather than rhetorically oriented theories like the one by Conley (1979), where metadiscourse is viewed as 'figures of thought', the interrogative form of commentary when expressed by rhetorical questions may be viewed as 'figures of communion' (like allusions, or interpersonal voice) that help to form a bond with the Hearers. His view thus underscores the relevance of Commentary to meta-communicating interpersonal meanings and in this way complementing the propositional flow with an additional pro-social dimension.

Again by reference to the same study by Latawiec et al. (in preparation), another high-frequency category of Implicit Attitude Marking has also been given prominence in CR talk as ranking almost as high as the high frequency lexical verbs in the Longman Spoken and Written Language Corpus (Biber et al., 1999). It is noteworthy that Implicit Stance marking is twice as frequent as the more explicit one (Attitude Miscellaneous) or 10 times as high as "I would"– oriented Attitude. The finding suggests the CR participants' high cognitive ability to mirror complex logical 2-arguments entailing operations in language use (e.g., It is true that X is the case, or commonly used in CR - it is unfair/ not nice/ wrong that …), which utilize what Schiffrin (1980) calls 'metalinguistic operators.'

Implicit attitudinal stance is rendered with greater subtlety than the explicit attitude or emotions displays, and also reflects the move away from the speaking ego towards more generalized orientation, which by implication may entail Speakers and their stance too (seemingly an echo of CR argument stratagem called 'other people might think'). Thus detachment of the stance from the 'speaking' ego of the Speaker or Writer (as documented even much higher CR uses in written essays may suggest), opens up for "other voices" and polyvocality or multi-voicedness (Bakhtin, 1981) of the produced texts or talk. After Linell (2009), *texts become 'dialogized'* when they harbor several perspectives or voices, which I hereby propound to be 'evidentialized' in CR writers' even more than speakers' uses of Implicit Attitudinal complex structures that meta-linguistically 'echo' other voices and other perspectives – thus ushering them into the discourses.

Moreover, the more frequent use of implicit attitude that hinges more on *implicatures* and so is *more context-bound* (e.g., different meanings of 'just' as a function of contextual aspects) may thus suggest CR students' heightened sensitivity to extraneous aspects of making attitudinal perceptions public (other than epistemic stance marking though) – so essentially a socio-pragmatic skill, especially in the context of ethical aspects of controversial topics of CR discussions (incl. their writing task).

Other uses of Schiffrin's (1980) metalinguistic operators include 'for example', 'mean' or 'like', which function as Code Glossing by Explanations (in the adopted taxonomy here), and which also have been found amongst the most frequent categories. The result for glossing Explanations may thus confirm previous research by Kim et al. (2007) into the CR-students' repertoire of common argument fostering rhetorical moves (argument stratagems) that include 'making argument explicit', though their study pin-pointed the most organizing variant of "I

think" followed by + [ARGUMENT]. Evidently, "I mean", sometimes also carrying out a Speech Act performative function (confirmed by Vande Kopple, personal communication, 2011) and similar glossing devices thus demonstrated, as revealed by very high frequencies, their vital role as integral components of exposition in CR argumentation.

Among the next dozen categories of moderately high frequency are Cautious elements, stronger form of Obligation (Should or Must) and Reminders of Material. They deserve a special mention as they signal their relevant importance to the CR speakers. It seems that in the intuitive awareness of risk in face to face confrontations of their opinions with others, CR speakers resort often to hedging, which may be especially helpful when they want to voice the more-opinionated stances while utilizing stronger "positional functors" in Wünderlich's (1979) system of Obligatory modal verbs Should or Must (revealing the source of attitude within the Speaker) rather than the weaker modal of Had to (the source of attitude is external to the Speaker, e.g. the society or circumstances). Lastly, the frequent use of Reminders of material reveals the need to link the upcoming material to the earlier information, either in the discussion or outside it. This usage indicates an attempt at better organizing (thus contributing to Talk-Organizing Bracket) the flow of discourse/ talk into a coherent whole by tying back the threads of discussions (also possibly for interpersonal or even ingratiating purposes).

High-frequency positions of discrete categories become even more comprehensible upon observing the tendencies for the classes and brackets of metadiscourse categories, as illustrated in Figure 4 - for discussions and Figure 6 – for essays (Chapter 4). The most frequent uses of both Evaluating and Organizing brackets accompanied by total uses of logical connectives and Illocution Markers (performative Verbs plus Boosters and Mitigators) show the same systematic pattern for both discussions and essays (cf. Figure7). Evidentials seem to be more prioritized in

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essays (3.91) than discussions (2.92), yet frequently utilized in both, comprising various categories that show bases for knowledge or claims in the referential material, including speculative scenarios, personal beliefs, induction/deduction, or 'If/since-Then' inferential structures. Emphatics and Perlocutionary recipient-addressing Commentary show greater usage in discussions which, especially in the case of Commentary, may be intuitive. Simply - the need for urgency adding to one's verbalized ideas is more grounded in the Speakers' belief that the prompting cue may be realized or actually implemented in the natural situation of the CR group-talk.

Also, prevalence of Commentary in discussions can be attributed to the aspect of 'coerciveness' in dialogue (cf. Linell, 2009) or otherwise 'imposition of response' (p. 168), besides which is inherent in the talk-in-action-reaction-appraisal exchanges. Interestingly, those impositions of responsiveness can take more (yes/no questions) or less coercive (wh-questions) forms by "opening up" (ibid., p.169) for narrow or wide ranges of responses (more open-ended answers).

The high usage of Commentary in the oral mode seems conditioned by feasibility predictions, not necessarily a matter of conscious awareness of the Speakers, especially to native speakers. Pertinently, Biber (2001) remarks that patterns of variation among spoken and written registers "operate below the level of conscious awareness and are usually not accessible to native intuitions" (p. 114), which may be disputable, especially with regard to the intuitions, which are hard to penetrate or measure in general.

Further on, both brackets- and classes-highlighting plots (Figure 4 and Figure 6) reveal intuitively higher conversational uses of Hedges, and Code Glossing (as mentioned earlier with reference to oral modality solely) than those in essays. While higher frequency of total Attitude

Marking in essays suggests CR writers' greater tendency to express what they feel (emotions, desires, affects) about the situations described by the propositional material, in writing such expressions are less *publicly de-facing* in the pragmatic sense or otherwise not so face-threatening in the absence of relative power relations (e.g., Brown & Levinson, 1978a; 1978b).

By contrast, the five times higher frequency of Intersubjectivity marking in conversational metadiscourse than in the written register may again find its motivation in CR Speakers' belief system about what is important and proper for communication in the classroom and in-group context. Young adolescent uses of pragmatic vague elements that invite solidarity or attempt at indicating shared in-group knowledge (rather than common knowledge) basis, and thus signaling the *insiders' voice,* are more imperative in the spoken register as the communicative success hinges on the perceptions and appraisal or rejection (deprecation) by the immediate Hearers, and even more so by a group of Hearers. Rather than alienating the group of peers by using a formal register, the CR speakers appeal to their sense of togetherness and ability to understand one another "without words", in fact "saying less by communicating there is more" (Overstreet & Yule, 1997).

Apart from that, the two tasks of speaking and writing differ in the *targeted audience*, informal in discussions and formal in essays, and this sense of audience rhetorically, stylistically and socio-pragmatically modulates the language uses to the conceptions of "the other" and "other-orientedness" as differently afforded by the two modalities and CR tasks (e.g., Linell, 2009). Again, as with Perlocutionary Commentary, the socio-pragmatic aspect conditioning the language use (like the high Intersubjectivity Vagueness marking) corroborates the argument that "teenagers are far from ignorant" (Stenström et al., 2002) of the values and importance associated with the relationship of social features with language features.

With the issue of different audience conceptualization in the written task, let me shift the focus of discussion towards the writing domain. The comments about relative salience attributed to most frequently found categories in oral modality (when compared with essays) naturally also apply to written metadiscourse by reversal or flipping the side of the perspective adopted.

Notably, in writing discrete metadiscourse categories assume different proportions in relation to other codes, and what stands out as plotted in Figure 5 is that Speech Acts assume even greater frequency and so by inference – salience - than in discussions. Also, in place of 2nd top-rank conversational Fillers come in Causatives (3.3), which are twice as frequent as in Discussions (1.7). The fact cannot be overestimated as Causatives are indispensable for signaling important rhetorical and logical relations of cause-and-effect binding (cf. Sanders & Nordman, 2000), or causal-chain in reasoning and argumentation. Added to which slightly more frequent Contrastives, twice as frequent Sequencers and comparable uses of Additives show a systematic pattern in the textual metadiscourse being used more *to integrate* written texts than in discussions. These inter-clausally (Logical-Temporal) or globally (Sequencers) binding connectives when paired with strongly organizing categories that signal reasoning and inferencing types such as induction/deduction named as Induction (1.0) or If/since-then (.9) along with If-conditional (.8) structures, it seems reasoned to argue that the focus from categories emphasizing *interactivity* via interpersonal aspects in discussions shifts in writing toward *integrity* of the propositional flow.

Other written modality specificities include more frequent use of Aposteriori/ Retroduction hypothetical scenarios, which can be difficult to handle in speech as being complex 3rd-conditional sentences that entail use of Past Perfect Tense in the subordinate clause and complex Perfect Aspect-oriented predicates in the superordinate part. Also, due to the fact that in writing students have more time to pre-think their answers and the way they phrase it due to

different production circumstances, it is quite intuitive that such complex structures are more likely to occur in essays than discussions. Still, the use of retroductive structures may reflect a move towards speculative thinking about others and other perspectives (while introducing them into unreal past scenarios). As mentioned earlier with regard to Implicit Attitude structures that open up for others' voices and perspectives, the hypothetical scenarios like the Aposteriori / Retroduction might bear traces of the same trend toward 'dialogising' texts by introducing multiple-perspectives or voices (after Linell, 2009).

Between Modalities

Moving on to the findings from overall comparisons between the two corpora that are illustrated in Figure 7 (as discussed earlier with reference to distinctive patterns for each modality), the prevailing use of interpersonal and interactivity-promulgating metadiscourse in discussions has been observed. The prevalence in conversational uses has been noted amongst globally text-binding Reminders of Material, various Epistemic Modality markers (Hedges; NB, that show degree of commitment to the truth value of the propositional material (Simpson, 1990), Code Glossing that ensures clarity and adds to the explicitness of communicative/ speech acts, as well as perlocutionary or coercive Commentary together with similarly functioning What-if pseudo-rhetorical structures remarkably tip the scale towards greater interactivity featured in CR oral discourses rather than essays.

On the other hand, as presented in the same Figure 7, the written modality features more textual metadiscourse (various connectives) and more references to a group of Epistemology markers that are historically called Evidentials and which generally reflect a stance to epistemological status of propositional material by usually showing the information bases for that material (Vande Kopple, 1997; Chafe, 1986). Specifically, more frequent uses of the

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Induction markers, Hearsay evidentials (From someone else) and hypothetical Aposteriori / Retroduction or Deducing structures altogether may suggest CR writers' intuition about the need to indicate their knowledge sources or knowledge bases so that their claims would assume more authority, and logical and ethical appeal (the author's trustworthiness).

Given the fact that essays were written at the end of Collaborative Reasoning series of discussions, where students were continuously reminded of the need to substantiate their opinions with material from the literary source or personal experience (during their small-group debriefing sessions with Teachers), the more frequent pattern of evidential metadiscourse in writing may possibly be attributed to the argumentative stratagems at play in CR practice. However, without confirmatory evidence with the control group, that did not receive the CR training in argumentative discussion techniques, such a postulate runs a risk of falling into a logical fallacy of "post hoc, ergo propter hoc" (after this, therefore because of this). The earlier experimental study by Latawiec et al. (in preparation) comparing written metadiscourse of both CR-exposed and non-CR children (controls) failed to yield such results for CR students though.

Another outcome that emerges from the cross-modal comparisons (as illustrated in Figure 7) is the attitudinal stance marking by modality markers of Obligation expressed by Should/Must and the Forbidden category (both Deontic modals) more often in writing than essays, whereas the other Obligation variant – by "Had to" forms – in oral modality. As mentioned earlier in the discussion, the higher frequency distribution of stronger forms of attitude marking seen in writing may suggest young writers' appropriation and application of the socio-cultural norms of politeness – different for face to face confrontations and different for 'unknown and vaguely intended others' in the production of written essays. The use of stronger obligation modals may reflect CR 'authorial voices' vulnerability to the between task-differences as a function of

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prospective audience (Teacher/ Researcher vs. peer-group) and different *purposes* – of not debating or exchanging ideas in a dialogic form but rather persuading of the soundness and legitimacy of the claims/ opinions ventured with reference to the ethical issue raised in the Big Question (Should Jack tell on Thomas?). CR writers evidently found the stronger Obligation modals more befitting the purpose of writing a convincing argument rather than uttering their arguments in a group of familiar others, which might entail losing 'public face' or endangering interpersonal relations (due to seemingly too strong or moralizing forms of Obligation).

Prechter's (2003) study of stance differences in American and British English may be pertinent to the discussion of stance marking modals as she found that Obligation modals (should, have to, couldn't) are the most frequent forms of 'verbal stance marking' (by modal verbs), and much more frequent than by adjectival, nominal or adverbial markers. Her findings suggest a robust pattern seen more often in American rather than British conversations (though her frequencies show the number of occurrences per hour, not the number of words). Interestingly, together with the reported greater use of emphatics by Americans, the pattern may contribute to re-affirming of cultural stereotypes. Most pertinent to this study of metadiscourse appears the fact that Obligation Modals seem to be most common forms of attitude marking in American English, and so the inclusion of the Obligation Modals and the Forbidden category in the meta-discursive Evaluating Bracket in the adopted and propounded taxonomy seems to gain in meta-theoretical and not only empirical credence.

To complete the discussion of the cross modal comparisons, the findings from the last analysis by Poisson regression indicate an association between Organizing and Evaluating Brackets in both modalities. Specifically, slightly higher chances of both Brackets in the written

modality have been predicted based on the count data frequencies, while controlling for the variances of other predictors in the model – most importantly the number of words used.

Moreover, Global Coherence Textual Connectives, which include text-organizing categories of Sequencers, Topicalizers, Announcements and Reminders of Material, have been predicted to occur more likely in written essays than discussions (though by 5% only). The finding also seen in t-tests for dependent samples suggests a robust pattern for metadiscourse in CR writing trending towards organizing or more integrated textual structures.

Another converging result from t-tests and the regression analysis about If-conditionals showing and having higher predicted log-likelihood uses in writing (by 30%), on the basis of the corresponding uses in discussions, further adds to the overall inferences about the observed pattern that feeds into the organizational rather than evaluative metadiscourse functions. Similarly, Induction markers reaching higher log likelihood counts (by 23%) in writing than in discussions (higher on the frequency distributions, in t-tests too) add to the 'signposting' repertoire of organizing rather than evaluating meta-communiqués of CR writers. It has to be mentioned here that the category labeled Induction (e.g., "if-then") may be viewed as a misnomer as in fact encompassing explicit signals of induction (inference à particularis, based on a series of observable phenomena / evidence) or informal deduction (inferences in arguments with missing or taken-for granted premise) in reasoning. Hence, the result that shows higher predicted chances for Induction in essays prompts an inference about the propensity of CR students to signal both their inductive and informal-deductive reasoning moves more explicitly and more often in writing. This may also suggest their greater metacognitive awareness of the deconstructive task of prospective comprehenders of such written texts, whose meaning making

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in written texts resides more on textual rather than on contextual cues that are available in speaking.

Also, a little higher probability of Meta-language uses in essays (by 8%) seems somewhat counter-intuitive because it may be expected that, thanks to a special opportunity for debriefing in discussions and so touching on the participatory, discussing- and arguing-techniques, the likelihood will be higher for the metalinguistic terms (designata) to be more often utilized in oral modality. Simple t-test results show oral modality advantage, i.e. higher frequency for metalanguage in discussions. However, t-tests do not take into account other modifying effects of variables, like reading ability, gender, school population or ethnicity; even though they take into account verbosity by being run on rates (of raw counts to words) used in both modalities. The Poisson regression model that takes into account the effects of other predictors entered into the model, along with oral metalanguage category (as a predictor), on the written metalanguage as dependent variable (so a baseline group of reference), while keeping constant (ruling out) the effect of the wordiness or verbosity, may thus reflect the relation more credibly. Pertinently, metalanguage has been found to be significantly related to the school population (higher in the rural school), as results of Poisson regression indicate. The school effect may have modified the direct effect of oral metalanguage on written metalanguage, bearing in mind the differences between the populations of the compared schools (predominantly European-American in rural and African-American in urban school).

On the balance side, the Poisson regression findings suggest considerably higher chances of emphatic Repetition (by 80%) in oral modality. The indicated phenomenon of higher likelihood in discussions for Repetition (exclusive of repetitions due to false starts or placeholder uses) can be explained by common techniques witnessed among speakers who resort to repetitive

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structures (lexical or syntactic) in order to ensure that the message was carried out properly or reached the intended goal.

Besides, Repetition used for emphatic effect (e.g., really, really, really big) may partly be linked to the finding of an exaggerated use of emphatics in American conversations as compared with the British ones, also found in the comparative study between the two dialects by Precht (2003). Just to remind, her study was on the excerpted corpus of 100,000 words from the Longman Corpus of Spoken and Written English, with American dialect specific emphatics expressed by *real, pretty* and *exactly*.

Between Socio-Cultural Groups

The results of t-tests across modalities as a function of gender suggest (as presented in Table 4) that girls' essay are more bound by miscellaneous Logical-Temporal connectives and contain more hypothetical scenarios by putting Myself in the story, while boys' essays have more explicit causal relations signaled by more frequent use of Causatives. In discussions, boys were found to use more Boosters of Illocutionary markers (speech acts) than girls. The finding of causative linking devices for boys may suggest their greater attention and skill in rendering cause-and-effect chains, while "thinking the argument out" (cf. Hample, 1985; 2007). The finding for causal relationships in boys' written texts (though not talk) may partly corroborate a sociolinguistic hypothesis ventured by Tannen (1991) that male and female talk is organized by different metafunctions. Namely, while men's talk can be dubbed "report-talk", women's talk can be called "rapport-talk". In general, report-talk is likely to be organized in cause-and-effect rhetorical structure or temporal sequence, as more binding than additive, list like or descriptive structures (Hoey, 2001; Meyer, 1975; or Sanders & Nordman, 2000). The results for spoken modality do not indicate the boys' edge in this respect though.

Twice more frequent Boosters in conversations of boys may be somewhat connected with a documented pattern in teenage talk (though among British speakers; Stenström et al. 2002) with a heavy presence of 'exponents of power', as Channell (1994) dubbed the use of vague words (cf. Chapter 2). Though Stenström et al. (2002) study of intensifiers found corroborating evidence for the more frequent uses by girls, their findings indicate that it is boys' specialty to use the superlative forms of intensifiers like "extremely angry", "absolutely stupid" or "fucking weird" (p. 142). Therefore, their results about boys' 'propensity' towards superlatives may be linked or show semblance to this study's finding about boys' heavy use of intensifiers of Speech Acts, called Boosters (with their function of intensifying the Illocutionary effect), which yield such expressions as "I *truly* believe", "I *really* think…" or "[that's] *exactly* what I say" as superlative forms of illocution.

In an attempt to explain girls' higher usage of self-oriented scenarios (classed among evidentials), let me indicate a possible semblance to another finding from the grouping by high vs. low reading ability (MAT), where high-scoring children's talk shows considerably higher uses of various types of hypothetical/deductive structures by putting Others in scenario or Aposteriori/Retroduction (undergirded by the higher predicted effect of Total of Evidentials, as found in Poisson regression). The findings suggest that for oral argumentation CR girls or high MAT scorers may have considered evoking hypothetical scenarios as an effective persuasive strategy in Collaborative Reasoning context (especially when paired with emphatic Intonation); this however might have been re-conceptualized for the sake of written argumentation as the multiple deductive scenarios did not show significance in essays.

Reasons for providing multiple scenarios (Myself/Others/Retroductive) can be found in previous research and observation that children often conflate explanation with argumentation

(Asterhan & Schwarz, 2009). Instead of providing justification and addressing prospective criticism/ counter-arguments (as the nutshell form of an argument demands; cf. Guillem, 2009), children seem to proliferate examples and illustrations (mostly personal anecdotes) or hypothetical (deductive) speculations instead of inductive or conclusive reasoning.

Further within the grouping by reading ability, more frequent uses of Sequencers by high MAT-scorers, as shown in frequency Table 5 (and also found higher in regression - by 18%), corroborates the finding by Latawiec et al. (in preparation), when in comparison to a control group of non-CR exposed children, it was the group of CR children with high reading scores (high MAT) that featured higher uses of Sequencers and so better global binding in their essays. This advantageous finding seems paired with other results from the Poisson regression that link high-scoring on the reading achievement test to slightly increased predicted uses of Induction, If/since-then, total Global Connectives and evaluating and organizing brackets in the students' written metadiscourse (between 1 and 8%). The findings suggest an intuitive pattern that the higher the reading ability the higher uses of those highly organizing codes (hopefully without self-fulfilling prophecy as the essays were coded blind to condition and other socio-metric data).

It may also be postulated here that the higher reading scores and higher organizing uses of metadiscourse in either talk or writing may have a common basis in the text-structure awareness and its effective use (conscious or unconscious), which has been found to facilitate reading comprehension (Meyer, 1975; Britton et al., 1982), academic achievement (Latawiec, 2010) and written or oral communication skills (Bereiter & Scardamalia, 1982; Graves, 1982; Hoey, 1994; Hyland, 2000, inter alia). Findings for grouping by school populations (as found in t-tests) that reveal overall higher uses of Talk Organizing bracket, Contrastives and Personal beliefs by rural schoolchildren suggest greater attention paid to *textual* metadiscursive aspects

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(rather than evaluative or interpersonal) as well as greater diversity of opposing viewpoints expressed in writing. Simultaneously, rural schoolchildren discussions show their greater attempts at glossing, making speech acts explicit, with a variety of modality changes by hedges or emphatics and better sequence than their urban counterparts. It is also notable that rural schoolchildren talk shows more Implicit and total of Attitude Marking as well as increased Intersubjectivity marking. The results also suggest greater emphasis on organizing metadiscourse in writing (thus resulting in greater *integrity of texts*). In discussions it is the evaluative and intersubjectivity pragmatic meta-discourses that dominate in rural school thus implicating their orientation on *interactivity of the speech flow* or *talk flow.*

A reverse pattern seems to be suggested by the results of t-tests for children from an urban school. It is the Text-Evaluating bracket that is more frequent in their writing, while in their discussions Talk-Organizing codes prevail (talk-regulating by coercive and hearer-engaging Commentary Interrogatives), which suggests urban schoolchildren's greater preoccupation with maintenance of talk and importance of retroactive grounding of upcoming talk in the earlier material (by Reminders of Material). The emphasis on the participation regulatory technique may possibly be attributed to a greater focus in the Teacher-guided debriefing on a detailed review of good argumentation and 'good discussion' techniques and their appropriation by CR participants (e.g., as may be suggested by observations of one of the Teachers' emphasis as revealed in video-recordings).

Lastly, in written modality findings for grouping by ethnicity reveal more Emphatics and Contrastive conjunctive devices, which, in crude simplification, suggest more disjunctive viewpoints expressed by European Americans (EA), while more Attitudinal Stance marking with "I would" structures in their African American (AA) peers. Results for discussions suggest that

African-American children (much less numerous though) engaged their hearer-peers by perlocutionary-force-imposing metadiscourse (Commentary interrogative) as well as more utilized Reminders of material. The result indicates their talk-organizing concerns and social dynamics that were dominated by managing moves or turn-taking procedures, which as Bennet and Cass (1989) suggest may not necessarily be progressing understanding of content (also Almasi et al., 2001). Aposteriori scenarios may signal their complex retroductive way of thinking and so ushering in other perspectives or voices while arguing the cases for or against, or proliferating scenarios as explanations rather than reasoning moves in argumentation. Notably, their more frequent uses of Emphatic Repetition can be attributed to the grammar rules effective in the vernacular English.

The group of European Americans seems to show a pattern of quite different uses, where Intersubjectivity, Hedges and miscellaneous Emphatics together with Implicit Attitude marking tip the scale towards evaluating metadiscourse. Their discussions are also rather loosely bound by more frequent uses of additives, which however add to their cohesiveness of talk. European Americans seem to pay attention to making their conversational argumentation more explicit (Speech acts and Glossing), and equipped with clearer inferencing signals by If-then structures that usher conclusions by logical ways of affirming and confirming (*Modus Ponens* & *Modus Tollens* in formal logic), whose value cannot be overemphasized in logical and dialectical reasoning (e.g., Anderson et al., 1997; van Eemeren & Grootendorst, 2004).

However, caution is urged in the interpretation of the findings from comparisons by school or ethnicity groupings as ethnicity has been nested in the school location with European-American ethnicity dominating in the rural school. Also the ethnic groups were not proportionate (45 – EA, and 22 - AA, while individuals of other ethnicities were excluded). And though the

findings seem interesting, the results bear traces of confounding the ethnicity with population in the given location and associated with it socio-economic status.

Micro-Genetics in Oral Modality

To exhaust the discussion of the analyses run on the available data from essays and discussions, the results of the correspondences and differences between the two analyzed discussions in the whole sample suggest that the many correlations that were found between discussions form a systematic pattern. The codes that showed an increase over the series of discussions are grouped around the talk-organizing metafunctions (Topicalizers, Speech acts, Commentary, Talk-Organizing Bracket) and talk-evaluating uses of metadiscourse (Obligatory Should, Talk-Evaluating Bracket) with a notable Metalanguage. However, the categories that showed a decline in usage include Intersubjective-Vagueness Bracket, and some organizing metadiscourse (Sequencers, If-then) as well as weaker form of obligation or negative attitudinal stance by means of Impossible "positional functor" (Wünderlich, 1979). Interestingly, the trend may suggest increased engagement or stronger commitment to the propositional flow of meanings as well as stronger attitudinal stance by 'motivational' and 'normative' categories of verb operators (after Wünderlich, ibidem) expressed in CR argumentative talk.

All in all, the observed cline towards organizing and evaluative uses with the simultaneous drop of intersubjectivity vagueness marking may suggest students' greater focus on transactional / informative talk in the course of successive discussions, possibly due to a lesser degree of socially-motivated conversational "interacting for the sake of interacting" (Berry, 1981, p. 132), or seizing the floor just to show attention, solidarity, friendliness and co-operation (cf. Yule, 1996), yet in the absence of factual information or ideational material to communicate.

<u>Qualitative Analysis</u>

Qualitative findings have been mostly discussed simultaneously with the analysis of the correspondences as well as helpful or impeding metadiscourse uses. Nonetheless, this discussion would suffer from incompletion if several things would not be remarked upon.

Firstly, the qualitative analysis of metadiscourse features in naturally occurring discourse afforded a rare occasion to investigate and identify systematic differences in the functional uses of each variant or discrete feature - both in talk and writing.

Secondly, the systematic qualitative analysis that was undertaken in this study shows semblance to approaches that favor *elementarism,* where all complex sequences or patterns are derivable from elementary constituents (by analogy to Shegloff's adjacency-pair elementary system). The elementary approach therefore resulted in an extremely wide spectrum of elementary variants that can fulfill very specialized functions. In turn those functions show not unilateral relationships but bi- and multi-lateral links to various linguistic forms. Thus discovered web of form-to-function and function-to-form links, despite its complexity, reveals the systematic valency patterns or a kind of grammar of discrete metadiscourse variants (like in syntax S+ V makes a nuclear sentence structure, so similarly Speech Acts + Intensifier turn the latter into a Booster, etc.). And only those findings or discovered 'valency patterns' allowed for a more holistic view.

Thirdly, the more holistic view (which seems to have been under-represented in my preliminary stage of the study) takes a form of seeing through the classes in order to find 'communicative planes' on which meaning is transferred. These planes or dimensions have been theorized to coincide with the bracketing roles of two metafunctions identified by Schiffrin (1980) in talk, and expanded by myself upon analysis of naturally occurring CR talk and writing.

The *moderate holism* of the approach then resides in the grafted 3 frames for "communicative projects" (communicative goal pursuits, centered around a task), which in turn embrace the elementary metadiscursive variants, that young adolescents undertake in their CR dialogues and somewhat "dialogized" texts (both terms inspired by Linell, 2009).

In relation to the three tenets of the approach, the qualitative findings reflect those different dimensions – the elementarism demonstrated in the minute functional units that stream into the functional classes that are serviceable with their distinctive features and functions to the 'communicative projects' in the dynamically developing discourses (both spoken and written).

Thus the Form-to-Functions table understandably includes findings about affordances that such an elementary-to-holistic analysis entertains but also reveals various problematic areas. On the one hand, it attempts to neatly and compactly show the scope of functions for various linguistic forms. On the other hand, it does not show in greater detail how attribution to those different variants is made, for the purpose of which ideally a whole book would be needed.

Hence, the lengthy function to form table is still insufficient to show how the evaluations of metadiscourse distinctive uses need to be operationalized from an elementary to the more holistic level, e.g. from the hedging device, by "other cautious elements", to the broad basket of "evaluating" bracket (be it talk or text-evaluating) to which this little device like a ball is thrown.

Therefore, descriptive passages explicating helpful and impeding uses complement the elaborate form-to-functions table. It seems that the descriptions would be limping if not prefaced by the delineation of the patterns or valency of metadiscursive forms in language (incl. para-language) and abstract functions activated in language in use, in the Collaborative Reasoning context.

Chapter 6

Conclusions

Summary

The study's overarching goal was that of *exploration* of metadiscourse in order to establish how metadiscourse is used in discussions (#1) and writing (#2) by children participating in Collaborative Reasoning promulgating argumentative stratagems in small group interactions. In practice, the adopted approach and definitions of metadiscourse (as inspired by extant theory and systems) set more concrete operational goals and questions that can be answered. Namely, the study affords answers into:

- how children organize and bind texts or arguments,

- how they clarify, explain and define meanings,

- how they make their communicative/speech acts and goals explicit,

- how they reveal their attitude and evaluations (both epistemic and emotional),

- how they engage recipients and express in-group intersubjectivity,

- and how they structure their discourse in collaborative talk-at-action or 'dialogized' written texts.

A similar *exploratory* character has marked the other study goals such as an inquiry into correspondences or differences between the metadiscourse uses in the two different corpora (#3a), and in the progression of discussions in a series (micro-genetic strand, #3b) to inform about metadiscourse patterns and prospective changes in Collaborative Reasoning discussion techniques. The study also intended to answer how metadiscourse is used by different users, as a function of varied socio-cultural and socio-linguistic characteristics of participants (#4). Finally,

the study set to qualitatively determine how metadiscourse helps or impedes the flow of meanings in spoken and written argument by CR participants (#5).

The study being exploratory rather than confirmatory did not set a priori hypothesis to be tested. Instead, meta-analysis of extant theories and systems as well as a few empirical findings mostly from non-American contexts brought inspiration and some guidelines as to what directions would be most informative and worthwhile pursuing.

In order to investigate the uses of metadiscourse both qualitatively and quantitatively, the study developed and *tested an instrument* of measuring metadiscourse uses on various levels – from very elementary and discrete variants by streamlining towards classes grouped by major functions to ultimately more holistic planes on which metadiscourse has been theorized to operate. In effect, a multi-fold taxonomy has been adopted that appropriated some categories established from discourse analysis in writing (e.g., Crismore, 1985; Vande Kopple, 1997; Wünderlich, 1979) and separately in talk (Overstreet & Yule, 1997; Schiffrin, 1980) and combined them in one three-partite instrument. Due to its comprehensiveness and testing in a pilot study, the taxonomy (accompanied by a checklist manual) captured *systematic differences* in the functional uses of each metadiscourse category – from elementary to more holistic levels.

The devised taxonomy (with an accompanying manual) brought in results of both quantitative and qualitative type; besides, the taxonomy was also refined by other raters establishing inter-rater reliability. The qualitative analysis of discourse in the written and oral corpus allowed for determining the valencies or systematic patterns of metadiscourse functions in relation to linguistic and para-linguistic forms, which resulted in form-to-function tabular review of the observed patterns that showed complex ways of interaction between lexis, context of use and abstracted functions. The elementary-to-holistic approach was also applied to the

explication of the various effects metadiscourse has on the flow of propositional meaning as well as on other features – such as interpersonal, including intersubjective, or intra/ inter-textual.

The effects of the application of the measuring instrument yielded count data that afforded statistical and distributional analysis. The results could be best interpreted using resources available in corpus linguistics, rhetoric, semiotics and socio-pragmatics. The results allow for tracing patterns and gaining insights into the ill-researched metadiscourse uses by young adolescents in both spoken and written modalities in the educational context.

Instrument

Thanks to the three over-arching or bracketing codes of Organizing, Evaluating and Intersubjectivity meta-functions in the adopted taxonomy as a measuring instrument (inspired by Crismore,1985, Schiffrin,1980, and Vande Kopple,1997), it became easier to demonstrate an overall dispersion of metadiscourse in discourse proper. Since the attribution to the brackets hinges on the particular functions of the minor codes, the optimal effectiveness is targeted only when one is able to determine the grouping or unifying factor (class function) for the highly specialized micro-functions (which could be iteratively refined by qualitative analysis of discourses). Simultaneously, the adopted taxonomy seems to be validated as an instrument for measuring metadiscourse in both oral and written corpora and at the various levels of complexity.

Insights

First of all, it has to be acknowledged that the two corpora used for the analysis inherently differ as their global 'communicative projects' (after Linell, 2009) or otherwise communicative goals differ as a function of*: the mode, production circumstances, interactiveness, purpose* and *targeted audience* (cf. Biber, 2001). It has to be reminded too that

children received practice in Collaborative Reasoning in small group discussions with metalinguistically rich debriefing operated by a teacher and participants themselves, yet not in the writing technique.

Given the differences of the task of writing to an unknown audience, possibly a teacher or researcher (incl. RA) versus discussing in a small-group of peers, and so somewhat differently conceptualized purposes, as not debating in a dialogic format but most likely persuading of the logical and ethical soundness of the verbalized stance, the discourses thus produced, and in different circumstances, inevitably had to differ on several levels. And it seems that the young writers' intuitive or formally learned conceptualizations of the tasks of writing and speaking affected not only the organization but also the expressions of the author's attitude, as the emotional aspect of the author's voice (and so most vulnerable to circumstantial influences).

Within each modality distributional patterns of more molecular codes show fine-grained differences. Surprisingly though, the proportionate use of the two holistic planes or brackets shows more or less similar pattern both in the written and spoken corpus. Thus observed *systematic pattern* shows approximately twice frequent uses of the broad Evaluating Bracket than the Organizing Bracket; nota bene, both of which brackets subsumed other more molecular yet still grouped in classes of metadiscourse categories. While Evaluating Bracket shows attitudinal stance markers, obligation and the forbidden modality verbs as exponents of stance ("positional functors", according to Wünderlich, 1979) as well as evaluation (agreement/ disagreement) expressing speech acts and glosses, the Organizing Bracket has been composed of globally binding coherence markers (topicalizers, sequencers, reminders and announcements of material), performative speech acts and inferencing/ reasoning markers (e.g., induction/ deduction). Interestingly, the pattern among the two holistic brackets seen across the two

modalities has been statistically predicted to occur marginally more frequently in writing than discussions.

The systematic findings thus suggest that despite the aforementioned fundamental differences between the two tasks of argumentative group-discussion and writing, the children's overall uses (per unit of analysis – discussion or essay) do not show tectonic shifts that would reflect their completely different conceptualizations of the two communicative tasks or projects. The tasks or projects have been resolved differently though on the local task/ project levels, i.e. en route with the dynamically changing intersections of viewpoints in discussions or upcoming material in thoughts during the writing process. The analysis of the fine-grained correspondences suggests that essays written by CR children bear heavy traces of 'dialogism' (cf. Linell, 2009). Namely, their texts open up for "other voices", commonly known as multivoicedness or polyvocality (Bakhtin, 1981) by using various types of evidentials that usher in *perspectives of others,* either more concrete others that are put in hypothetical deductive scenarios (syntactically structured along various conditional types), or more generalized others - via complex implicit attitude marking structures that are two-argument-entailing (one in superordinate and one in subordinate clause, e.g., it's not fair/right/ kind/nice to the others/kids that X is the case).

Not only CR discussions but also essays show evidence of *power relations* at play (cf. Brown & Levinson, 1978; 1978b), as the results of the cross-modal comparisons suggest. It is due to the adherence to politeness principles and public face saving that the attitudinal stance (generally most revealing of the psychological facets of the speaker or author) is more subtly and feebly/ cautiously expressed (by weaker verb modals like deontic obligation "has to") in face-to-face confrontations, which are "face-threatening" when venturing opinions of an ethical or controversial nature, whereas more normatively and strongly in writing (with positional functors

of "should", "must" type, after Wünderlich, 1979; or deontic modality "forbidden"). Similar perceptions and norms holding for in-group interactions with social, ethnic and peer/CR group-conformity-needs are likely to have dictated resorting to hedging or mitigating devices by CR discussants. And though the findings were partly predicted (salient theories were discussed in literature review), it is interesting to see their confirmation and quantitative proportions, and the actual behaviors as reflected in the language of the young adolescents who intuitively adjusted their discourses to the socio-cultural and circumstantial norms, which hardly ever are the matter of conscious awareness, especially to native speakers (cf. Biber, 2001).

Another comforting finding for the CR member and researcher is in the *high-engagement* level of speakers themselves and recipient-targeted engagement marking. The several metadiscursive categories evidence that pattern with What if-response prompting structures, perlocutionary or coercive uses of Commentary, and even very highly utilized para-verbals (Gestures). It is noteworthy that in stylistically oriented theories (rather than rhetorically – which more recently puts a premium on epistemology marking), interrogative forms of commentary (e.g., rhetorical questions) are viewed as 'figures of communion' that help to form a bond with the Hearers (like figures of allusions, or interpersonal voice cf. Conley, 1979; where metadiscourse is viewed as 'figures of thought'). Commentary has earlier been found to abound in CR essays too, in comparative study with non-CR exposed children (Latawiec et al., in preparation), and it has been considered as an advantageous feature as targeting the reader's involvement in a kind of dialogue and so meta-communicating interpersonal meanings that complement the propositional flow with an extra pro-social dimension.

Another insight gained is related to the third bracket of Intersubjectivity-pragmatic marking (otherwise 'solidarity in-group' marking), which amounted to 7% in oral modality when

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compared with the broad organizing and evaluative brackets and just 1% in written modality. The results of the micro-genetic analysis inform the CR research that across both small-group discussions the *intersubjectivity vagueness-adding uses dropped* gradually, while the other broad brackets distributions remained similar. The finding may indicate greater focus on informational flow than on interpersonal and so intersubjective (solidarity signaling) with the progression in the CR discussions. Also, children's uses of pragmatic vagueness marking by similar means as intersubjectivity - theorized by other researchers to be "exponents of power" (Channell, 1994), and as such expected to see more often in female language (again as girls were theorized to be less powerful than boys and so show powerless features in women language Lakoff, 1975; or Coates & Cameron, 1988) - did not show confirmatory findings in the analysis by socio-linguistic groupings. However, the discovery of Boosters in boys' intensification of explicit speech acts in oral argumentation (thus boosting the illocutionary force of argument making) may be viewed as power in language (by whimsically flipping of the Lakoff's 'exponents of power' theory).

Another common socio-linguistic theory of female and male talk organized by different meta-functions which ventures that men's talk can be dubbed "report-talk", women's talk can be called "rapport-talk" (Tannen, 1991) has not been confirmed by comparisons of girls' and boys' talk. Nonetheless, boys' more frequent use of causatives in written essays, which indirectly indicate somewhat "report"-like organization that signals cause-and-effect or problem-solution rhetorical structures (Hoey, 2001; Meyer, 1975; or Sanders & Nordman, 2000), may tentatively suggest some partial corroboration.

Not all findings though have been comforting and uplifting. As the qualitative analysis ensued, it was discovered that quite a few uses of metadiscourse *impede the flow of meaning*

(usually by default understood as the content or propositional material). As demonstrated in excerpted episodes from children's talk or whole essays (cf. qualitative section of the results chapter), the ubiquitous intersubjectivity-vagueness markers can obscure the propositional flow by halting or slowing down the flow of arguments (less so seen in writing) and adding to the excessive verbosity. A removal of the superfluous elements may show the informational material does not lose its meaning. However, the impact of such a pruned talk may set forewarning adverse responses in recipients of such communiqués, which are then devoid of authenticity and not aligned with the personal characteristics of the speech group to which they are addressed (so in a way flouting the pragmatic maxims enabling smooth Speaker-Hearer Co-operation, cf. Grice, 1975).

Likewise, evaluative and attitudinal stance marking when used in an *excessive way that is not counterbalanced* by more neutral text-organizing metadiscourse may result in signals of manipulative techniques. As illustrated in the qualitative analysis of students' writing or talk, the overt and proliferate uses of evaluatives seem too pressing with their subjective stance and may build up resistance in recipients (be it hearers or readers) who thus recognize the attempt to influence them (cf. Kamalski et al., 2008).

The finding of disadvantageous uses of metadiscourse is not restricted to evaluative or intersubjectivy-marking. By analogy, text or talk-organizing metadiscourse can also impede the propositional flow by setting similar forewarning effects by blatant uses of coherence markers or excessive uses of connectives or induction-signals by "so", which due to overuse lose their functionality or become de-ranked or otherwise devoid of their canonical organizing function and start to assume pseudo-functions; for example, combinations of "and then" as often found in a sequential role, so globally cohering, when overly used turn into more locally binding temporal

connectives (cf. findings of "and then" African-American children's uses in McCarthey, 2002; or "ands" in Michaels, 1981).

Also, it has been found in qualitative discourse analysis that though the evaluative categories usually prevail over organizing bracketing functions in both spoken and written modality, it is the more or less balanced use of both - be it in speaking turns/ discussions or persuasive essays – that helps the flow of propositional meaning.

Implications

From the last two insights pedagogic and future research implications emerge. First of all, to address the argument made by Crismore (1985), who researched the use of metadiscourse in textbooks, 'that it is difficult to determine how much metadiscourse to put in, what the optimal level is and where in the sentence to put it' (p. 313), from the findings of both qualitative and quantitative analysis, it appears that the concerns or focus might be better directed at the *relative balance* (i.e. in relation to one another, cf. Sperber & Wilson, 1986) between the major organizing and evaluative broad types – at least in the argumentative corpora (irrespective of the mode/ modality).

From the rhetorical perspective, given the data show systematic patterns that hopefully can be replicated, the more text-organizing metadiscourse (not restricted to coherence markers, as mentioned in the beginning of the summary) would be well received and assessed by the composition teachers or oracy trainers. And again caution is needed, as it is not the particular type of metadiscourse that may ensure better rhetorical organization but, as it seems, the constellation of metadiscursive codes that fulfill *textual* functions (rather than interpersonal).

Stylistics and communication studies' proponents might object to this suggestion of mine. However, all I am observing is that those texts that show better organization signals receive

better evaluations and so higher grades in the educational context (cf. Barton, 1993; Hyland, 2005; Xu, 2001). Also, all that is propounded here is the need for organizing metadiscourse for *helpful effect on the propositional flow* and *integration of information* in educational context.

The fact that students overall use almost twice as much evaluative as organizing metadiscourse in either modality is in no way normative. It does not mean that it is how it should be or remain throughout their K-12 education. In fact, the descriptive analysis suggests otherwise.

As the quantitative data analysis suggests students grouped as a function of reading ability (by high-MAT scores) show more text-organizing bracketing uses of metadiscourse, which subsume explicit speech acts, topicalizers, reminders of material, perlocutionary commentary and induction/deduction signaling codes. K-12 pedagogues would most likely welcome and promulgate such uses in students' academic writing (e.g., as audience-awareness heuristics), since they clearly guide the reader as to the intentions and directions in which the texts would unfold and reduce a cognitive load of text processing on the part of the prospective reader. As research by Intaraprawat and Steffensen (1995) shows, text-organizing uses in student essays, along with boosters and explicit attitude marking, correlate with *quality of writing* and in general qualify writers for higher scores by raters and/or their teachers.

Effective uses of text organizing metadiscourse, like those of high MAT-scorers, may refer to what Maurannen (2003) calls *socialization to and via metadiscourse…* and into academic discoursing skills, where the premium is placed on such organizing metadiscursive uses as 'the problem/issue is", "the reasons are...", "the consideration" or "let's consider" (also being a specific metalanguage). All those formal aspects highlighting metadiscourse features very much resemble or in fact mirror many CR students' written and oral language in action. Moreover, as argued by Kamalski et al. (2008) what facilitates *integration of information* is the

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use of objective markers rather than subjective markers (that cause resistance to persuasion, incl. attitudinal or epistemic stance marking). Hence, text-organizing metadiscourse, being objective and devoid of evaluative stance marking, seems to be most subservient to educational purposes that are after the very integration of information.

Another implication that might be prompted by the study as well as by meta-analysis of empirical and theoretical studies that contributed to several conceptualizations crystallized in this project seems the fact of great *salience* and *high-value of the interpersonal or intersubjective* marking given to such metadiscursive uses by the young adolescent language users themselves. If they intuitively adjust their registers and styles to incorporate more intersubjectivity markers to their talk and considerably reduce it (also intuitively) in their writing, it seems that such uses already assumed the rank of a norm for the young adolescent talk. Thus, as theory interprets this pragmatic vagueness marking as an effort "to avoid social stigma" (cf. Eckert, 1988, 2004; Stenström et al., 2002), hereby the argument is being made not only about the need for further analysis but consideration of such intersubjectivity-vagueness marking for incorporation in educational materials and teacher-student discourses (sic! they are already there as classroom and secondary data analysis reveal) that would enable and enhance solidarity-signaling functions.

Furthermore, the findings related to the modality verbs as differentially used by children in writing and talk (stronger obligation and normative modals in essays and in discussions-weaker so more polite), with their documented effects of attitudinal stance marking (e.g., Crismore, 1985; Precht, 2003) suggest that it may be worthwhile making students aware of their stance marking features, especially as the corpus linguists argue these issues are usually not within conscious awareness (cf. Biber, 1999; 2001). It may be reasoned to claim that with those continuously changing demographics in the American educational context, and ever more

English-as-a- second-language, or English-language-learners (ESL/ELLs), the issues of verbal

modality in relation to stance and attitude (which are alien concepts in many non-English

languages) need be explicitly taught and incorporated into the curriculum of English or

composition classes in K-12 education.

Likewise, instruction in evaluative metadiscourse (incl. attitudinal stance too) could be

incorporated to improve student's ability to assess and produce effective evaluations that would

not showcase exaggerated, blatantly subjective or excessive (too proliferate) uses (and relatively

balanced with organizing variants). This implication may be especially pertinent to effective

argumentation skills as evaluations constitute integral part of argumentation and persuasion in

general (inter alia, Anderson et al., 1997; Cacioppo & Petty, 1984; Crismore et al., 1993;

Reznitskaya et al., 2008).

Limitations, Replications, and Future Research

The study is not devoid of caveats though. The analysis might be improved by adoption

of a different approach and different measuring instruments (taxonomy). A less comprehensive

study would be less taxing and overwhelming to the researcher(s), and would allow for more in

depth analysis of a particular class of metadiscursive uses (as already shown in the studies of

hedges or attitudinal stance in American English). Also different types of texts or discourses, or

tasks can be analyzed too.

Moreover, the study uses only data from CR-exposed children's discussions and essays,

i.e. the experimental group. For valid inferences to be made about the effects of CR small-group

discussions on discourse and metadiscourse, the control group is needed for comparisons to be

made. Thus, another experimental study design might include a writing task as pre-test prior to

intervention, and a post-test. Then the comparisons between both participating groups – CR and

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non-CR exposed - may be analyzed for the determination of prospective carry-over effects from discussion onto writing.

Also, as remarked earlier, this study's generalizability has been limited by the fact that it is not fully representative as not using the whole dataset. Therefore, the study does not fully benefit from the major/ primary study design, where the schools were counter-balanced by socio-economic status. The analysis of metadiscourse as a function of school and ethnicity suffers from confounding ethnicity with school location, as one of the schools has a predominantly European-American population. Therefore, to ensure greater representativeness of the results the study might be improved by more counter-balanced sample (e.g., in those socio-cultural aspects) selected for the analysis.

The study might also follow only one strand or method of analysis, either quantitative, or qualitative or micro-genetic, but with the bigger database to ensure the generalizability of the inferences. Evidently, the database for this study has been limited to 77 students, which does not allow for proportionate comparable groupings (by ethnicity, for example), as some statistical analyses assume greater power with the bigger sample sizes. Also, more of the discussions could be explored for the metadiscourse patterns in a micro-genetic approach, as this study has investigated only two discussions – one medial and one more final in a series of ten discussions.

Metadiscourse has been investigated only in the CR students' uses, while teachers' meta-talk has been left unexplored. Though qualitative observations of video-data and transcripts were unavoidable and suffice to say that CR-group discussions and dynamics to a greater or lesser extent have been contingent on those Teachers' discourses, even though their role in CR discussions (primarily operated by children themselves) has been that of a "coach from the side." Thus, metadiscourse could be researched for the occurrences of metadiscourse in teachers'

classroom talk, during their exposition parts of the lesson, their review lessons, ways of asking, eliciting and responding to questions, and potentially even in their ways of interacting in and out of the classroom.

By analogy, the study's focus was on CR discussions in educational contexts. However, in the absence of metadiscourse studies with American adolescents and children, the future studies of metadiscourse may target their informal talk, informal groups not necessarily in educational settings, i.e. in the fairground, in the scouts clubs, or the internet and social-networking, etc.

Final remarks

The study's major assets reside in its comprehensiveness and scope of metadiscursive functions and forms analyzed while combining various disparate strands of pragmatic and sociolinguistic analysis, never before explored in American discourse in authentic educational settings on such a scale and across two modalities of language use.

Moreover, the study goes beyond established theory and by incorporating intersubjectivity along the extant textual and interpersonal metadiscourse (in the analysis of written discourse) or organizing and evaluating (in oral discourse) as well as by combining scales used for meta-talk and meta-discourse for an effective outcome, it seems to push the theory forward.

Additionally, the study offers some valuable insights and sheds 'rare' light on the nature of metadiscourse as used by young adolescents (rather than better investigated adult uses), which "still remains under-theorized and empirically vague" (Hyland, 2005, p. IX) thus indicating that it "has not achieved its explanatory potential or allowed analysts to operationalize it in real texts."

This study not only examines real texts but also explores the intricacies of their making in the making, in the process of meta-communicating their intended meanings, by exploring the video-captured authentic discussions of Collaborative Reasoners. Moreover, the on-line capturing of the communicative flow is systematically analyzed micro-genetically and compared with the off-line communicative task of reflective essay-writing on the controversial issue prompted by a reader-engaging story. The study then can be merited with insights into the nature of young adolescents' discourse and metadiscourse, their formation, interplay and modulation (manipulation), as mediated by the Collaborative Reasoning paradigm.

Though the study's cross-sectional design does not allow for inferences about the carry-over effect from Collaborative Reasoning small-group discussions to the post-intervention written task, the findings supported by earlier study of written metadiscourse by the same students (Latawiec et al., in preparation; NB, revealing CR gains in implicit common-good oriented attitude, boosters and reader engaging, and more varied connectives), help triangulate data from cross-modality, cross-sectional and sociolinguistic findings that suggest gains from the collaboration in the debate or small-group discussions by corroborating "participatory appropriation" (Rogoff, 1995) of the diversified thinking and so "handl[ing] subsequent events [e.g., of essay-writing] in ways based on that involvement in previous events" (p. 156).

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