BEFORE AND BEYOND READING COMPREHENSION STRATEGIES: SIXTH GRADERS' DIVERSE *MODI OPERANDI* (*MO*S) FOR READING

By

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ABSTRACT

BEFORE AND BEYOND READING COMPREHENSION STRATEGIES: SIXTH GRADERS' DIVERSE *MODI OPERANDI* (*MO*S) FOR READING

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This mixed-methods dissertation study investigated the hypothesis that, above and beyond what they may have learned in school about garden-variety reading comprehension strategies (e.g., *predicting*, *visualizing*, *summarizing*), by the time they reach 6th grade most adolescent readers possess declarative and procedural knowledge of diverse and sometimes idiosyncratic *modi operandi* (MOs) for reading. On the basis of pilot work and a review of relevant research, these reading MOs were hypothesized to be experientially distinct, subjectively coherent, and habitual ways of orchestrating reading activity that typically comprise reading strategies but also comprise other elements and features (e.g., culture- and subculture-specific attitudes, topic knowledge, epistemic beliefs, affective investments, experience with particular types of social interaction around texts). It was further hypothesized that these diverse MOs readers know and use are superordinate to conventional reading strategies and in fact regulate their application, such that a reader's MO selection constrains her selection, and guides her application, of reading comprehension strategies, not the other way around. More generally, it was hypothesized that adolescent readers experience reading, and view whatever conscious choices they make regarding reading, through the prism of these MOs—as opposed to through the prism of whatever reading comprehension strategies they know, or through the prism of a universally applicable, generic goal of comprehending text.

These hypotheses were investigated through (a) structured written interviews with 30 randomly sampled 6th graders in one school district and (b) follow-up case studies with six 6th graders randomly sampled from the initial 30. Analysis of interview responses and case study data (comprising transcripts of conversations as well as think-aloud protocols of participants reading diverse self-chosen and researcher-provided texts) indicated that 100% of students had declarative, procedural, and conditional knowledge of two or more MOs for reading, with students on average reporting more than six MOs. Across participants there were significant differences with regard to types of MOs used, preferences for particular MOs, and criteria used to distinguish among MOs. At the same time, all participants demonstrated ability and willingness to describe and discuss their MOs—this despite the fact that none recalled receiving any explicit instruction or mentoring to develop distinct "ways of reading." In sum, the study's findings give substantial, preliminary support to the hypothesis that adolescent readers know and use a diverse array of reading MOs, and that MOs rather than reading comprehension strategies constitute the level at which adolescent readers make strategic choices and adjustments in reading.

Implications for cognitively focused models of reading comprehension are discussed, as are possible implications for classroom instruction.

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INTRODUCTION

Over the past 40 years, reading comprehension research has shed much light on the efficacy of a range of reading comprehension strategies (e.g., *visualizing*, *summarizing*) for readers of all ages (Duke & Carlisle, 2011; Pressley, 1998). Whether such strategies are taught separately and one at a time, or instead as a "package" or set from which individual strategies are then to be selected and flexibly applied as needed, strategy-focused instruction has consistently been shown to improve the reading comprehension of those who receive it (Dewitz, Jones, & Leahy, 2009; Duke & Carlisle, 2011). However, reading comprehension researchers have devoted less attention to investigating the underlying source(s) and structure(s) of readers' capacity to think and act strategically, and how it happens that some readers become adept at flexibly adjusting reading strategies to optimize their comprehension while others do not. One effect of this intensive focus on reading comprehension strategies—in contrast to a more limited focus on the regulation of such strategies—is the consternation of reading scholars and classroom teachers at the phenomenon of students either (a) not applying strategies they appeared to have learned or (b) applying strategies in a rote and non-strategic manner (e.g., DeWitz, Jones, & Leahy, 2009; Dole, Brown, & Trathen, 1996; Duffy, 2002; Frost, n.d.; Hall, 2007; Marcell, DeCleene, & Juettner, 2010; Palincsar & Schutz, 2011; Paris, Lipson, & Wixson, 1983). It appears that one can know a number of reading comprehension strategies, and even apply them, and yet not act strategically. The seat of strategic intelligence and decision-making apparently lies elsewhere.

This dissertation study attempts to shed light on where this "elsewhere" might be by investigating the hypothesis that, above and beyond their knowledge of reading

comprehension strategies, all readers possess a personal repertoire of diverse and in some cases idiosyncratic *modi operandi* (MOs) for reading that constitute their preferred, "go-to" ways of transacting with texts. I define MOs as experientially distinct, subjectively coherent approaches to reading that typically comprise reading strategies but also comprise other elements and features, including (for example) culture- and subculture-specific attitudes, topic knowledge, epistemic beliefs, affective investments, experience with particular types of social interaction around texts, and familiarity with particular text formats and genres. As such, MOs are historically, culturally, and personally situated—that is to say, they are shaped by readers' particular historical, cultural, and personal circumstances, and can therefore be expected to vary from reader to reader and, as well, to evolve over time. Some may be highly idiosyncratic and possibly unique to individual readers; others may be common to subgroups of readers or may be more widely shared. Finally, with regard to the issue of strategic regulation of reading with which we opened this introduction, it was hypothesized that reading MOs—if they exist—would constitute a resource and starting point for strategic action distinct from, and superordinate to, readers' knowledge of conventional reading comprehension strategies.

The background and basis for this hypothesis are more thoroughly laid out in subsequent chapters (in particular, the Theoretical Perspectives and Literature Review chapters). Already here, though, the structure and logic of the hypothesized relationship between MOs and reading comprehension strategies may be succinctly stated. If readers possess MOs, and if they experience reading first and foremost through the prism of the particular MOs they have in their personal repertoire, then it stands to reason that, in the hierarchy of constructs, schemas, and scripts through which reading is regulated, MOs must

be superordinate to the reading comprehension strategies they contain. MOs motivate and regulate the application of strategies—not the other way around. Indeed, in terms of the distinction between strategies and tactics much relied on in other fields (e.g., military science, business) as well as in everyday usage, the hypothesized relationship sketched here between MOs and reading comprehension strategies would put *MOs* in the position and role of *strategies*, and reading comprehension strategies in the position and role of subordinate *tactics*.[1]

Would this new perspective on the status and role of reading comprehension strategies as subordinate to higher-level MOs—if supported by empirical evidence—not conflict with the aforementioned robust findings about the benefit to readers of strategies-focused instruction? It would not. On the contrary, the existence of reading MOs—MOs that comprise reading comprehension strategies and motivate the application of particular

[1] Tactics and strategies are construed somewhat differently across different fields and domains. However, in domains as varied as military history and theory, sports, business, game theory, and theories of interpersonal communication and conflict resolution, the tactics-strategies distinction is an important one. The two terms are dynamically relational, with lower-level tactics construed as subordinate to, and controlled by, higher-level strategies. The relationship is dynamic in the sense that, depending on the unit of analysis being used, one and the same action or factor may be counted now as tactical, now as strategic. For example, in military science, a platoon's action of destroying civilian homes might be counted as tactical or as strategic, depending on whether it is considered in relation to a higher-level strategy for winning the war (e.g., the army's overarching strategy to win the war by isolating enemy units and cutting off their supply routes) or, on the other hand, in relation to the platoon's soldier-level tactics (e.g., soldiers' use of camouflage and cover to avoid detection). For a platoon in the field, destroying civilian structures could serve as a strategy for gaining control of a particular sector or district. In relation to the commanding general's strategy for winning the war, on the other hand, destroying civilian structures is just one tactic among others. The etymologies of the two terms are helpful in this regard. *Tactics* derives from the Greek *taktikos*, meaning "fit for arranging or ordering." *Strategy* derives from *strategos*, the Greek word for "general," which in turn combines the noun *stratos* (army) and the verb *agein* (to lead).

strategies to serve particular, personally meaningful goals—would deepen our understanding of when and why reading comprehension strategies get applied—*or fail to get applied*—by particular readers, with particular texts, in particular contexts.

Take for example a reader who knows and applies a preferred MO for *reading to lose myself in vicarious identification with a character in a novel*, or a reader who chooses to apply her MO for *reading to deepen my understanding of an argument by disputing its claims as I read and then checking to see if the text provides answers to my objections*.[2] These readers know about much more than just the canonical reading strategies (e.g., *visualizing*, *inferring*, *asking questions*) that are included as subordinate components in their MO; they know about some or all of the following: their personal purpose and reasons for applying this or that MO at the present time, the type of knowledge and/or affective experience they are aiming for and expect to achieve, their self-efficacy beliefs about using the MO they selected, and their past history of using it. Their knowledge of this MO—and of other MOs—in their personal repertoire thus mediates between a generic purpose or goal they might invoke to explain why they picked up a text (e.g., *to be entertained*, *to study for a test*) and their application, during reading, of particular, locally targeted reading strategies (again: *visualizing*, *inferring*, *asking questions*, and so on). The generic purpose, by itself, does not provide the reader with a sufficiently detailed and personally meaningful plan to guide her in the myriad of moment-by-moment choices and micro-adjustments she will need to make as she transacts with the text in front of her—in much the same way that a generic purpose of simply "writing a story" would not be sufficient to guide an author's

[2] These examples of reading MOs are excerpted from pilot data collected in May 2013.

moment-by-moment choices as she composed a narrative text. For a reader to proceed, as for an author to proceed, knowledge of one or another particular MO is necessary.[3]

In this sense, a MO may be likened to a particular style of cooking in a particular cuisine. Ask a cook—be he a professional chef, or a homemaker—what he is about as he enters the kitchen, and he may well answer that he intends to "make dinner." But what happens next—as our cook chooses ingredients and commences preparing them—will not be guided by some generic script for "how to make dinner." (Indeed, the idea of "making dinner" in a generic, cuisine- and culture-neutral manner would seem to be at best a convenient short-hand temporarily used in place of a detailed, culturally inflected description of a particular way of preparing dinner; at worst, when defended as a useful abstraction, sufficiently detailed to stand on its own, the idea of "just making dinner" starts to look a lot more like a deliberate effort to obscure differences and make believe that there is but one way—or one "true" or "best" way—to make dinner.) The reality is that our cook in his kitchen will necessarily proceed to "make dinner" in one of many possible ways, based on the sorts of cultural, social, and material constraints and affordances discussed earlier.

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[3] In the field of writing studies, such knowledge is of course referred to as genre knowledge, and it is generally understood that composing with words must always necessarily happen in some particular genre (e.g., Bawarshi & Reiff, 2010; Devitt, 2004). When one sits down to write, one composes in a particular genre (e.g., five-paragraph essay, marginal note, inquiry email), and over time one learns to write in different genres. In the field of reading comprehension research, by contrast, despite attention by some scholars to factors that can influence reading processes and outcomes (e.g., Duke & Roberts, 2010), the idea of a general, all-purpose reading ability is still dominant. For example, few studies that report measurements of participants' reading ability specify the reading MO(s) participants used or acknowledge the possibility of participants knowing more than one way of reading (e.g., McKeown, Beck, & Blake, 2009). (Such acknowledgement would of course greatly complicate claims made about readers' level of reading proficiency, measurements of growth in proficiency, and so forth.)

And so it is, I hypothesize, with reading. Readers may be instructed to just "read the text"—and readers themselves may even report that that is all they are doing, simply "reading the text"—but the reality is that reading, like cooking, will always proceed in a particular, culturally and historically inflected way, through implementation of a particular MO.[4] In the context of this MO, decisions about initiating or continuing the application of a particular reading comprehension strategy, or about suspending one strategy and applying another, is not made in the service of some generic, universally applicable standard of "achieving maximum comprehension" or imperative to "comprehend everything" (whatever that would mean), but instead, in relation to the individual reader's personal knowledge of—and preference for—this or that MO and the particular goals and moves associated with that MO. When applying her MO for *reading to lose myself in vicarious identification with the protagonist of a novel*, for example, a reader may do a great deal of visualizing and also inferring of other characters' unspoken thoughts; on the other hand, when applying to the same novel her MO for *reading to prepare for a test by seeing the text through my teacher's eyes and anticipating what he will ask questions about*, she may focus on noticing the setting (because setting is a story element her teacher recently emphasized) and synthesizing ideas about the novel's overarching themes.

With reading MOs in the picture, reading comprehension strategies remain just as essential as ever. What is changed with MOs in the picture is our framework for thinking about—and for investigating—why exactly it happens that particular canonical strategies get applied, or not, or, at an even more basic level, why they get activated, or not, in the

[4] Here and later, I use "historically inflected" to refer broadly to historical circumstances and forces, but also and especially to the individual reader's unique history of particular experiences with texts and with reading.

minds of particular readers in particular reading situations. Among other things, a framework that brings MOs into the picture, and that conceives of MOs as superordinate to strategies, readily suggests a plausible explanation for why a given reader might fail to apply a strategy (a) that he/she has been taught and (b) that research has demonstrated is relevant and beneficial: the issue may be that this strategy is not yet attached to, or integrated into, any of the reader's favored MOs. And a MO-focused model of reading comprehension clearly would predict that, until such integration happens, no reading comprehension strategy—no matter how useful the research has demonstrated it to be, and no matter how many times a reader has practiced applying it to texts in a classroom setting or in a reading researcher's lab—is likely to be taken up, "owned" by the reader, and spontaneously applied in the future.

There are, of course, alternative explanations for why some readers fail to apply strategies—or fail to apply them flexibly. One explanation focuses on the fact that reading is a cognitively demanding activity, with many component resources and processes to coordinate (e.g., letter-sound knowledge, vocabulary knowledge, genre knowledge, comprehension monitoring) (e.g., Adams, 1990). However, readers are endowed with only very limited working memory capacity with which to handle this work (Daneman & Merikle, 1996; Miller, 1956). Consequently, readers who have below-average working memory capacity, or who do not make optimal use of the working memory capacity they have, are more likely than their peers to fail to apply a known reading comprehension strategy, more likely to struggle to learn a new strategy, and more likely to apply known strategies in a rote-like manner, instead of applying them flexibly and adaptively (e.g., Bayliss, Jarrold, Baddeley, & Leigh, 2005).

Building on this working memory capacity-focused perspective, a related perspective advances the explanation that successful reading moreover requires cognitive flexibility—the capacity to hold more than one idea in mind at once and to efficiently shift attention from one idea to another for the purpose of accomplishing some goal (e.g., considering the two meanings of a homonym, or the differing perspectives of two characters). This capacity is thought to develop to some extent on its own, without instruction, through children's involvement in commonly occurring social situations (Davidson et al., 2006; De Luca et al., 2003). At the same time, research has shown that, within and across age cohorts, cognitive flexibility is unevenly distributed (i.e., at every age level, some learners have more cognitive flexibility than their peers, and some younger learners also demonstrate more flexibility than older learners) (Cartwright, Isaac, & Dandy, 2006; Jacques & Zelazo, 2005). Further, research has shown that learners' cognitive flexibility can be significantly increased through relatively straightforward and brief instructional interventions, such as by having elementary-age students practice sorting sets of word cards according to each word's incipient sound, its meaning, and both incipient sound and meaning at the same time (Cartwright et al., 2010) or by learning to identify homonyms (e.g., Zipke, 2008). Most important, from the vantage of our interest in reading comprehension, is the finding that increasing students' cognitive flexibility also results in improved reading comprehension (Cartwright et al., 2010; Yuill, 2007; Zipke, Ehri, & Cairns, 2009). In other words, increasing readers' capacity for flexibility—quite aside from teaching them new strategies for constructing meaning from texts—appears to allow these readers to do a better job of comprehending alphabetic text.

And yet, while both these perspectives shed light on factors that impact readers' performance, neither one can explain why more proficient readers use their—on average—slightly larger working memory capacity and slightly greater cognitive flexibility *in the particular ways they do*, and why less proficient readers use their—on average—smaller working memory capacity and lower level of flexibility *in the particular ways they do*. Indeed, in the absence of caveats about what can and cannot be explained by measurements of working memory capacity and cognitive flexibility, both perspectives risk promoting the view that, if only all readers had the same working memory capacity and the same capacity for cognitive flexibility, and if only they all made equally optimal use of these capacities, all readers could be expected to read in much the same way, with equal reading proficiency. In other words, both perspectives—and the explanations they provide of individual differences between readers—bracket the sorts of socio-cultural and personal-historical factors discussed in preceding paragraphs. They do not explicitly rule out the possible role and importance of these factors. But they do imply that, with regard to both (a) understanding why readers read as they do and (b) improving the comprehension performance of some or all readers (in particular those performing below average), it is practically, epistemologically, and ethically possible to approach reading as an undifferentiated and socio-culturally neutral construct.[5]

The perpective adopted in this dissertation study is different. While acknowledging

[5] Personal communication with scholars whose published work brackets consideration of socio-cultural and personal-historical factors (as described above) leads me to believe that, in many cases, this bracketing does not reflect a conscious intent to sideline these factors or minimize their importance. My contention remains that, as published, much rigorous and valuable scholarship *in effect* promotes an "autonomous" (Street, 1984, 1995) view of reading as a unitary construct (see Duke, 2005) that can be studied, understood, and taught without at all times taking into account readers' diverse ways of reading.

the importance of such factors as working memory capacity and cognitive flexibility (among many other isolable factors) in shaping reading comprehension outcomes, this study is centrally interested in the socio-cultural and personal-historical sphere—and specifically in the possibility that, by virtue of their unique histories and the unique mix of influences to which they have been exposed, some or all readers acquire distinctive and possibly unique ways of transacting with texts (i.e., reading MOs). Such MOs, if found to exist, would not simply take their place alongside working memory capacity and other factors in a lengthening list of factors-to-consider when studying or teaching reading (RAND Reading Study Group, 2002). Insofar as reading MOs may constitute alternative types of reading activity, each potentially with its own purpose (or set of micro-purposes), its own standards of coherence, and its own personal and cultural *raison d'être*, the existence of MOs might entail—or indeed require—some critical reconsideration of basic assumptions about what it means to be a proficient reader and the validity of measuring proficiency on a single scale. If shown to exist, the reality of reading MOs would entail—among other things, and at the very least—footnoting every reading comprehension intervention with regard to the *particular* MO or MOs the intervention is designed or proven to instill (in acknowledgement of the diversity of MOs readers know and use), and similar footnoting of every reading comprehension assessment used and every rating or score used to designate a reader's level of proficiency (again, in acknowledgment that reading outcomes and/or processes are measured in relation to *particular* MOs, but not all MOs at once).[6]

[6] The idea that reading is not a unitary construct has so far received only sporadic attention from mainstream reading comprehension researchers and scholars (e.g., Duke,

To investigate key elements of this hypothesis about the existence and psychological reality of reading MOs and their relation to reading comprehension strategies in particular, this dissertation study used a mixed-methods design combining (a) structured written interviews with (b) follow-up case studies (Creswell & Clark, 2011; Johnson & Onwuegbuzie, 2004). The case studies involved unstructured conversation; semi-structured probing of participants' prior statements about reading and their thoughts about diverse reading scenarios; and multiple opportunities for participants to think aloud while actually reading a diverse assortment of texts, some provided by the researcher, and others by participants themselves.

Using these research methods, I gathered a large amount of self-report data from a sample of normally progressing adolescent readers (i.e., adolescents of widely varying levels of reading proficiency, as measured by standardized tests; all enrolled in school; and all making normative progress through the grades and through the school curriculum). Once sorted and analyzed, these self-report data yielded multidimensional descriptions of a number of reading MOs described and used by my participants. As well, these data yielded relatively robust findings about the mean prevalence and diversity of MOs both within and across readers.

Given the study's emphasis on the reality and importance of a hitherto under-studied aspect of readers' subjective experience, it made sense, from a methodological vantage, to focus heavily on readers' self-report data—their personal and subjective reports about what they do, how they do it, and why they do it, when they read. Indeed, insofar as this study stemmed—in part—from a perception that mainstream reading

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2005).

comprehension research may have paid insufficient attention to readers' subjective experience of reading and the diversity of such experience, an important goal of the study was accomplished by bringing evidence of such experience center-stage and analyzing it systematically.

At the same time, being mindful of the field's justified skepticism toward self-report data considered in isolation, the study incorporated several checks on the reliability, accuracy, and completeness of participants' reports. Questions were designed to ground participants' reports about their unobservable mental states and actions during reading in specific, factual information about texts read, locations where reading occurred, and the general context and purpose for reading. Follow-up questions were designed to require participants to explain or further elaborate their observations about reading and about themselves as readers (or to demonstrate their inability to do so), such as by explaining on what basis they distinguished between two different ways of reading. Finally, participants' think-aloud data—recorded during unrehearsed reading of familiar and unfamiliar texts—was used to corroborate earlier self-report data, as well as to discern discrepancies between what participants said they knew and did habitually, and what they actually did during reading.

In the chapters that follow, I describe the methods I used in greater detail, and I present and discuss the findings distilled from my investigation. Modest as it is in its scope, and limited as it may be by its heavy reliance on self-report data, I hope this study will shed some preliminary light on the psychological reality of this construct I am calling the *reading MO*—and on the possible role of readers' MOs in mediating and regulating their reading activities, including regulating their use of reading comprehension strategies.

CHAPTER 1

Theoretical Framework

This dissertation study is informed by several overlapping theoretical perspectives that include the following: a constructivist perspective on the genesis of meaning during reading (e.g., Spiro, 1980); a reader response perspective on the inevitability of diversity in readers' interpretations of the same text (e.g., Rosenblatt, 1978; Tompkins, 1980); a complementary post-stucturalist view of the radically open-ended nature of textuality (e.g., Derrida, 1978); a view of how readers cyclically acquire, test, and discard reading strategies based on Siegler's (1996) "overlapping waves theory"; and a critical sociocultural perspective on the ways in which readers' reading choices and behaviors are shaped by social, culural, and ideological forces (e.g., Au, 1997; Street, 2000). Additionally, motivation and context for this study are provided by a critical theory perspective (e.g., Horkheimer, 1982) on the ideological underpinnings and effects of "objectivist" (Heap, 1991) mainstream accounts of reading, of standardized conceptions and operationalizations of what it means to be a "proficient reader," and of K-12 curriculum and instruction based on these conceptions and operationalizations.

In combination, these perspectives frame reading as a fundamentally meaning-*constructive* transaction undertaken by historically and culturally situated readers applying diverse historically and culturally situated reading practices and assumptions to the texts they encounter. The particular reading experiences and understandings readers achieve in this manner are deemed by them to be more or less satisfying, pertinent, and/or true in relation to standards, traditions, and assumptions that are themselves, in turn, historically and culturally situated (though readers may at times perceive them as natural, obvious,

necessary, and/or universal). The upshot is that, when two readers arrive at contrasting experiences and/or understandings of the same text, we cannot assume that both readers were in fact striving for the same comprehension outcome, and that their divergent experiences and understandings must thus be due to inattention, ineptitude, or accident on the part of one or both. Rather, the theoretical perspectives underpinning this dissertation study insist we consider the possibility that diverse experiences and/or understandings emerge through the application of slightly different or very different meaning-constructive reading MOs—distinctive ways of reading that have their situated purposes and rationales, their unique personal and cultural histories, and their different ways of proving their worth in the lives of those who use them. As well, it follows that, when pairs of contrasting reading experiences, understandings, and MOs are juxtaposed, the superiority of one or the other is not a foregone conclusion. Judgments regarding the superiority of a given reading experience, understanding, or MO can of course be made (and such judgments are in fact routinely made, in formal and informal settings, by educators, researchers, and readers themselves) but only from within the inevitably partisan perspective of a particular framework or tradition.

Constructivist Perspective

The constuctivist perspective adopted for this study is that, in their pursuit of comprehension, all readers, regardless of their level of reading proficiency, actively construct whatever experience(s) and meaning(s) they end up deriving from a text (Bartlett, 1932; Bransford, Barclay, & Franks, 1972; Bransford & Johnson, 1972; Goodman, 1965, 1967; Rumelhart, 1977, 1980; Rumelhart & Ortony, 1977; Spivey, 1987). What the text provides are raw materials and a blueprint (Spiro, 1980), as it were, that constrain and

guide readers' meaning-constructive efforts; but it is always up to the reader to activate his/her prior knowledge, make inferences, make intra- and inter-textual connections, and so on.[7]

Before this view of meaning-making gained widespread acceptance, the prevailing model was of readers doing a better or worse job of accessing the already-established meaning (singular) contained inside a text like a nut inside its shell. In this older model a text's meaning was conceived as something already crystallized, finite and unchanging, objectively "there" in the text, and the reader endeavored to receive that meaning as intactly and completely as possible.[8] When two readers came away with different understandings, the difference was seen as reflective of a difference in their reading proficiency, or in difficult cases as a matter to be arbitrated and resolved by consulting the text.

Thanks to the growing influence of scholars such as Bartlett (1932), Rosenblatt (1969), Bransford (e.g., Bransford, Barclay, & Franks, 1972), and Anderson (1978), however, this model started to show cracks. Over time, more and more reading researchers became interested in so-called reader, task, and context factors that were found to

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[7] This is of course not to say that all readers are sufficiently active or that all readers succeed in constructing meaning as they read. Hyperlexic readers (Grigorenko, Klin, & Volkmar, 2003) and "word callers" (e.g., Dymock, 1993), for example, may demonstrate proficiency at decoding words and reading with a high level of fluency, and yet may not construct any meaning(s) (at least not that they can verbalize or recall).

[8] While widely criticized, this "old model" of meaning and reading is by no means defunct. Its influence has proven hard to shake, not least because so many of our familiar locutions for talking about texts and reading tacitly assume or actively invoke the meaning-like-a-nut-in-a-shell view (e.g., "What did you get out of the text?"). Even in scholarly writing by authors who explicitly reject the "old model," it may subtly re-assert itself, such as when Duke and Martin (2008) critique a particular text as being "so empty of meaning there is really little to nothing [in it] for students to comprehend" (p. 247).

influence significantly the experience of reading and motivate the particular sorts of meaning-making activities readers engage in. Above all, a consensus started to form that, in the act of reading, readers are never simply extracting already-articulated meaning (singular) "in" the text; instead, they are actively constructing meanings (plural) through the application of specific resources including background knowledge, a particular purpose for reading, and a variety of reading strategies.

Reader Response Perspective

The reader response perspective (e.g., Fish, 1980; Iser, 1978, 1980; Rosenblatt, 1978) builds on the constructivist perspective and takes it a step further insofar as it offers an explanation for the reality of readers often arriving at slightly different or very different interpretations of the same text. Whereas once such differences were ascribed to reader error or to one or another type of reader deficiency (e.g., lack of relevant background knowledge)—the implication being that, if only these errors and deficiencies could be remedied, all readers would glean the same meaning—the reader response perspective theorizes that readers' diverse interpretations are due to the particular interpretive grid, lens, or stance every reader inevitably brings to bear whenever he/she transacts with a text.

This foregrounding of the idea of a reader's stance is not meant to imply that other reader, task, and context factors are insignificant. The reader response perspective does not discount the influence of vocabulary knowledge, background knowledge, task parameters, and other such factors in shaping what readers do. Rather, the central claim of the reader response perspective is that, over and above these factors, readers always adopt some particular stance vis-à-vis the text they are reading (e.g., a more efferent-leaning

stance or a more aesthetic-leaning stance [Rosenblatt, 1969]), and the stance adopted is not unilaterally determined by any single one of the aforementioned factors nor by any combination of such factors. As Rosenblatt famously illustrated with her example of reading a newspaper weather forecast first to glean immediately actionable information and then as though the forecast were a poem (attending to the "sounds and associations" of the forecast's words [1969, p.40]), any number of stances can in principle be adopted by the reader.

In terms of explaining *why* readers in fact adopt one stance instead of another, the reader response perspective theorizes that readers learn to read—and then acquire new stances and ways of reading—through membership in one or more "interpretive communities" (Fish, 1980). Members of a particular interpretive community or sub-community (e.g., university literature professors who self-identify as Marxist scholars) share a set of cultural assumptions and interpretive conventions (e.g., tacit or explicit rules about what interpretive "moves" are allowed, worth making, and so on). When reading a given text, then, readers orchestrate and subequently evaluate their performance not in relation to some universal and universally valid rulebook of interpretation or touchstone of meaning, but rather in relation to the standards and precedents of their particular interpretive community. (As we will see in a moment, this perspective overlaps strongly with the critical sociocultural perspective and its account of the origins and epistemic status of inter-reader differences.)

Post-Structuralist Perspective on Textuality

The constructivist and reader response perspectives focus attention on the reader's decisive contribution to the "reading events" in which he/she is seen as having agency and

indeed as playing the leading role. They have less to say (at a theoretical level) about the ontological status of the texts being read and about aspects or dimensions of these texts—or of textuality as such—that may also contribute decisively to the diversity of reading outcomes.

The post-structuralist perspective on textuality supplements the constructivist and reader response perspectives on this front by providing a radical critique of the still widely held view of texts as autonomous, discrete, stable, and in theory (if not in practice, given the frailties of mortal readers) fully knowable objects of study. Against this view, the post-structuralist perspective on the nature of textuality argues that texts, by their very nature as texts, preclude the possibility of a single correct or comprehensive interpretation or understanding of their meaning (e.g., Barthes, 1967; Derrida, 1973, 1978).

A first reason for this, somewhat simplistically put, is that texts are made of linguistic signifiers that belong to larger nested and/or overlapping systems of signifiers (e.g., the alphabet, English language words, known genres of writing, published advertisements, presidential speeches) in which each signifier means what it does at least as much by invoking, or alluding to, what it is *not* saying as by virtue of what it is saying. In other words, whether we are talking about a letter of the alphabet (*a* as opposed to *c*), a noun designating a particular way of walking (e.g., *strolling* versus *striding*), everyday expressions of greeting (e.g., "How are you doing?" versus "What's up?"), or the text of a poem or a TV commercial, each signifier gains its meaning(s) by dint of the contrasts and distinctions that simultaneously connect it to, and separate it from, other signifiers in a constellation of signifiers. Thus, letters of the alphabet and the speech sounds with which they are associated function linguistically by belonging recognizably to a family of letters

and sounds (e.g., a letter "s" in a handwritten note must resemble other letters in the note at least enough to signal that it is not a random doodle or a drawing of a snake) and at the same time contrasting with other letters and speech sounds (e.g., our handwritten "s" must not resemble a letter "c" too much). Similarly, one style of greeting an acquaintance carries the meaning(s) it does not because it quintessentially embodies a particular quality (e.g., gruffness, kindness) in any absolute sense but rather because, within a system of possible ways to greet acquaintances, it contrasts with other greetings as being slightly more or less brusque, slightly more or less formal. And one TV ad for coffee generates the meanings it does (e.g., for being risqué, or playful, or modern) by virtue of the constrasts it evokes with other coffee ads. In this way, every signifier undeniably signifies (the post-structuralist claim is clearly *not* that signifiers fail to signify or that they can signify anything a reader wants them to), yet every signifier does so by referring the reader to other related signifiers/texts which it resembles to some extent, and to which it alludes, even as it differs from them. A given text's meaning is thus never neatly contained "in" itself; rather, meaning accrues as readers mentally travel the pathways linking signifier to signifier, text to text. Actual flesh-and-blood readers may tire of this travel in pursuit of meaning and settle for whatever meaning(s) they have constructed so far. But this is an arbitrary decision, and the reality of the text is that there are always further pathways and linkages of meaning to pursue and to try to comprehend.

Bakhtin's (1981) notions of *dialogicity* and *heteroglossia* develop similar claims though with greater emphasis on the ideas of voice and discourse. In brief, *dialogicity* and *heteroglossia* suggest that utterances are never *sui generis* and never come into the world *ex nihilo*. Utterances necessarily use words and locutions that have been used before, in

identical or similar form, and these more-or-less explicitly borrowed words and locutions bring with them their histories of past use in other utterances and texts. My comprehension of the words I speak today is therefore incomplete—possibly even incoherent—to the extent that I try to shut out from consideration the sources, voices, traditions, and perspectives that are woven into these words and into the conventions and genres I enact as I use them. No utterance or text can thus be univocal; even when authored by a single hand, utterances are always permeated by other voices. Which is of course not to say that all voices have equal standing or are guaranteed to be equally heard. The Bakhtinian notions of *dialogicity* and *heteroglossia* are supplemented by recognition of possible tensions or outright contradictions among voices, which may not be resolvable. Authors and readers are thus enmeshed—whether they like it or not—in sense-making work that involves shuttling among and negotiating among voices, viewpoints, and traditions. (A reader may of course always refuse or ignore this work of negotiating among voices, viewpoints, and traditions—though this refusal does not give the refuser any greater degree of control over the meaning of the texts and text fragments he/she traverses, quotes, remixes, and so forth.)

The post-structuralist view is thus that texts are always open-ended and multivoiced, and that positivist attempts to draw hard boundary lines around texts, and to pin down once and for all what a given text does or does not "contain," fundamentally misrepresent the nature of textuality. Textual meaning is never given "in" individual signifiers or even within the four corners of the text. Textual meaning is constituted through the relational interplay of signifiers as these mark their differences from other signifiers (Derrida, 1973) and through the more or less playful, more or less agonistic

dialogue of the multiple voices texts interweave (Bakhtin, 1981; Hartman, 2004). And meaning is never complete and fully achieved. This is the reality readers must face into (according to the post-structuralist view of textuality), and readers' particular beliefs and choices vis-à-vis this reality thus become features of their preferred MOs.

Critical Sociocultural Perspective

The sociocultural perspective on reading focuses on the web of causal connections that exist between readers' unique social and cultural backgrounds and living circumstances, on the one hand, and on the other, such things as their beliefs and assumptions about literacy, their literacy habits and practices, and the relative status and worth of these practices vis-à-vis the status and worth of other people's practices. With regard to reading, specifically, the sociocultural view is that readers develop unique culturally inflected ways of reading and responding to texts as they are apprenticed—in their particular family, community, workplace, etc.—into a set of distinctive social practices around texts (Au, 1997; Brandt, 2001; Lave, 1988; Lave & Wenger, 1991; Rogoff, 1990; Vygotsky, 1978).

The central claim is that the sociocultural dimension of these text-focused and para-textual practices is always of paramount importance. Even when conducted in physical isolation, reading in this view is fundamentally a social process, a matter of intending and doing things with words in communication and interaction with social others. Component cognitive processes are important, of course, but these processes coalesce and become the tools they are only after being molded in the social sphere. Certainly, reading cannot be learned in any way other than through interpersonal interaction: "Every function in the child's cultural development appears twice: first, on the social level, and later, on the

individual level; the first, *between* people (*interpsychological*), and then *inside* the child (*intrapsychological*)" (Vygotsky, 1978, p. 57, emphasis in original).

The "critical" dimension of the sociocultural perspective on reading (and on literacy more generally) arises from this perspective's interest in the dynamics of relations among divergent practices and, especially, in what happens when divergent practices come into tension or outright conflict. The historical record indicates that when alternative practices bump up against each other, tolerant acceptance and peaceful coexistence are not the usual outcome. Abstracting from particular historical examples, Street (2001) and others argue that, in society, literacy ''is *always* contested, both its meaning and its practices, hence particular versions of it are *always* 'ideological,' they are always rooted in a particular world-view and desire for that view of literacy to dominate and to marginalize others'' (pp. 7–8).

The critical point worth underscoring here is not that, in the hands of flawed human beings, literacy can at times become a tool of aggression and domination. Rather the claim here is that there is contestation built into the very nature of literacy itself as a web of social practices and processes that inherently involve other people and thus inevitably act on them in one way or another (e.g., to their advantage or disadvantage, with their consent or without it, giving equal weight to their voice or not), regardless of whether such effects are consciously intended or not.

"Overlapping Waves Theory" Perspective on Strategic Change

Siegler's (1996) "overlapping waves theory" complements the other perspectives presented here by providing a developmental cognitive framework for understanding strategic diversity and strategic change over time. Specifically, Siegler's theory describes a

cylical and recursive process of strategy acquisition, testing, and winnowing that human problem-solvers embark on at a very young age (Siegler suggests the process begins in infancy) and that they continue working through in one form or another as long as they continue to learn and develop (i.e., potentially throughout their lifespan).

One especially interesting aspect of Siegler's model for our purposes (given our focus on readers' acquisition and use of multiple reading MOs) is its explicit theorization of reasons for problem-solvers to possess two or more strategies for tackling problems of the same class. At an empirical level, Siegler and his colleagues (e.g., Siegler & Svetina, 2006) have found that this is the case: across a wide range of domains, learners typically possess and use several alternative strategies. With regard to math problems, for instance, Siegler has found that children typically possess several alternative strategies for solving a single type of problem, such as addition problems involving two-digit numbers. Moreover, in observations of large numbers of consecutive problem-solving trials, Siegler consistently observed that children applied different strategies across consecutive trials and that they often persisted in using a variety of strategies even when one strategy appeared to the researcher to have objectively proven itself more efficient or reliable than the others. To account for this behavior at the level of theory, Siegler develops an explanation that draws on concepts from evolutionary theory: problem solvers acquire two or more competing strategies in the manner of a species generating offspring with diverse mutations. These strategic mutations subsequently strive to prove their viability—and continue trying to do so, even in the face of competition from other objectively superior strategies, resulting in a situation of strategic diversity and eclecticism. Over time, Siegler points out, some strategies will typically be abandoned and extinguished—though the timing of this

winnowing process may vary significantly from problem solver to problem solver and may be influenced by individual dispositions and by wider cultural factors such as standards of "perfectionism" (1988). Interestingly, Siegler also theorizes an overall, long-term evolutionary advantage for strategic diversity. The evidence suggests that, in general, the amount of initial strategic variability in problem-solvers' repertoires tends to be predictive of subsequent learning, with greater initial variability correlating with superior later learning. Siegler concludes that this, too, is consistent with what evolutionary theory would predict: the greater the diversity in a learner's repertoire of strategies, the greater the likelihood that later on, when faced with novel problem-solving tasks, or when faced with changed requirements and/or standards for a familiar task, this learner will thrive.

With regard to this dissertation study, Siegler's "overlapping waves theory" thus provides a useful perspective on readers' acquisition of multiple MOs for reading, starting at a young age and then evolving over time. In particular, Siegler's theory offers a compelling answer to the skeptic's objection that, for a task such as reading, a single MO should suffice, or that readers under normal conditions should "naturally" tend to prefer a single MO to the logistical burden and possible confusion of multiple MOs. From a cognitive developmental perspective, Siegler's theory suggests that, if anything, diversity and multiplicity are the "natural" state of affairs, that strategic diversity is a feature of our earliest learning experiences as well as later ones, and that if diversity is eventually curtailed, it is only because of sustained external pressures or demands (e.g., the demand to perform "efficiently" according to some externally imposed standard).

Critical Theory Perspective

Finally, context and motivation for this dissertation study are also drawn from a

critical theory perspective on the inescapably ideological nature of literacy. Broadly put, a critical theory perspective is focused on discerning and critiquing the ideological structures that produce and sustain authoritarian or repressive relations and conditions in human society (e.g., Horkheimer, 1982). As such, critical theory has a broadly emancipatory agenda—an agenda that idealistically aims to expand the scope of human freedom and reduce the scope of domination—that is pursued through critique of the status quo and in particular of beliefs, assumptions, and knowledge structures that can be shown to limit human freedom or human potential in some way.

With regard to literacy, the critical theory perspective takes an interest in such things as the ways in which prevailing understandings of literacy are infused with normative values and attitudes such that these understandings have the effect (even if unintended) of perpetuating existing patterns of oppression, exclusion, or marginalization. Specifically, the critical theory perspective on literacy (e.g., Barton & Hamilton, 2000; Street, 1984, 1995; Stuckey, 1991) takes an interest in the source(s) and tacit commitments of accepted definitions of literacy, the effects and deeper implications of designating some forms of literacy as "standard" or "mainstream" or "normal," the effects and deeper implications of decisions that schools and teachers make to read particular texts (to the exclusion of others) and to recognize and reward particular forms of proficiency in reading and writing (to the exclusion of others), and the role of literacy research in supporting or discouraging scholarly and popular debate around these issues (e.g., Compton-Lilly, 2007; Norton-Meier, 2005; White, 2009).

A critical theory perspective informed and motivated this dissertation study's interest in ascertaining whether it is the case (as I hypothesize) that readers who do not

deploy garden-variety reading comprehension strategies in the ways teachers and researchers recommend, and whose approach to reading may consequently be categorized as a-strategic, pre-strategic, or dys-strategic, are nonetheless in fact generally (a) in possession of procedural knowledge about diverse reading MOs (possibly multiple MOs) and (b) routinely making executive decisions about which of their reading MOs to use in particular reading situations. If this turns out to be the case, the mainstream reading comprehension research community may see fit to acknowledge that, whereas reading comprehension strategies constitute one important aspect of readers' goal-directed activity during reading, strategic activity and intelligence may also be found elsewhere—namely, at the level of readers' MOs.[9]

Triangulating Theoretical Perspectives

When these several theoretical perspectives are triangulated with each other, they provide a multifaceted account of what happens—of the various factors that come into play—whenever a reader encounters a text and starts to read. Whether she is aware of it or not (i.e., whether she thinks of reading through the prism of a metaphor of *construction* and consciously attends to the mental processes involved in making meaning, or whether she instead thinks of reading through the prism of a metaphor of *extraction* or *transmission* and imagines her mind simply receiving meaning, intact, from the text in front of her), the

[9] If there is compelling evidence of reading MOs existing alongside garden-variety reading comprehension strategies, the critical theory perspective may be helpful in guiding inquiry into (a) ideological factors that may have contributed to the overlooking of MOs (or perhaps to lack of interest in investigating them when they were detected), and (b) the unspoken rationale for restricting discussion and teaching of *strategic action* (and of what it means to *be strategic* with regard to reading) to a relatively short list of conventional reading strategies (locally targeted tactics, in fact), instead of researching and teaching strategic action in relation to the diverse overarching strategies (i.e., "true" strategies) readers may have for reading in particular ways at particular times.

meaning a reader gleans from a text is always constructed by her. Further, whatever meaning she ends up constructing is a particular time-dependent, always partial, always still-in-progress take on the meaning of the text. In other words, a reader's meaning-constructive efforts are always of a particular kind, following one possible procedure instead of another, based on one set of assumptions or beliefs instead of another, embodying one particular reading style or stance instead of another, and so on. Further, these characteristic features do not come about randomly. They are socially, culturally, and historically situated, shaped by period-specific socio-cultural forces of which readers may or may not be cognizant but that certainly give their meaning-constructive efforts a shape, rationale, and feel that are different from those of the efforts made by some, many, or all other readers at that time and in the past. At the same time, this socio-cultural shaping of readers is neither unilateral, nor absolute, nor final. Given the open-endedness of texts, the always partial and open-ended nature of reading activity, and the changing circumstances of human readers, reading may take unpredictable twists and turns. Efforts after meaning—and the MOs in which these efforts coalesce and achieve some kind of recognizable shape—are likely to evolve over time. Some MOs may be short lived; a reader's material and social environment may not favor their survival. Other MOs may be used continually, with only minor adjustments, for years.

CHAPTER 2

Review Of Literature

There is no body of empirical research focused on reading MOs as such. That said, there are multiple strands of research across a number of areas and topics that are relevant to the idea of reading MOs. These lines of research include the following: socioculturally and sociocognitively focused studies of the diverse ways in which readers of different genders and different cultural backgrounds are socialized to read the texts that are part of their lives; survey studies of readers' capacity to distinguish among diverse purposes for reading and, relatedly, of within-reader variance in motivation to read in relation to different perceived purposes (e.g*., reading for entertainment* vs. *reading for utility*); observational and quasi-experimental studies of the influence of readers' purpose(s) for reading on reading processes and outcomes; genre-focused studies of readers' differentiated development of reading comprehension skills and reading processes; studies of emergent readers' exposure to differentiated styles of reading**;** and studies of the disciplinary literacy practices and reading "routines" of experts and more-or-less advanced initiates in a variety of domains. With regard to the methods of this study, it is also relevant to review studies indicating that elementary-age children have the metacognitive capacity and expressive language capabilities needed to report on what they know about reading and about how they themselves read.

Socioculturally Focused Studies

Socioculturally focused empirical studies of reading generally take as their object of study what Scribner and Cole (1981), Gee (1990), Street (1995), and others characterize as reading "practices." As described in these studies (e.g., Barton & Hamilton, 1998; Heath,

1983; Moje, 2000), "practices" are akin to what I have been calling reading MOs, with the difference that "practices" tend to be described in terms of interpersonal and more broadly social functions, cultural beliefs, and traditions, and not in terms of component reading strategies and cognitive processes (Barton & Hamilton, 2000; Street, 1995). Gee (1990) makes this difference clear when he contrasts situated identity-constructive "practices" with disembodied technical "procedures." Further, as theorized and documented by socioculturally oriented researchers, "practices" are generally not as finely differentiated and therefore as numerous as I hypothesize reading MOs to be. In socioculturally focused studies, readers' home practices may thus be broadly contrasted with their school or work practices (e.g., Barton & Hamilton, 2000; Burnett & Myers, 2002; Dickie & McDonald, 2011; Knobel & Lankshear, 2003; Moje, 2000). But these studies do not generally drill down further to describe an *array* of distinct home practices and an *array* of distinct school practices that readers use—and choose among—to engage with texts of different types and for varying purposes.

An example of a study focused on a single reading practice is one by Radway (1991) of the women of Smithton and their transactions with romance novels. The women of Smithton were middle class married homemakers, and Radway investigated the material, social, and psychological dimensions of their reading, drawing primarily on individual and focus-group interview data. What she found was that the Smithton women read in very deliberate and strategic ways, in particular locations and at particular times of day, to achieve a specific kind of emotional affirmation and pleasure. They sought "escape into [an] imaginary realm" (p. 192) where they could enjoy a momentary respite from the draining physical and emotional labor of their roles as wives and mothers—constantly attending to

the needs of others—and where they could vicariously enjoy intimacy with a desirable significant other who was wholly focused on them and on satisfying their needs.

Beyond describing this fantasy dynamic in general terms, Radway explored how exactly it played out in the act of reading. For example, she noted the importance of maintaining an illusion of effortless reading and of the text as a transparent window onto another world (i.e., as not requiring any effort of interpretation). Had the Smithton women experienced the reading of their romance novels as an effortful activity—yet another activity requiring them to be attentive and careful—this perception would have clashed with the underlying escapist rationale for this particular type of reading activity. Thus, the Smithton women became adept at "read[ing] the romantic text as if such simple discovery of meaning was possible" (p. 189); they deliberately did not engage with features of the text that could "require conscious atttention or interpretation on the part of the reader" (p. 190).

A more wide-ranging study is Heath's (1983) well-known study of the white middle-class inhabitants of Maintown, white working-class inhabitants of Roadville, and black working-class inhabitants of Trackton and their respective literacy practices. Heath paid particular attention to the children in the three communities, to the ways in which they were exposed at home to very different linguistic practices and resources, and to the relative ease or difficulty with which each group of children then interfaced with school-privileged literacy practices and expectations. Of particular interest for our purposes (in relation to the construct of reading MOs) are Heath's data regarding the ways that Maintown children from an early age were apprenticed into routines for retrieving, verifying, rehearsing, and reciting discrete elements of information from texts in response

to questions. Texts in Maintown were many and varied, and children were additionally exposed to other routines for engaging with them. However, the retrieve-verify-rehearse-recite MO was a prominent one in their lives—and it aligned closely with a mode of transacting with texts that was central to their school success.[10] By contrast, Heath observed that children in Trackton rarely if ever experienced this routine outside school. Instead, they were preferentially exposed to a MO of dramatic presentation of information and stories. The latter often drew on characters, plotlines, and information from books; however, it did not limit itself to retrieving or reciting what was told in the books (given that "abiding by the written word limits one's performance" [p. 233]), and instead prided itself on leaving source texts in the shadows and infusing the presentation with elaborations, asides, hyperbole, and other drama-enhancing devices. Heath does not call these contrasting approaches to reading "MOs," and one might argue that the practices described encompass much more than just reading. Still, these practices resemble MOs for reading insofar as they comprise canonical reading comprehension strategies as subordinate components, yet clearly indicate a superordinate level of srategic organization and regulation.

Other studies along similar lines include Cochran-Smith's (1984, 1985) 18-month study of pre-K children attending a private nursery school in a high-SES neighborhood. Like Heath, Cochran-Smith found that adults socialized their children into particular patterns of literacy. Of particular interest for me, in relation to the present study, was the very young

[10] Here and later in this review I have occasionally used the term *MO* when describing a study that appeared to me to be referring to a MO-like phenomenon. In none of these studies was the term *reading MO* used by the author(s), nor was the MO construct theorized or defined as it has been in this dissertation.

age of the children and the fact that, already before they had learned to decode text, they were being apprenticed into at least two different ways of incorporating written texts into their socially situated interactions. Cochran-Smith observed that "rug time" was used to signal a shift from one way of transacting with texts to another: "The rug-time framework set off storyreading events from other preschool literacy events that occurred outside the rug-time frame. It signaled to the children that a different kind of print—decontextualized print—would be used, and that different interpretive strategies would be needed" (p. 25). Specifically, storyreading during rug time would require students to turn away from their physical environment and bracket their present concerns in order to enter the separate world of the story and experience it on its own terms—making inferences *within the story world* and monitoring the relevance of their thoughts and reactions solely with reference to that story world. With regard to this dissertation study's hypotheses about reading MOs, Cochran-Smith's data support the idea that, from the youngest age, readers' transactions with texts are never generic or all-purpose, but rather targeted and regulated in paricular ways, based on particular assumptions, beliefs, and values.

An example of a socioculturally focused study that identifies a larger number of reading practices belonging to a single group (though still only in terms of their social functions, not in terms of their component comprehension strategies and cognitive processes) is Taylor and Dorsey-Gaines's (1988) study of the diverse literate practices of elementary-aged African American children and their parents in an inner-city neighborhood. Drawing on ethnographic observational and interview data, the authors documented in detail how specific reading and writing practices fit into the lives of their participants and were experienced by them as meaningful and rewarding (or not). They

inventoried the types of texts owned, written, and read by their participants. With regard to reading specifically, they documented their participants' different purposes for reading, such as "instrumental reading," "social-interactional reading," and "news-related reading," usually corresponding to different genres of published and self-made texts (e.g., love letters, children's poems). Unfortunately for me, the authors did not dig down further to describe what these diverse reading practices actually consisted of at a cognitive and affective level (e.g., what reading comprehension strategies were associated with each), nor did they ascertain whether participants themselves classified their practices in the manner the authors did. On the other hand, they did document on more than one occasion that a single text or type of text (e.g., stories for young children) could be the focus of more than one type of reading practice (e.g., both *reading to build and maintain social relationships* and also *reading to fulfill educational requirements* could be applied to a children's story book). This association of a single type of text with more than one reading practice suggests that at least some of the study's participants were occasionally making situational strategic decisions about how to engage with texts—opting for one "practice" over another.

Overall, these socioculturally focused studies provide compelling evidence in support of the idea that, to the extent they know how to read, readers of all ages possess more than just a body of foundational reading knowledge (e.g., letter-sound associations), an array of reading comprehension strategies and/or reading techniques, and a general purpose to comprehend the text in front of them. Across diverse contexts, readers of all ages are shown to encounter texts through the prism of specific, culturally shaped worldviews and ways of engaging with texts—not through the prism of a general, all-

purpose, and culture-neutral intention to read.[11] Further, these studies indicate that readers are gradually apprenticed and socialized into one or more particular ways of reading through significant social interactions and relationships. None of these studies provides an example of a way of reading arising solely from the acquisition of knowledge of particular reading techniques or "procedures" (Gee, 1990) in a narrow sense. As such, these studies do not directly contradict findings from cognitively focused reading research—research devoted to disentangling, describing, and measuring the component cognitive operations readers execute while reading. Yet they strongly indicate the extent of what may be overlooked when readers' reading activities are decomposed into component strategies and processes and when these components are studied separate from contextual and historical factors.

As groundwork for this dissertation study, these studies are thus invaluable—even as they generally stop short of exploring the idea that individual readers and groups of readers may possess not just one or two distinct reading "practices" (e.g., a reading practice for *Bible* study or for composing and reading grafitti, in addition to a more generic practice for reading school-assigned texts), but multiple perhaps idiosyncratic practices (which I am callings "MOs").[12] They show that readers everywhere habitually read in distinct, culturally

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[11] This is of course not to say that a particular reading practice might not be championed by some *as* a general, all-purpose, and/or culture-neutral practice and that readers themselves might not perceive one particular practice as general, all-purpose, standard, normal, or natural (see Heath, 1982).

[12] The existence of a greater diversity of "ways of reading" (beyond those actually documented) is sometimes implied in these studies. For example, when Radway (1991) investigated the romance novel reading culture of the women of Smithton, it was strongly implied—and intuitively plausible—that these women did not apply their romance-novel "way of reading" to every text they transacted with, such as, for example, their children's story books, supermarket flyers, or letters from their relatives. Radway's study strongly

inflected ways, and that the rationale and overarching purpose for reading in a particular way must be sought at a level beyond that of readers' decisions to apply this or that reading comprehension strategy.

Studies of Adolescent Students' Diverse Ways of Reading

Overlapping with socioculturally oriented studies of the kind described in the preceding section are sociocognitively oriented studies that are more narrowly focused on characterizing two or more contrasting styles of reading belonging to the same reader or group of readers and used in a particular context. These studies often start from the well-supported observation that diverse readers have diverse reading diets and preferences. For example, adolescent readers exhibit tremendous variance in terms of how much they read, the particular genres of texts they prefer, the amount of reading they do online, the overall diversity of their reading diet, and so on (Hughes-Hassell & Rodge, 2007; Moore, Alvermann, & Hinchman, 2007; Rideout, Roberts, & Foehr, 2005). A logical next step, then, from a sociocognitive perspective, is to characterize how these readers habitually engage with the texts they prefer (as opposed to those they dislike, say), with a view to exploring whether readers have different practices or MOs for these different cases.

One example of this kind of study is Cherland's (1994) study of 6th-grade girls and their ways of reading to resist social control and construct their own identities. Cherland's declared interest was in the intersection of gender identity (and the construction of specific types of adolescent gendered identities) and the acquisition of particular reading practices, which she hypothesized might contribute in significant ways to the construction and maintenance of gendered identities (and that might therefore take slightly different or very

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implies that, with these other texts, the women of Smithton used a different set of reading practices. However, Radway's extensive study did not directly investigate this matter.

different forms for boys and girls). The data Cherland collected from her seven focal participants and their families supported this theory. She found that girls and boys from an early age were exposed to a gendered reading environment (e.g., fathers reading non-fiction texts, mothers reading fiction). More to the point, boys and girls engaged with texts in divergent ways, attending to different information and story features (when reading novels), and, more generally, invoking different standards and values. The boys, for instance, focused on matters of logic and realism and debated the relative merits of characters (e.g., how well characters performed as problem solvers) according to extra-textual standards. By contrast, the girls focused on their emotion-based responses to a story's characters and the ways characters coped with the emotional ups and downs of their lives. Cherland for her part was interested in exploring the social and political consequences of these gendered reading MOs; she was critical of the fact that, in school, neither girls nor boys were systematically challenged to adopt alternative reader "positions" and to question the validity of their habitual assumptions and attitudes. For my purposes, however, a key take-away point here is simply that boys and girls in this study employed different practices, different MOs, vis-à-vis the same texts. These MOs exhibited consistency over time and apparently trumped the changing demands of varied texts (i.e., even as students tackled new texts, the MOs they used persisted recognizably).

Another example of this type of study of contrasting reading MOs is Gallagher's (2012) case study of a 9th-grade English Language Arts class, with special emphasis on one student, Marcus, who exhibited sophisticated out-of-school literacy practices (e.g., researching the features and prices of consumer products across multiple websites). Gallagher followed Marcus as he navigated between these out-of-school practices and

other, more traditional reading practices he was exposed to, and expected to master, in school (e.g., reading a chapter in a novel to identify the novel's theme for class discussion). Interestingly, Marcus was positioned in his ELA class—and positioned himself—as a non-reader. The explanation for this surprising fact—surprising in light of the significant amount of time Marcus spent reading online every day—was that reading was construed in this classroom as ideally being a solitary, immersive, aesthetically focused, and sustained activity. Yet this was not Marcus's preferred MO for reading. He favored efferent reading of multimodal texts on particular information-rich topics (e.g., sports). With these texts, he preferred to engage intellectually as an opportunistic seeker of accurate and useful information rather than emotionally and reflectively, as a seeker of moral truths or insights into personalities and belief systems. Gallagher's study documents how, even under great pressure to conform and to adopt school-privileged ways of reading, a diversity of ways of reading may persist and even thrive in readers like Marcus.

In a similar study conducted outside school, Graff (2010) documented distinctions made by seven pre-adolescent girls in grades 4-5 between "reading" (a reading MO the girls applied to assigned school texts), "looking" (used with magazines), "readin'" (applied to "culturally relevant" picture books and informational books), and "skimming" (used for relaxed, recreational co-reading of books and magazines). What sets Graff's study apart from Gallagher's is the extent to which she captures and reports the texture of her participants' often limited ability to articulate how exactly one MO differs from others. Often the distinctions drawn are articulated in negative terms, based on the absence of a particular quality (e.g., one MO is described as differing from others because, when using it, "I don't have to answer any questions about every little thing in [the text]" [p. 182]). Other

MOs are characterized in terms of the affect associated with them or in terms of the reader's level of choice and perceived agency. Graff's study thus illustrates the wide variety of criteria adolescents may use to distinguish among what, to them, evidently feel like distinct and disinctly coherent alternative ways of reading.

As with the socioculturally oriented studies described earlier, here too, with these more narrowly focused sociocognitive studies, one finds oneself wishing for even more information—especially about the moment-by-moment unfolding of reading events that involve one or another MO. Still, what all these studies suggest is that many adolescents are capable of making distinctions among ways of reading and do, in fact, routinely make such distinctions on the basis of a variety of criteria. And that they are aware of doing so and able to talk about relevant motivations, aims, and criteria in some detail.

Survey Studies of Readers' Purposes and Motivation for Reading

Sociocultural and sociocognitive studies using ethnographic observational methods tend to focus on very small numbers of participants in their local contexts. Survey studies, by contrast, often use larger or much larger numbers of participants and shed light on broad trends and population characteristics. With regard to the construct of reading MOs, two such studies are especially worth mentioning here—one focusing on adolescent readers' perceptions of the varied purposes they may have for reading, the other focusing on adolescent readers' varying levels of motivation to read depending on the particular purpose they have in mind. Taken together, these studies lend further empirical support to the hypothesis that most readers have personal experience with reading in more than one way and readily think in terms of the distinct ways of reading they know.

The first study is Greaney and Neuman's (1990) investigation of the "functions of

reading" identified by >1,200 8-, 10- and 13-year-old students in thirteen different countries. The authors found that all students drew distinctions between a number of distinct functions. The three key factors underlying these many functions were *reading for utility*, *reading for enjoyment*, and *reading for escape*. Consistent with the idea that ways of reading are shaped by cultural beliefs and norms, the authors also found differences between countries, with responses in some countries indicating the presence of two separate utility factors (*educational utility* as distinct from *moral utility*) and responses in some other countries indicating a single factor underlying both *reading for enjoyment* and *reading for escape*.

The second study is McKenna, Kear, and Ellsworth's (1995) national survey of children's attitudes toward reading. The authors previously conducted a factor analysis on pilot data indicating the psychological reality of two dimensions: attitude toward *recreational reading* and attitude toward *school-related, academic reading* (McKenna & Kear, 1990). (Interestingly, the authors acknowledge that, in theory, one could "delineate reading attitude into [further] subtypes according to [students' reading] interests. Thus, one may have an attitude toward reading science fiction that differs considerably from one's attitude toward reading romantic fiction" [p. 934] even though both of these are counted as targets of *recreational reading*.) For their national survey of >18,000 students, they used a 20-item, pictorial instrument assessing attitudes toward just *recreational reading* and *school-related, academic reading*. Their global finding was of a gradual decline for most students in both attitudes across grades 1 through 6. The interest of the study for my purposes, however, lies less in the content of the finding than in the point that McKenna, Kear, and Ellsworth's attitude research broadly supports the hypothesis that

elementary-aged readers readily distinguish between two or more ways of reading (especially when this research is triangulated with research on readers' differentiation of their reading processes for engaging with texts of different genres).[13]

Studies of the Effects of Readers' Purpose

A number of studies have explored the relationship between readers' purpose for reading and the moment-by-moment reading processes they engage in and the comprehension outcomes they achieve. Insofar as the construct of readers' purpose is one that could plausibly play the role of an overarching regulative strategy—superordinate to lower-level reading comprehension strategies such as *predicting*, *visualizing*, or *asking questions*, and governing their application—these studies merit separate mention here.

A number of studies have indicated that, when readers are asked or told to read for distinct purposes (e.g., *reading to study* versus *reading for recreation*), they tend to process the same text in different ways. For example, several studies with college students have shown that, when asked to read for the purpose of entertainment, they engaged in more superficial processing of information (skimming, associative thinking); whereas, when asked to read the same text for study purposes, they typically engaged in deeper processing (e.g., pausing to summarize new information, making inferences). And as might be expected, differences in processing generally correlated with different comprehension outcomes: when processing was deeper, college students generally comprehended better and recalled more (e.g., Linderholm, Cong, & Zhao, 2008; Linderholm & van den Broek,

[13] It is theoretically possible that some readers read in exactly the same way, with the same MO, when reading recreationally and when reading for school, and that their different attitude ratings were related solely to the purpose of their reading activity, not to any difference they perceived in the quality or intensity of their cognitive work while reading. In light of the available evidence, however, this seems unlikely.

2002; Narvaez, van den Broek, & Ruiz, 1999; van den Broek, Lorch, Linderholm, & Gustafson, 2001).

Other studies with proficient older readers have looked in depth at their deployment of a full range of diverse reading comprehension strategies. Zhang and Duke (2008), for example, investigated the reading strategies that twelve skilled Internet readers used while doing three Internet reading tasks, each with a different reading purpose: seeking specific information, acquiring general knowledge, and being entertained. The study found that readers applied a wide range of strategies (>50) and that their application of strategies differed by reading purpose. Some strategies were used across purposes, while others were not. Readers also employed different patterns of reading strategies for different reading purposes.

Of particular interest for our purposes, in relation to the MO construct, is the finding reported by Linderholm, Kwon, and Wang (2011) in their review of the literature on readers' purpose, namely, that the relationship between readers' purpose and comprehension outcomes is not consistent. Looking across studies, they found that, while a shift in purpose reliably caused readers to make some adjustments to their cognitive processing, the effects of different purposes on "the product of reading" (e.g., the amount of text information recalled, comprehension test performance) was less consistent. Unsurprisingly, it appears that, in determining comprehension outcomes, one or more other factors must come into play to moderate the influence of readers' purpose. Candidate factors to play this moderating role might include such factors as reader interest (e.g., Baldwin, Peleg-Bruckner, & McClintock, 1985), motivation to read and learn (e.g., Wigfield, Guthrie, Tonks, & Perencevich, 2004), and/or self-efficacy beliefs (e.g., Walker, 2003).

A small number of studies have in fact explored the influence of readers' purpose in conjunction with additional factors. For example, Bråten and Samuelstuen (2004) examined whether the influence of reading purpose on students' reported use of text-processing strategies was moderated by students' level of prior knowledge about the topic of the text. The authors found that the influence of reading purpose on reported use of particular strategies—memorization and elaboration strategies—did indeed depend on students' level of topic knowledge. For participants who read for the purpose of *discussing text content*, reported use of memorization and elaboration strategies was on average higher if they had more prior knowledge about the topic, whereas no relation was found between reported use of such strategies and topic knowledge for participants who read for the purposes of *test taking* or *summary writing*.

The available research on readers' purpose for reading thus suggests that most proficient readers have developed the ability to adjust their application of text-processing strategies in relation to overarching goals (e.g., reading for entertainment, reading to study for a test). The research also suggests that other factors, such as background knowledge, moderate the influence of reading purpose.

Genre-Focused Studies

A number of studies have documented strong genre-exposure effects on young readers, with some young readers developing significant knowledge of particular genres at a young age, even before they can decode text independently. When called upon to invent or "pretend read" a wordless text, these young readers reproduce genre-specific discursive patterns and stock language (e.g., after repeated exposure to fairy tales, some children will orally narrate a wordless fairy-tale picture book using fairy-tale narrative structures,

discursive patterns, and stock locutions, such as "once upon a time") (Chapman, 1994; Duke & Kayes, 1998; Loizou, Kyriakides, & Hadjicharalambous, 2011; Pappas, 1993; Pappas & Brown, 1987).

Consistent with this finding, and consistent with the fact that young children in the U.S. on average are exposed to more literary narrative texts than informational texts (e.g., Duke, 2000a, 2000b; Yopp & Yopp, 2012), studies have shown that a majority of young readers in this country demonstrate better reading comprehension of narrative texts than of informational texts (e.g., Best, Floyd, & McNamara, 2008; Chapman, 1994; Kamberlis, 1999). International comparisons (Park, 2008) further suggest that this phenomenon is due to U.S. children's preferential exposure to narrative texts and to parental styles of involvement in lap reading of stories (e.g., Flood, 1977; Haden, Reese, & Fivush, 1996; Reese & Cox, 1999), rather than to any universal innate human predilection for stories or cognitive "fit" between stories and young children's ways of processing experience (e.g., Pappas, 1993). In some countries, such as Finland, an opposite trend is seen, with young children on average demonstrating better reading comprehension of informational texts than of narrative texts (Park, 2008).

These data are relevant to a study focused on investigating adolescents' reading MOs insofar as they suggest that, from an early age, many readers develop specialized reading routines adapted for particular genres. These readers may well possess—in their personal repertoire of reading strategies—all the individual strategies they would need to be proficient at comprehending texts of unfamiliar or less-liked genres. However, they may not yet have developed the superordinate schema(s) or plan(s) or disposition(s) they need to have in mind to orchestrate some subset of the strategies they already know. In other

words, readers who excel at constructing meaning from one type of text (fairy tales, say) may stumble at doing so with a different type of text (political speeches, say) not because their knowledge of reading strategies is deficient, but rather because they do not have a MO for marshalling and applying the relevant knowledge they have to the unfamiliar genre.

Studies of Emergent Readers' Exposure to Differentiated Styles of Reading

As briefly alluded to above, a number of observational studies have looked at parent-caregiver interactions with young children around shared book reading (e.g., Aram & Biron, 2004; Audet, Evans, Williamson, & Reynolds, 2008). These studies are relevant here insofar as they shed light on the possible genesis of readers' very first reading MOs. They also indicate possible sources of differentiation already in very young children's emergent MOs for transacting with texts, as in Cochran-Smith's (1984, 1985) study (already mentioned above) of pre-K children attending a private nursery school in a high-SES neighborhood. As we saw, Cochran-Smith found that adults socialized their children into particular patterns of literacy even before they had learned to decode text on their own. It stands to reason that the same general pattern and dynamic of socialization would be true for *all* text-and-reading-related interactions that children experience, in their homes and elsewhere, from the very youngest age (i.e., starting in infancy).

The studies reviewed here focus on the practice of lap reading with infants, toddlers, and older children. Lap reading is a physically intimate form of shared reading during which an older, usually proficient reader (e.g., a parent) reads aloud from a text and explicitly models the sorts of skills proficient readers apply to texts, including reading with fluency and expression. With older children, shared reading—as the term suggests—may feature some amount of shared involvement and responsibility on the part of the child with

regard to turning pages, commenting on pictures, or even identifying letters and decoding words. With very young children, by contrast, lap reading may appear much more one-sided, with the child seemingly contributing relatively little, and the parent or caregiver initiating and carrying out every part of the activity.

What these studies show (e.g., Bus & Ijzendoorn, 1988; Evans, Baraball, & Eberle, 1998; Evans, Shaw, & Bell, 2000; Raikes et al., 2006; Sénèchal, Cornell, & Broda, 1995; Sénèchal & LeFevre, 2002; Stolz & Fischel, 2003) is that, already before children begin more overtly and assertively contributing to reading events, these sorts of interactions and activities around books can contribute to the development of important emergent literacy knowledge and skills (e.g., young children's acquisition of concepts for print [Clay, 2000] and letter knowledge) (e.g., Evans & Shaw, 2008; though see Phillips, Norris, & Anderson, 2008, for review of studies indicating no consistent benefit in these areas). Just as importantly, early lap-reading interactions can also contribute to the development of children's general expectations and dispositions regarding future interactions around books (e.g., Ortiz, Stowe, & Arnold, 2001). Further, because parents and caregivers cannot help but infuse lap-reading events with particular rituals (a little different or very different than the ones followed by other parents), particular attitudes toward reading, particular affective elements, particular attention-and-activity-guiding procedures, and particular discursive moves, these lap-reading events are likely to shape children's emerging conception of reading in particular non-uniform ways (e.g., Anderson-Yockel & Haynes, 1994; Ninio, 1980; Wheeler, 1982).

This last point—about diversity in parental lap reading styles—is the key one for our present focus on the acquisition, already very early in life, not just of literacy-related

knowledge, but of distinctive reading MOs. The suggestion is that, above and beyond the measurable contributions that lap reading may make to children's knowledge in specific areas such as print concepts, alphabet knowledge, or vocabulary knowledge (Evans & Shaw, 2008), lap reading cannot but apprentice children into some *particular*, culturally inflected, and more or less idiosyncratic MO for reading. Moreover, this MO-instilling effect is likely to hold true even when the lap reading unfolds in such a way that it does not result in *any* measurable gain in children's emergent literacy knowledge (e.g., Phillips, Norris, & Anderson, 2008). For example, studies by Anderson-Yockel and Haynes (1994) and Ninio (1980) detected race- and SES-linked patterns of difference with regard to the frequency with which mothers asked questions during lap reading as well as the types of questions they asked. It stands to reason that, over time, these different patterns of questioning experienced by young children would contribute to the formation of diverse MOs for reading in which posing questions—or posing certain types of questions—will be perceived and experienced by some as normal, enjoyable, and useful, and by others as less so. Also, further differentiation of home-grown reading MOs is likely to come about as caregivers expose children to a lengthening list of different text formats and genres (e.g., Duke & Purcell-Gates, 2003), whether planfully or through accident and circumstance.

Studies of Disciplinary Literacies

Studies of disciplinary literacy practices are relevant to this dissertation study because they indicate the existence of what might be characterized as advanced reading MOs. As described by disciplinary literacy researchers (e.g., Shanahan & Shanahan, 2008; Shanahan, Shanahan, & Misischi, 2011), a disciplinary way of reading is a distinctive reading routine acquired over time by a disciplinary expert, drawing on deep content

knowledge, and involving the application of a distinctive set of knowledge-constructing, knowledge-interpreting, and/or knowledge-evaluating moves and strategies. The appropriate orchestration of these moves and strategies, in turn, is guided by a particular epistemic stance and by assumptions and values shared by discipline "insiders" (Geisler, 1994). For example, historians share the view that the full significance of any text can only be understood by seeing it in the context of other contemporary texts and artifacts and the perhaps divergent perspectives these other texts and artifacts may contain. A historian's disciplinary reading routine will therefore always involve taking careful note of a text's authorship, publication date, and publication venue, as well as the contemporary or past interlocutors it explicitly names or perhaps implies. The historian does not seek to extract from the text some nugget(s) of accurate information; she is intent on discerning bias, conflicting perspectives, and vying agendas.

Readers who achieve this level of disciplinary expertise go from being proficient "generalist" readers to being specialized expert readers—capable of reading *as chemists*, say, *as historians*, or *as literary critics* (Geisler, 1994; Shanahan & Shanahan, 2008; Shanahan, Shanahan, & Misischi, 2011; Wineburg, 1991; Wyatt, Pressley, El-Dinary, Stein, Evans, & Brown, 1993). As such, reading through their respective disciplinary lenses, they are enabled to construct meaning and achieve insights they could not previously have attained. As several studies have shown (e.g., Haas, 1994; Shanahan, Shanahan, & Misischi, 2011), experts and novices navigate domain texts in different ways, focus on different text elements, and in general glean somewhat different or very different information and understandings of what they have read.

This research is relevant to the proposed study because, *mutatis mutandis*,

everything found to be true of the reading routines of disciplinary experts may be true of adolescent readers who acquire expertise of a perhaps more modest kind (e.g., knowledge of the architecture of a favorite website, knowledge of a particular author's biography) and subsequently acquire or evolve specialized reading routines to leverage this expertise.

Interestingly, the field of disciplinary literacy has not yet explored this possible parallel between the practices and expertise of "true" experts and the more modestly scoped and (to some) perhaps trivial-looking practices and proto-expertise of younger readers (e.g., Alvermann, Huddleston, & Hagood, 2004). To the contrary, some in the field (Shanahan & Shanahan, 2008) have explicitly ruled out this possibility and have proposed a model of reading and literacy development in which young readers first acquire a generic, all-purpose way of reading and only much later acquire more specialized reading routines, sometimes in middle school but often not until high school or college. Yet this narrowed view of adolescents' literacy knowledge and activities now appears increasingly at odds with the data we have (e.g., Ito, Baumer, Bittanti, et al., 2009). Many adolescents are acquiring unprecedented forms of digitally mediated literacy to higher and higher levels, and even the less specialized versions of this (e.g., acquiring advanced knowledge and strategies for using online search engines) can involve reading and writing practices that count as expertise in the eyes of less-knowledgeable, less-adept peers, not to mention less tech-literate adults (e.g., Nesset, 2011). It therefore seems likely that the field's understanding of what can count as *disciplinary expertise* must sooner or later be broadened to account for disciplinary expertise in such subfields as MMORPG (Massively Multiplayer Online Role-Playing Game) playing, say, or online fan fiction writing (e.g., Black, 2008). In the meantime, the disciplinary literacy framework is a useful one for investigating

and discussing what I am calling MOs (if one ignores, for the time being, its rejection of the idea of younger readers possessing less sophisticated and less codified forms of disciplinary literacies). The framework underscores the idea that reading activity may be orchestrated in and through specialized "routines" that comprise much more than just reading comprehension strategies. Such routines weave together domain knowledge, epistemic assumptions, and various norms and protocols of interpretation, in addition to procedural knowledge about applying garden-variety reading strategies.

Studies Relevant to Methods

A key methodological issue at the heart of this dissertation study pertains to adolescent readers' metacognitive capacity and their ability to verbalize and express the contents of their thinking. It therefore seems relevant, as part of this literature review, to briefly detail some research findings in these areas—findings that underlie my choice of methods for this study. It would be irresponsible to undertake an investigation of this kind without being confident, based on the available evidence, that adolescent readers are in general capable of attending to their own mental processes and states of mind, and, further, likely to be able and willing to report accurately about what they notice and what they think.

In general, empirical studies of the development of metacognitive ability—the ability to think about one's thinking, both in terms of being able to describe it and also in terms of monitoring and regulating it (Flavell, 1979; Flavell, Miller, & Miller, 2002)—indicate that it increases with age and emerges already before the start of formal schooling (Lockl & Schneider, 2006). Its development can be accelerated through targeted interventions (e.g., Lucangeli, Galderisi, & Cornoldi, 1995), but under normal conditions,

without any particular instructional attention, it appears to increase gradually in tandem with language development. For example, metacognitive vocabulary (e.g., knowledge and use of verbs describing mental processes), theory of mind, and general metamemory have been found to increase steadily already over the course of the preschool years (Lockl & Schneider, 2006, 2007). Development is not uniform, and individual differences have been detected already at the age of four. That said, growth in metacognitive ability has consistently been found to be true for all normally developing learners, not just for gifted or advanced learners (e.g., Kreutzer, Leonard, & Flavell, 1975; Schneider, Kron, Hünnerkopf, & Krajewski, 2004). And development has been found to accelerate once children begin formal schooling.

With regard to reading, specifically, numerous studies have indicated that children in the 6th grade range (11-13 years old) and younger are capable of reporting in detail about their reading processes, motivation to read, and other related matters. Many of these studies are intervention studies in the course of which self-report data about strategy awareness and strategy use were collected from students. For example, as part of a year-long, quasi-experimental study of the effects of transactional strategies instruction, Brown, Pressley, Van Meter, and Schuder (1996) followed 60 struggling readers in grade 2. Students participated in pre- and post-test strategy interviews and were asked questions about reading strategies they used and when and why they used them (e.g., "What do good readers do? What makes someone a good reader? What do you think about before you read a new story?" [p. 24]). The majority of these low-achieving second graders were able to report specifically about "what good readers do" and about the various reading and problem-solving strategies they used. Other studies have focused specifically on students'

awareness of the general utility and possible situational appropriateness of various reading strategies (e.g., Baker & Brown, 1982; Myers & Paris, 1978) (the general finding being that such awareness often accompanies improvement in reading and may in fact be a contributing, causal factor propelling such improvement). These studies, too, suggest that most readers are able to reflect and report on what they know about reading and at least some aspects of what they actually do while reading.

Summary of the Foregoing Review and Need for the Present Study

The empirical studies reviewed in the preceding sections together strongly suggest that all readers possess cognitive and cultural resources for transacting with texts and for regulating their reading behavior above and beyond their knowledge of such things as letter-sound correspondences, sight words, vocabulary, and school-taught reading comprehension strategies. These studies further suggest that, in the experience of at least some readers (and perhaps most or all readers), these resources do not exist separate from their ability to read, but instead, that they are intertwined with, or infused into, one or more particular ways of reading—with the result that each "way of reading" looks and feels slightly different or very different to the reader using it.

The available evidence suggests that this differentiation begins to happen already at a young age. Already before they have begun decoding words on the page, it appears that readers' transactions with texts are inevitably being shaped and molded by the particular socio-cultural influences to which they are exposed—influences that vary from reader to reader and home to home. Over time, it stands to reason that these early influences create expectations, habits, values, beliefs, and routines regarding what reading looks like and feels like and *should* look like and feel like, what can count as reading, and what reading

entails. Thus, already before they start their formal schooling, children appear to be familiar with—and to be preferentially attached to and comfortable with—one or more very particular, culture-specific ways of transacting with texts.

As readers progress through their years of schooling, the limited evidence we have suggests that some new MOs are acquired, while old ones may evolve or perhaps be discarded. Leaping ahead in readers' lives, there is strong evidence that, as readers acquire advanced content knowledge at the college level (though no doubt earlier and later than that, too), some are apprenticed into very specialized and sophisticated disciplinary reading routines (e.g., Shanahan & Shanahan, 2008). We know much less, however, about what may happen in the intervening years, between the beginning of formal schooling and the acquisition of a basic level of reading proficiency, and the later development of these specialized disciplinary literacies. Some studies (e.g., Graff, 2010; Gallagher, 2012) strongly indicate the reality of at least some adolescent students being able to distinguish among two or more distinct ways of reading, describe them, have preferences among them, and make strategic reading decisions based on them. But little is known about the prevalence and extent of this phenomenon. No prior studies have tried to ascertain the full range of adolescent readers' possibly numerous MOs for reading, or the extent of the diversity of reading MOs that may exist within and across adolescent readers. As well, no prior studies have explicitly made the argument that reading MOs constitute a distinct construct and object of study relevant to understanding adolescent readers, that reading MOs are superordinate to reading comprehension strategies and regulate the application of such strategies, and that readers may possess multiple MOs, including idiosyncratic MOs not shared with other readers.

Research Questions

Based on the foregoing review of empirical research, and drawing on the theoretical perspectives outlined in the preceding chapter, this study asked the following four questions:

1. What distinct MOs for reading (if any) do adolescent readers in grade 6 know and use for reading school-assigned and self-chosen texts?
2. What criteria do adolescent readers in grade 6 use to distinguish among the diverse MOs for reading (if any) in their personal repertoire of MOs?
3. What criteria do adolescent readers in grade 6 use to regulate their application of diverse MOs for reading (if any)?
4. How is the regulation of diverse MOs (if any) by adolescent readers in grade 6 related to the regulation of conventional reading comprehension strategies they know and use?

CHAPTER 3

Method

Design

To investigate the hypothesis that, above and beyond what they may know about reading comprehension strategies, 6th graders know and use a variety of reading MOs, I used a mixed-methods design combining structured written interviews with follow-up case studies. In-person written interviews, conducted with thirty randomly selected 6th grade participants from one small school district, asked participants to report on their reading activities and on the different ways of reading (if any) they used on a recent school day and non-school day. Multi-session case studies were conducted with six 6th graders randomly selected from the first group of thirty. Each case study session incorporated (a) unstructured, open-ended conversation about participants' personal experiences and perceptions of reading; (b) stretches of conversation resembling a semi-structured interview, during which I asked a number of planned questions (making sure to ask the same or similar questions of all six participants) and probed participants' answers to clarify important points; and (c) multiple opportunities for each participant to read self-chosen and researcher-provided texts while thinking aloud. Self-chosen texts were texts participants brought to sessions at their own initiative. Additionally, case study participants were asked to use a digital camera to take pictures of texts they read between case study sessions and to bring these pictures with them for us to examine and discuss.

In combination, written interviews and case studies yielded a wealth of interlinked self-report and descriptive data. The interconnectedness of the data (e.g., case study participants enacting the reading MOs they had previously identified in their written

interviews) allowed for corroboration of the reliability and accuracy of the data, and also increased confidence in the generalizability of some of the study's findings.

Design rationale. The decision to collect this particular mix of data types stemmed from my twin goals of (a) documenting adolescent readers' ways of thinking about their reading activities, with particular attention to the question of whether they themselves spontaneously distinguished among two or more distinct "ways of reading" that they claimed to both know and use; (b) taking steps to verify the authenticity, accuracy, and completeness of participants' self-report data; and (c) doing (a) and (b) with a sufficiently large number of participants to obtain a relatively robust estimate of the true prevalence and diversity of MOs in a larger population of 6th graders (to start, in the larger population of 6th graders in the school district where the study was conducted).

Given my interest in the relationship between conventional reading comprehension strategies and possible higher-level constructs (such as reading MOs) during reading, I considered the option of relying exclusively on concurrent think-aloud data. This approach would have had the benefit of yielding very detailed, high-resolution snapshots of what adolescent readers actually did during reading. Concurrent think-aloud data have generally been found to be more reliable than retrospective think-aloud data and interview data (Ericsson & Simon, 1980, 1984/1993; Pressley & Hilden, 2004).

However, based on a review of prior studies in which K-12 participants were asked to think aloud while reading (e.g., Brown, Pressley, Van Meter, & Schuder, 1996; Caldwell & Leslie, 2010; Martin, 2011; Meyers et al., 1990), I was mindful of the problem of relying so exclusively on participants' verbal protocol data—obtained from just a single reading task or just a small number of reading tasks—that one loses sight of the issue of participants'

perceptions, preferences, and purposes *outside* the confines of this or that episode of reading. Concurrent think-aloud data may earn high marks for reliability, in the sense that such data emphatically demonstrate that a given participant was capable of doing something (e.g., summarizing, making an inference) and did, in fact, actually enact a particular strategy at a particular moment in time. However, in the absence of additional interview data—data capturing the participant's opinion of the reading task, his/her commentary on what he/she was trying to accomplish by reading in the particular way he/she did, and so on—think-aloud data in isolation risk providing a very incomplete picture of the whole reader behind the data and of how a particular think-aloud performance, and a particular act of reading, fits into the full range of this whole reader's multifaceted experience.[14]

To capture more of this "full range" of my participants' experience, together with data indicating the possible diversity in their personal ways of transacting with texts, I chose to rely to some extent on self-report data derived from interviews. These self-report data might be open to questions and concerns regarding their accuracy and reliability (e.g.,

[14] The example of Martin's (2011) exemplary study of elementary-aged students reading three texts of different genres (a persuasive text, a biographical text, and a procedural or how-to text) may help to clarify this point. Through coding of her participants' verbal protocols and through statistical analysis of the frequency with which they used particular strategies and processes across the three genres they read, Martin was able to show that some strategies and processes were used slightly more or less often than others depending on the genre of the text being read. This is a significant finding. However, in relation to my interest in readers' regulation of strategies and processes through implementation of particular reading MOs, the Martin study stopped tantalizingly short by not collecting participants' responses to interview questions about whether, to them, it felt like they were reading in the same way across all three texts; whether, to them, it felt like they were reading these texts with the researcher present in the same way they would on their own at home; and so on. Responses to questions like these would shed light on the extent to which the think-aloud performance of these participants actually captured—or didn't capture—the full range and diversity of their known "ways of reading."

Merriam, 1998; Paulhus, 1991), yet these questions and concerns could be addressed to some extent by aligning participants' self-report data given at a first point in time with self-report data given at a later time (and cross-checking for consistency), as well as by aligning self-report data from interview sessions with verbal protocol data collected during unrehearsed reading of familiar and unfamiliar texts.

The balanced approach I opted for was to trust and also verify—to collect self-report data about my participants' personal perceptions, preferences, and purposes in order to gain insights into their possibly idiosyncratic and possibly diverse ways of reading and of thinking about reading; and at the same time, to take specific steps to verify that the self-report data they provided were internally consistent and corresponded to specific referents in the world (e.g., specific texts and specific locations and contexts where reading occurred) and specific reading behaviors they actually demonstrated while reading and thinking aloud.

In sum, by combining interview and think-aloud data-collection methods and opting for a two-stage design featuring structured written interviews followed by case studies, I addressed concerns associated with more narrowly focused approaches. Written interviews allowed me to efficiently gather snapshots of the self-reported reading MOs of thirty 6th graders—a sufficiently large number to enable robust inferences about the larger population from which they were randomly sampled. Follow-up case studies with a subset of participants from the initial group of thirty—during which I asked follow-up questions about the MOs they described in their written interview and engaged them over the course of multiple meetings in enacting several of their MOs—allowed me to corroborate and also augment findings from the written interviews.

Rationale for choice of population. The decision to focus on a single small school district was motivated by a preference for depth over breadth and the judgment that more nuanced findings about 6th graders in a single well-defined population would provide a more productive basis for future research and professional development work than less nuanced findings about 6th graders across a number of districts. Randomly sampling all thirty of my participants from a single small district meant that I would come away with findings about the range and diversity of reading MOs in a single population—and the prevalence of such diversity. Furthermore, with this number of participants from a single population of 6th graders, I expected to be able to make some preliminary observations and inferences about the role—or non-role—of school curriculum and instruction in fostering 6th graders' MOs, especially if it turned out that students exposed for years to the same curriculum and instruction in a relatively homogeneous district nonetheless demonstrated knowing and using somewhat different or very different MOs for reading. These in-depth findings could, in turn, provide a solid foundation for future research as well as professional development work with teachers in this district—and in other similar districts.

The decision to study 6th graders as opposed to older or younger adolescents was motivated by (a) prior experience and pilot work with 6th graders that encouraged me to hypothesize that many or most children in this age band possess multiple MOs and (b) prior research about broad trends in children's reading at this age (e.g., Alexander, 2005; Alexander & Jetton, 2000; Kendeou, van den Broek, White, & Lynch, 2007). In the upper-elementary years, students generally face growing reading demands at school both in terms of being expected to read more, overall, and also in terms of being expected to read a

greater range of texts belonging to a greater variety of genres and text formats than ever before (Carnegie Council on Advancing Adolescent Literacy, 2010; Duke & Carlisle, 2011; Hopper, 2005; Krause, 2013). As well, students at this age tend to have increasing opportunity and freedom to explore new genres of texts and new topics on their own, including on the Internet, to which younger students in the primary grades may have more limited access (e.g., Alvermann, 2008; Alvermann, Hinchman, Moore, Phelps, & Waff, 2006; Lenhart, Purcell, Smith, & Zickurh, 2010). In light of these trends, it stands to reason that, among upper-elementary students, one might find a proliferation and diversification of reading MOs. And that is also what my pilot work with six 6th graders indicated.

Another important consideration pertained to participants' likely willingness to participate in a study of this kind—in particular, their level of comfort with talking with a friendly but unfamiliar adult about their reading and thinking. A closely related consideration concerned my participants' ability to articulate their thoughts and observations about a mental activity as complex as reading. On both these fronts, the 6th grade level appeared to be a safe choice. Most readers at this age (irrespective of their overall level of reading proficiency) have achieved a basic level of fluency in reading and are confident in their understandings of basic aspects of traditional print texts and how text works. As well, while the quantity of their reading may vary considerably, especially outside school (Allington & McGill-Franzen, 2004; Moje & Tysvaer, 2010), most 6th graders read independently for a variety of purposes, in a variety of domains. Crucially, their language knowledge and oral communication skills are now sufficiently advanced to talk about what they know and do as readers, and previous interview-based studies indicated a high likelihood that 6th graders would feel confident and willing to share what they know

with an interested adult researcher (e.g., Bulfin & Koutsogiannis, 2012; Gallagher, 2012; Wyatt-Smith & Elkins, 2008).

Rationale for sample size. In the absence of any prior research specifically focused on 6th graders' reading MOs, a sample size of 30 was chosen based on a review of relevant studies with older adolescents (e.g., Graff, 2010; Gallagher, 2012) and pilot work I conducted with six 6th graders. This pilot sample exhibited a range of 4 to 8 different "ways of reading," with a mean of 6.33 reading MOs per reader. Using these results to estimate an appropriate sample size, I first calculated a sample variance of 1.86 and standard deviation of 1.36. Assuming a normal distribution of reading MOs in the population, and setting the desired margin of error to 0.5 and the desired confidence level to 95% confidence (Z = 1.96), I derived an estimated necessary sample size of 29 participants ("necessary" for estimating the mean number of MOs per student in the larger population within a margin of error of 0.5 and with 95% confidence). To give myself an "insurance policy" of one participant, I rounded 29 to 30.

For the case studies component of the study, my choice of six case studies was based on the fact that six participants constitutes 20% of the pool of 30 structured written interview participants. In terms of auditing my 30 participants' interview responses for authenticity and accuracy, an audit rate of 20% seemed appropriate. As importantly, six case studies would allow me to capture six different adolescent voices and perspectives on the experience of reading strategically in the year 2014. With each case involving approximately five hours of in-person data collection, six case studies would allow for in-depth description and nuanced insight in each case as well as opportunities to discern parallels and contrasts across multiple cases.

Research Context

General demographics. Participants in this study were twelve- and thirteen-year-old 6th graders from one small rural school district in a Midwestern state. In 2012-2013, the district enrolled a total of 2,446 students across K-12—roughly 200 students per grade level. The total enrollment at the upper-elementary building where participants were recruited was 374, with 202 of these students enrolled in 6th grade. In terms of racial make-up, the district overall was overwhelmingly white (>99%), and this was true of the 6th grade cohort at the time of this study.

At the time of the study, the district had a policy of inclusion for students with learning differences (i.e., students with all but the most severe learning differences were "mainstreamed" in regular classes). Given that I did not exclude from the study students with learning differences, it is relevant to report here that, in 2012-13, 33 out of 202 6th grade students, 33 (16.34%) were categorized by the state as "students with disabilities." Also relevant here is the fact that in 2012-2013 no 6th grade students were categorized as English Language Learners.

With regard to family income (another demographic factor known to be predictive of academic achievement as well as literacy development, specifically [e.g., Harwell & LeBeau, 2010]), in 2012-13, 97 of 202 6th grade students (48.02%) were determined eligible for the federal subsidized lunch program and were categorized by the state as "economically disadvantaged." The US Department of Agriculture's Income Eligibility Guidelines (IEGs), used in determining eligibility for free and reduced price meals, indicated that in 2013 a family of five with annual income below $51,006 qualified for reduced price meals and with annual income below $38,842 qualified for free meals.

Finally, with regard to students' longevity in the district, it is worth noting that, while there has been some attrition and mobility every year (i.e., students and their families entering and leaving the district), a majority of students who enroll in Kindergarten have historically remained enrolled in the district for the entire span of their K-12 education. Consequently, it is usually the case that a majority of students at any grade level have been classmates for many years and have experienced similar or identical curriculum and instruction for many years. The district's high school graduation statistics are strong relative to the state average. In 2012-13 the high school graduation rate was 90.4%, well above the state average of 76.96%. Roughly 50% of graduating seniors in that year enrolled in community college or a four-year college or university.

Academic achievement. With regard to academic performance (as measured by the state's standardized assessment of educational achievement in math and reading administered annually to students in grades 3-8), this district has historically performed slightly above the state average in reading and slightly below the state average in math. In 2012-13, for example, the district's percentage of students scoring at the proficient level in reading surpassed the state average by between 2.9 and 12.7 percentage points in grades 3-7; only in grade 8 was the state average (65.7% proficient) higher than the district's percentage (64.4% proficient). In math, by contrast, this district's percentage of students scoring at the proficient level has consistently lagged the state average, with the exception of 6th grade. In 2012-13, the district's percentage of students proficient in math lagged the state average by between 2.7 and 13.3 percentage points; only in grade 6 was the district's percentage (53.3% proficient) higher than the state average (40.2% proficient).

In reading, specifically, 6th graders in this district have historically modestly outperformed the state average at each of the achievement levels designated by the state standardized assessment. In 2012-13, for example, 28.2% of 6th graders scored "Advanced" (the highest of four levels), compared to 22.7% statewide; 49.7% scored "Proficient," compared to 45.5% statewide; 16.9% scored "Partially Proficient," compared to 17.4% statewide; and <10% scored "Not Proficient" (the lowest of the four levels), compared to 14.4% statewide.

Curriculum and instruction.[15] Students in this district experience reading curriculum and instruction that are in many ways reflective of recent trends in reading instruction throughout the state and the nation (Burns, Griffin, & Snow, 1999; National Early Literacy Panel, 2008; National Institute of Child Health and Human Development, 2000). Starting in Kindergarten, class time is devoted to building students' decoding accuracy, oral reading fluency, and comprehension, and expanding their vocabulary. Activities include teacher read-alouds of illustrated texts (mostly narrative), shared reading of texts (mostly narrative), and phonics instruction and practice. Over the primary years, phonemic awareness and phonics instruction continues, in tandem with an emphasis on oral reading fluency, which teachers assess on a regular basis.

As students become fluent readers, time and attention are gradually refocused on more explicitly meaning-constructive, comprehension-focused activities, including shared reading, small-group guided reading, guided independent reading, small-group book clubs, and writing. As well, there is growing diversity over the years in the genres of texts to

[15] This brief overview of reading-related curriculum in the district was reviewed and approved for factual accuracy by three teachers in the district: a Grade 1 teacher, a Grade 5 teacher, and the district's upper-elementary reading specialist.

which students are exposed. Certainly by the time students start the upper-elementary grades, the ratio of narrative fiction reading to non-fiction, informational text reading has shifted toward greater emphasis on informational texts (though the former still predominate). As well, starting in 5th grade, students experience increasing exposure to digital and web-based reading and writing activities.

With regard to reading comprehension instruction, specifically, there is an ongoing and explicit focus on improving students' comprehension-relevant skills and strategies that starts in Kindergarten. Even before they can decode simple texts independently, all students practice retelling short narratives and learn about the various elements stories contain (e.g., characters, setting, problem, solution). As well, students start learning early on about specific reading comprehension strategies, such as predicting, visualizing, and making connections (e.g., making "connections to self," "connections to the world," and "connections to other books"). This emphasis on reading comprehension strategies continues through 6th grade, with additional strategies being added to ones learned in previous years. As students move into the upper-elementary grades, there is also more concerted and sustained attention to text features and text structures (e.g., problem-solution, chronological sequence, cause-effect, compare-contrast, hierarchical description), as well as texts' stylistic features. Such features and structures are explored both from the angle of reading and from the angle of writing, and in English Language Arts as well as in other content area classes (e.g., social studies, science).

In relation to the present study's focus on the strategic self-regulation of reading activities and 6th graders' development of reading MOs, it is also worth noting that, in the upper-elementary grades, ELA teachers do not teach reading comprehension strategies

only in isolation. Students are also taught suites or "packages" of strategies, such as Question-Answer Relationships (QAR) and Reading Around the Text (RAT). QAR, for example, is a framework for thinking about different types of questions that can be asked about a text (e.g., "right there in the text" questions, "think and search" questions, "on my own" questions) and the search and reading strategies relevant to each type (Raphael, 1986). RAT is a strategy applied upon first contact with an unfamiliar text and is used to orient the reader to the text and what it contains—so she can set a purpose for reading and jump-start the process of locating the text's main points, or locating specific information she especially needs.

Participants

Data for this study were collected from thirty participants who were all twelve- and thirteen-year-old 6th graders at the end of their 6th grade year. All thirty participated in the first stage of data collection, in the form of a structured written interview. Six participants from the group of thirty then additionally participated in the second stage, consisting of case studies.

Reflecting a district-wide pattern, a high percentage of participants had been enrolled in the district since 1st grade (21 of 30, or 70%). Two others joined in 3rd grade, and five more joined in 4th or 5th grade. Only 2 of 30 (<7%) interview participants entered the district at the start of 6th grade. In other words, all but 2 of 30 participants had been grade-mates or classmates for at least two years prior to this study, and the majority had been grade-mates or classmates since 1st grade. They had thus experienced similar curriculum and instruction for at least two years and, in most cases, six years of schooling prior to the study.

Among my six case study participants, five of six had been enrolled in the district since 1st grade. The sixth joined in 3rd grade. Thus all six case study participants had experienced similar curriculum and instruction for at least four years of schooling prior to meeting with me in the last weeks of their 6th grade year.

As a consequence of the selection method used (see details below), gender parity was achieved: exactly half of the study's participants in both stage one (written interviews with thirty participants) and also stage two (case studies with six participants) were female, and the other half were male. Also as a consequence of the selection method used at stage one (in which participants were randomly sampled from the full population of 6th graders), participants' academic achievement levels and learning profiles were reflective of the larger population. The roster of thirty participants selected to participate in the written interviews comprised students at all levels of reading proficiency (as measured by the state's annual assessment), including (a) four students of lower reading proficiency who in 2013 took an alternative, modified form of the state assessment, and (b) one student who took a different alternative assessment designed for students with cognitive impairments. Finally, consistent with the overall demographics of the district and the school, 100% of study participants were categorized as "white" and none were categorized as English Language Learners.

Procedure for Stage 1: Structured Written Interviews

Recruitment and selection of participants. To ensure equal numbers of male and female participants, as well as a sample representative of the full range of reading proficiency levels in the population, a list of all 6th graders was sorted by gender into two alphabetized lists. Fifteen names were then selected from each list, for a total of thirty

participants, using a systematic sampling method. Counting from the top of each list, every seventh name was circled for selection. An informational letter about the study, along with a parent-guardian permission form, was then given to every randomly selected student. 6th graders who were not selected for the study were informed that the principle of selection was random chance.

Twenty-nine of the thirty initially selected and invited students agreed to participate and returned signed parent-guardian permission forms. One male student declined to participate. To replace this student, the next-listed student on the alphabetized list of all male 6th graders was invited to participate. This student agreed to participate and returned a signed parent-guardian permission form.

Written interview instrument. The written interview instrument (see Appendix A) was designed to elicit a maximum amount of specific information about reading MOs in as short a time as possible from 6th grade participants not, in general, accustomed to reporting at length about their reading practices and processes. The instrument was also designed to contain internal checks on the authenticity and reliability of participants' self-report data.

With regard to obtaining information from participants as efficiently as possible, the interview instrument contained the following features: (a) it provided graphical elements (silhouettes of people walking, running, dancing, etc.) to accompany the researcher's brief oral explanation of the idea that particular activities are done by some people in more than one way (see Appendix B for the researcher script); (b) it provided participants with blank, labeled charts they were asked to use to list all the times they read and what they read each time (e.g., "my math textbook," "texts from my friends") from morning till night, on a recent

school day and a recent non-school day; (c) it provided adolescent-friendly instructions about indicating which reading events—among those listed by the participant—involved "the same way of reading," and which (if any) involved reading in a way that the participant him/herself counted as a different way of reading; and (d) it provided spaces for participants to explain what they saw as the nature of the differences (if any) between these different ways of reading they indicated using in (c).

The instrument was piloted on eleven occasions with a total of six 6th graders, one 8th grader, one 2nd grader, and four adult readers to optimize its clarity and ease-of-use for a 6th grade audience. Feedback was solicited from pilot participants and was used to improve the wording of several questions. Input was also solicited from a K-12 reading specialist and from university experts with extensive experience conducting research with adolescent students, and this input resulted in further improvements in layout and wording. (At the same time, it should be noted that, at no point during the piloting of the instrument, or during its subsequent use in the study reported here, did any 6th grader express confusion about the directions in general or, in particular, about the request to indicate different "ways of reading" and to explain differences between ways of reading.)

With regard to the issue of internal checks on the authenticity and reliability of participants' self-report data, the interview instrument was designed to address the concern that, out of confusion or out of a misplaced desire to make their answers look more impressive, participants might indicate knowing more different ways of reading than they actually did (see Maxwell, 1996, for this and other types of undesirable "researcher effects"). To address this concern, the instrument had participants first provide relatively straightforward factual information about the times they read on two recent days. This

factual account of reading on two different days then provided the basis for participants to reflect and report on their personal perceptions regarding their different ways of reading (if any). Further, in a subsequent section of the written interview, participants were asked to explain what, for them, made each way of reading they identified different from others. If a participant had fabricated or embellished one or more of the ways of reading he/she reported, this step might prove difficult to accomplish. On the spot, this difficulty might cause a participant to reconsider and correct any exaggeration or fabrication. During later review and analysis of participants' responses, this design feature might at the very least increase the chances of detecting any such exaggeration or fabrication.

Finally, to avoid under-reporting by participants of their possibly numerous different ways of reading, the interview instrument included a final request for participants to report any additional ways of reading known to them—in particular, any ways of reading known to them that, for whatever reasons, they did not use on the two days they earlier chose to report on in detail and therefore did not mention in the preceding section of the written interview.

Other materials. Other materials used during the written interviews included pens and colored pencils. Pens were used by participants to write responses to written interview questions; colored pencils were used by participants to code their notations about the times they read on two recent days (using color to indicate similar or different ways of reading). These materials were provided by the researcher.

General procedure. Over the course of three weeks in May 2014, structured written interviews were conducted in person in sessions that involved 1-3 students each. These sessions were conducted at the participants' school, during the school day, in an

empty classroom. Students were released from class by their teachers to meet with the researcher at pre-arranged times, usually between morning recess and lunch. At the conclusion of each written interview session, the researcher accompanied participants back to their classroom.

At each session, participants were thanked for their participation and re-assented to confirm they still wished to participate (i.e., they read and signed an age-appropriate participant assent form they had already signed before). They were reassured that the written interview was not an assessment of any kind, that their responses would be de-identified (making it impossible for teachers or anyone else to find out which answers were theirs), and that there were no right or wrong answers. They were asked to consider each question thoughtfully and to respond to all questions honestly, to the best of their knowledge, and as specifically as possible. (See Appendix B for the full researcher script.)

Throughout the written interview, participants worked alone. Steps were taken to create a relaxed and welcoming environment, and participants were encouraged to ask for clarification whenever needed. However, there was no discussion permitted about the participants' actual or contemplated answers to questions. This was done to avoid participants influencing each other's responses. Simple procedural questions were of course promptly answered. Participants took anywhere from 50 to 70 minutes to answer the written interview questions. Snacks were provided at the end of the session. (Snacks were also provided to all 6th grade students who were not selected to participate.) At the conclusion of each session, participants were thanked and accompanied back to their classroom.

Procedure for asking about "different ways of reading." For each written interview session, participants were seated at a large table. Each participant was provided with a pen, a box of colored pencils, and a copy of the written interview instrument.

After participants were welcomed, thanked, and re-assented, the researcher gave a brief overview of the written interview and introduced the idea of "different ways of reading." This idea was introduced by stating that, while people may do some activities the same way every time, there may be other activities that they habitually do in one or more different ways. The researcher illustrated this idea with a personal example, referring to the fact that, while his seven-year-old son has different ways of brushing his teeth, he himself brushes his teeth every evening in exactly the same way. The researcher then contrasted his singular way of brushing his teeth with the fact that he knows and uses several ways of "moving around on his feet": *strolling*, *striding*, *jogging*, *sprinting*, *dancing*. To support this point, the researcher referred participants to the first page of the interview instrument, which showed silhouettes of people engaged in different types of movement (e.g., *jogging*, *walking*, *dancing*—see Appendix A).

At this point the researcher invited participants to reflect on their known ways of brushing their teeth and moving around on their feet. Did they do these things in a single uniform way every time, or did they know different ways of doing these things—ways that looked different or felt different to them, personally, even if someone else watching them might not see the difference? Participants were then asked to estimate how many different ways of moving around on their feet they knew and used, and to write that number on the first page of the instrument.

Next, the researcher asked participants to turn their attention to the activity of reading, and to reflect on whether, for them personally, reading was an activity they did in the same way every time, or whether it was an activity they knew how to do, and did in fact do, in different ways. Participants were then asked to estimate how many different ways of reading they knew and used, and to write that number on the first page of the instrument. (See the full researcher script in Appendix B.)

It should be noted that, throughout this introduction of the idea of reading possibly being done in different ways, the researcher followed a script that emphasized and legitimized individual differences—the idea that "we all do things in different ways, and that's great"—and remained agnostic on the issue of whether there is any benefit or advantage to having more than one way of doing an activity.

With the idea of "reading in different ways" on the table, the researcher then focused participants' attention on the printed instrument and guided them through the activities and questions printed in the instrument. All directions in the instrument were read aloud. When participants had procedural questions, these were promptly answered.

Procedure for Stage 2: Case Studies

Recruitment and selection of participants. As soon as the in-person written interviews were completed, six 6th graders from the first group of thirty were randomly selected and invited to participate in the follow-up case studies. To ensure equal representation of boys and girls, as well as inclusion of students of different levels of reading proficiency, a stratified selection method was used. The thirty students who participated in the written interviews were sorted by gender and then sorted again into three equal reading achievement bands (high, medium, and low) based on their scores on

the reading section of the most recent state standardized assessment of academic progress. One boy and one girl were then randomly selected from each band. These students were then invited to take part in a series of case study sessions spread over 3-8 weeks—starting in May and continuing through July or in some cases early August, depending on each student's summer vacation plans and availability. All six students agreed to participate and returned a signed parent-guardian permission form.

Materials. For the case studies I assembled a small collection of diverse texts for case study participants to read while thinking aloud. The collection included one or more of each of the following: novels, poems, application forms, social studies textbooks, science textbooks, self-improvement books, speeches, religious texts, and graphic novels. Some of these were borrowed (with teachers' permission) from the school's own collection of reading materials (e.g., three novels that 6th graders had read at the beginning of their 6th grade year), and a subset of these were therefore familiar to some or all of the case study participants. (A full list of titles is provided in Appendix C.)

Other materials included one or two laptops with wireless internet access, Morae software loaded on the laptops to record mouse and keyboard actions along with audio of the user's voice, a digital audio recorder, a back-up digital audio recorder, a digital camera, participants' written interview notes from their prior interview session, whatever books or other texts the participant chose to bring with him/her to the session, and individual websites accessed on the internet. Texts supplied by participants included the following: novels, autobiographies, illustrated history books, telephone books, magazines, video games, smartphone apps, digital photographs, videos, news websites, student-made

websites, baseball cards, product manuals, product catalogs, competition entry forms, pattern cards for equestrian competitions, and text messages.

General procedure. Once six case study participants were randomly selected and had all returned their signed parent-guardian permission forms, I scheduled individual meeting times with participants and their families. Meetings were held at times and locations convenient for each participant and his/her family. Meeting locations included the school building, local libraries, and participants' homes. Meeting times were spaced to accommodate participants' plans for sports events, summer camps, and summer vacation travel. In rare cases, meetings with a particular participant occurred on two consecutive days. In most cases, meetings were spaced one week apart. Meetings were scheduled to last approximately 90 minutes and in fact lasted anywhere from 75 minutes to 120 minutes.

Each case study session followed the same basic pattern. At the beginning of each session, after greetings were exchanged, I sat side-by-side with the participant at a table (where laptops, books, and other materials were within reach) and proceeded to engage the participant in relaxed, back-and-forth conversation about reading. Over the next 90 minutes, we then cycled through three types of activities: (a) open-ended, relatively unstructured conversation about the participant's literacy activities, likes and dislikes, and texts he/she had recently read or with which he/she described some sort of reading-like contact (e.g., playing video games); (b) stretches of time during which, at my invitation, the participant read a text while thinking aloud; and (c) conversational stretches where we talked about the participant's just-enacted reading of one or more texts, using this experience as a starting point for observations, questions, and reflections about the participant's diverse "ways of reading" (as already indicated by his/her responses to

questions in the written interview). As part of this last type of activity, we also often revisited the participant's actual written interview responses and/or my notes about what he/she said during a prior case study meeting.

In a typical case study session, we cycled through these three activities three or four times. That said, I did not overtly try to make the session adhere to any kind of timetable, schedule, or pacing. On the contrary, every effort was made to keep the tone and pace of the session relaxed and free flowing. For example, if the participant wished to talk about a reading-related hobby or interest (e.g., train-spotting, horseback riding), the conversation was allowed to follow this path until it eventually found its way back to the topic of literacy and reading (because inevitably there would be some kind of connection between the topic at hand, whatever it might be, and reading or writing).

The guiding principle of each session was to provide the participant with as many opportunities as possible to describe and enact, in as much detail and as fully as possible, what he/she himself or herself perceived to be the different "ways of reading" in his/her repertoire. The goal of this approach was to seek corroboration, correction, and/or augmentation of data provided by the participant during his/her earlier written interview.

At the same time, I seized every opportunity to elicit self-report and enactment data about whatever other, additional ways of reading my participants alluded to or specifically mentioned. For instance, if a participant commented that, when reading a self-provided or researcher-provided text, she felt or thought that she might be reading in a slightly different or very different way from other ways she had previously described, I asked her to say more.

Between sessions, case study participants were invited to take photographs of reading materials and/or reading settings in their daily lives that might be difficult to describe in words or—in the case of reading materials or devices—that might be difficult to transport to a case study session (e.g., a wall-mounted screen, or a large-format or fragile book it might not be safe or physically possible to transport). Participants were invited to bring these photographs with them to the next case study session. Following the example of studies by Burnett and Myers (2002) and Dickie and McDonald (2011), the researcher provided a camera for this purpose. However, all six case study participants indicated that they owned a cellphone, smartphone, or tablet with a built-in camera that they preferred to use for this purpose. As well, at the end of every session, participants were invited to bring with them to the next session two or three texts from home. Every time this invitation was made, I reiterated that "texts" should be understood very broadly and inclusively as comprising short and long texts, digital and print texts, strictly alphabetic texts as well as multi-modal texts—whatever texts participants found themselves reading between case study sessions.

Unstructured conversation about literacy and reading. As already mentioned, stretches of unstructured conversation constituted one staple component of each case study session. Having already participated in the structured written interviews, my case study participants were aware from the start of the general focus of the study (i.e., how adolescents read) and the likely conversational focus of our case study meetings, namely, their personal experiences of reading and how, at times, they might read in different ways. Stretches of unstructured conversation were therefore rarely entirely off topic, in the sense of having no discernible connection to literacy at all. In general, unstructured conversation

consisted of meandering dialog about literacy-related activities, with occasional conversational tangents during which the participant (and sometimes the researcher) spoke for a minute about a personally important topic or interest (e.g., a favorite YouTube channel, a family trip, a pet). By dint of shared expectation and consent, however, these tangents were always relatively quickly connected back to a literacy-related topic, or they were simply dropped.

Concurrent think-aloud protocols. Although every self-report a reader gives about his/her reading activity has some informational value (in the sense that, even if highly inaccurate, a reader's account of how she reads may yield useful data regarding what she *thinks* proficient readers do, or what she *thinks* she *ought* to do during reading), the least likely procedure for obtaining accurate data involves asking participants to report retrospectively about what they may have done in the past or, in general, about what they usually do (Ericsson & Simon, 1980). In contrast, when participants are given a specific text to read and asked to think aloud while reading it, they tend to be more explicit, specific, and precise (Ericsson & Simon, 1984/1993; Pressley & Afflerbach, 1995; Pressley & Hilden, 2004). Furthermore, insofar as think-aloud utterances are connected to specific features of the text and/or to specific aspects of the reader or the context, they provide a basis for additional comparisons across readers and other additional inferences. For this reason, I made sure that every case study session involved several opportunities for participants to engage in actual reading of texts of various kinds—some provided by me, some provided by the participant—while thinking aloud.

These stretches of reading and thinking aloud were another staple component of each case study session. After participating in a few minutes of concurrent think-aloud

training during the first session (see below), participants were repeatedly invited to pick up a text and spend a few minutes reading it while verbalizing the contents of their short-term memory. In these invitations to read, great care was taken never to ask the participant to demonstrate any particular way of reading, nor to convey to the participant, explicitly or implicitly, any expectation that he/she would or should read a selected text in any particular way. Rather, the participant was invited, first, to read and think aloud, and only then, after concluding a section of reading, to provide observations or reflections about what he/she had done during reading (adding this after-the-act layer of observation and commentary to a primary layer of raw, think-aloud data). In this way, great care was taken not to influence participants to read in particular ways, nor to convey in any way that certain ways of reading were more interesting, or more valued, than others.

As noted, the texts that participants read while thinking aloud were sometimes provided by me and sometimes by participants themselves. Most case study sessions were long enough to allow for both scenarios—invitations by me to the participant to read one or more particular texts I provided, as well as opportunities for the participant to read one or more texts of his/her choice that he/she brought to the session. Over the course of roughly five hours' worth of case study meetings per participant, I also made a point of reading a core set of texts with all six participants. Doing so allowed me to compare participants' diverse reading MOs with each other in additional and specific ways—such as comparing MOs participants enacted when reading the very same text. (In Appendix C, texts read by all six participants are marked with an asterisk.)

Concurrent think-aloud protocols training. At the first case study session with each participant, time was spent on concurrent think-aloud training. First, a brief definition

and explanation of thinking aloud were provided to participants (e.g., "Thinking aloud while you read means saying out loud whatever is going through your mind while you're reading the words and sentences that are on the page, or maybe the screen, in front of you.") Next, participants were invited to practice or "warm up" thinking aloud while going online, on the researcher's laptop, to find the weather forecast for the following day. When participants did this, the researcher scrupulously avoided making any approving or disapproving comments about the contents of the participants' verbal protocols (to avoid influencing them, in the future, from artificially restricting their thinking aloud to just particular topics). Rather, by repeatedly asking participants to say "what are you thinking or doing now?" the researcher focused on instilling the idea that thinking aloud involves a steady stream of verbalizations, and that thinking aloud can continue even when the person thinking aloud is in the middle of a series of steps he/she is carrying out, or even when he/she does not think he/she is doing anything especially interesting.

After this initial training, the researcher continued to provide frequent requests and reminders to participants (whenever they were invited to spend a few minutes reading in text) to verbalize their thoughts and reactions during reading, and not to wait to do so until they felt they had a "complete thought" in mind or something "important" to say.

Semi-structured conversations. Stretches of semi-structured conversation constituted the third staple component of each case study session. These stretches of conversation typically followed those periods of time during which participants read a text and thought aloud. I characterize this case study component as "semi-structured conversation" because I repeatedly posed a core set of premeditated questions—or variants of these core questions—and probed participants' answers to clarify their

meaning and/or elicit additional details. (See Appendix D.) By maintaining a relaxed and friendly demeanor, I tried to make these stretches of questioning and probing feel as comfortable and enjoyable as possible for participants. I also periodically praised participants, and thanked them, for rising to the challenge of responding to difficult questions about their inner mental states and processes—questions that are intrinsically difficult and that "most grownups would have a hard time answering." That said, there was a clear contrast between stretches of time devoted to open-ended, sometimes digressive conversation about reading in general, on the one hand, and on the other hand these stretches of semi-structured conversation during which I directed participants' attention to specific aspects of what they were doing while reading and thinking aloud.

Across sessions, I also made a point of asking the same sorts of questions (during these semi-structured conversations) of all my case study participants. As well, I made a point of asking both direct and oblique corroborative questions and follow-up questions about all the different "ways of reading" initially reported by participants during their in-person written interview. These questions were "direct" when I explicitly referred to a response they gave on the interview (e.g., a description they provided of one of their ways of reading) and directly asked whether a way of reading they enacted or described during a case study session was the same or different. Questions were "oblique" when, without explicitly referring to a participant's written interview responses, I asked about a detail or distinction the participant had previously mentioned. Both types of questions served a corroborative purpose—checking for consistency across data points. When a participant indicated consistency (e.g., by answering "yes" to a direct question about alignment of an enacted reading MO with one previously described in the written interview), I always

followed up with additional probes (e.g., "Remind me again about how that way of reading felt different, for you, from the others?").

Whenever I observed an apparent discrepancy between what a participant actually appeared to do during reading and thinking aloud, or what he/she observed or explained during a case study session, and what he/she had previously described or reported (whether in his/her written interview or during a previous case study session), I followed-up with questions that probed the apparent discrepancy. I invited the participant to "say more" about the topic or to "explore" the discrepancy. I also always emphasized that describing and explaining how one reads is a difficult thing to do and that, in the end, the participant him- or herself was and is the best judge of what, from the inside (so to speak), feels like a distinct way of reading different from other ways of reading.

Finally, as part of these semi-structured conversations, I made a point of probing every case study participant's knowledge of conventional reading comprehension strategies and eliciting information about participants' perceptions of the roles and experiential status of strategies and reading MOs in relation to each other. On many occasions, these probes fit naturally into the flow of conversation, because a participant referenced a strategy, because his/her concurrent thinking aloud had indicated the application of a strategy, or because he/she made a comment about reading instruction in school. Topics such as these provided a convenient place to pivot the conversation toward the topic of reading comprehension strategies. Additionally, with all case study participants, I at some point asked several explicit questions about their knowledge of conventional reading comprehension strategies, how they learned such strategies, and

their application of such strategies during reading—whether separate from, or in combination with, reading MOs.

Data Analyses

With all data collected, data were prepared and organized for analysis. Participants' names were deleted and replaced with unique two-digit identifier numbers. All data were then de-identified. Case study participants were additionally given pseudonyms. These pseudonyms were Chris, Astrid, Harry, Cara, Samantha, and Nick.

In preparation for analysis, all case study audio recordings were then transcribed. 29.33 hours of audio recordings (approximately five hours per participant) yielded over 175,000 words, or just over 29,000 words per participant, on average. These transcripts were stored as separate files (four files per case study participant, corresponding to four case study sessions per participant) for subsequent coding. As well, the responses given by all thirty written interview participants to questions about their different ways of reading were extracted from the paper-and-pencil written interview response sheets and digitized for subsequent coding.

Analyses of written interview data. As a first step, numerical responses given in the written interviews (e.g., participants' estimates of the number of "ways of moving on their feet" they knew and their initial and final estimates of the number of distinct "ways of reading" they knew) were tabulated and descriptive statistics were calculated.

Next, participants' color-coded descriptions of their distinct "ways of reading" were read through and checked to verify that there was no accidental duplication of descriptions (i.e., no instances where a participant, through inattention or on purpose, wrote the same description twice). Participants' verified descriptions were then numbered, counted, and

tabulated, and descriptive statistics were calculated (e.g., mean number of reading MOs per participant). At this stage, no attempt was made to analyze or evaluate the content of the descriptions; as long as a description did not duplicate another existing description (by the same participant), it was counted as a full-fledged reading MO equal in standing to any other self-reported MO.

Next, the constant comparative method (Glaser & Strauss, 1967; Merriam, 1998; Strauss & Corbin, 1998) was used to develop codes that could be applied to participants' descriptions of their distinct ways of reading to identify the number and variety of different criteria participants used to distinguish among these ways of reading.

Unit of analysis. Before codes could be developed, a unit of analysis had to be determined. I chose to divide the data into "idea units" (Chafe, 1980, 1985), because in their relatively short handwritten responses, participants had often referenced two or more criteria for distinguishing among their reading MOs in a single sentence or a single bulleted point (e.g., "This way [of reading] is for assignments and homework, or what I have to do but really wish I could do something else"). Given this density of criteria mentioned per syntagm, using the idea unit as my unit of analysis would allow me to apply more than one code per sentence or bullet point. (For example, with the description quoted above, I would be able to apply one code to the idea unit "what I have to do" and a separate code to "really wish I could do something else.")

Code development. Next I used an iterative code-reread-revise procedure to develop emergent codes: I read the first idea unit, applied a short natural-language code to succinctly describe any criterion referenced in that idea unit, read the next idea unit, applied the same code or a new code, and so on until all the idea units in a description had

been coded. Then I reread all idea units and their codes, checking for cases where I had created or applied different codes to identical or almost identical idea units; cases where, upon rereading an idea unit, I noticed a reference to a criterion I previously overlooked; and cases where the wording of a code was unclear or confusing. I addressed these problems (in the few cases they occurred) by deleting or combining codes, creating new codes, and/or rewording codes for greater clarity.

This procedure was repeated across all the descriptions of distinct reading MOs provided by a single participant, and was then continued across the descriptions provided by one third of all the other participants. At this point, before conducting a check of interrater agreement, a list of all codes developed so far was reviewed and edited (a) to sharpen or clarify the wording of particular codes and (b) to collapse codes that appeared semantically and referentially equivalent (e.g., collapsing into a single code two previously separate codes for "used for homework" and "used for school stuff"). At the same time, care was taken not to erase nuances of possibly important difference between participants and their diverse criteria for distinguishing MOs. For example, when two participants explained what was distinctive about a MO of theirs by referring, in one case, to studying for tests ("I read this way when there's a test") and, in the other case, to memorizing words for later verbatim performance ("to learn the words by heart"), these codes were not combined or collapsed.

***Interrater agreement for criteria used to distinguish ways of reading*.** At this point, with one third of 30 participants' descriptions of their reading MOs coded to identify the criteria they used to distinguish among them, I conducted an interrater reliability check (Stemler, 2001). I asked a literacy scholar to participate in a brief orientation to the

material and introduction to the codes developed thus far. This second rater then independently coded the MO descriptions I had previously coded.

Comparison of codes indicated an interrater agreement rate of 92%. Disagreements pertained to syntagms in which a participant explicitly referred to one criterion for distinguishing between MOs (e.g., *for school or not for school*) but arguably also implied a second criterion (e.g., *level of enjoyment*). These few disagreements were resolved through discussion by agreeing that, to merit a code, a syntagm should contain some specific reference to the criterion at issue, and not just imply it (in the judgment of the rater, based on his/her general sense of adolescent psychology). For example, a reference to a particular MO being used for "school reading" exclusively should not also be coded, on the basis of that fact alone, for the criterion "level of enjoyment."

Based on this high level of interrater agreement, the remaining un-coded MO descriptions of the remaining 20 participants were then coded.

***Frequency counts*.** Once all participants' descriptions of their distinct reading MOs were coded to identify all the different criteria they had used to distinguish among MOs, all criteria mentioned by participants were counted and descriptive statistics were calculated.

Correlation between reading MOs and level of reading proficiency. To test for possible correlation between the number of MOs participants reported and their level of reading proficiency (as measured by the state standardized reading assessment), I ran (a) a Pearson Product-Moment Correlation Test on data from 25 participants for whom scaled scores from the same version of the state assessment were available and (b) a Spearman's Rank-Order Correlation Test on data from all 30 participants using within-group rankings

of reading achievement instead of scaled scores.[16] Additionally, I ran a Pearson Product-Moment Correlation Test with all 30 participants using their scores on a different standardized reading assessment, the nationally used STAR Reading assessment.

Correlation between criteria used to distinguish reading MOs and level of reading proficiency. To test for possible correlation between the number of different criteria participants used to distinguish among their reading MOs and their level of reading proficiency, I again ran (a) a Pearson Product-Moment Correlation Test (using data from 25 participants for whom I had scaled scores from the same version of the state assessment) and (b) a Spearman's Rank-Order Correlation Test on data from all 30 participants using within-group rankings of reading achievement instead of scaled scores. As before, I also again ran a Pearson Product-Moment Correlation Test with all 30 participants using their scores on the STAR Reading assessment.

Analyses of case study data. Data from six case study participants consisted primarily of transcripts of 29.33 hours of audio recordings (approximately five hours per participant). This came to just over 29,000 words of transcribed speech per participant. Other data included the digital photographs that three of six participants brought to case study sessions, texts that all six participants brought to case study sessions or accessed on the web (and which I documented with my digital camera), and screen-and-audio

[16] Five of my thirty participants took an alternative version of the state assessment in 2013 that reported scores on a scale different than the one used for the main assessment. Unfortunately, there is no formula for converting these scores. Nonetheless, given the overall relative difficulty of the assessments, all thirty students could still be *ranked* according to their reading proficiency, with the highest of the five scores on the alternative assessment being ranked as 26th in a ranked list of all thirty scores. These top-to-bottom rankings, in turn, can be used to conduct a Spearman's Rank-Order Correlation Test, a non-parametric measure of the strength and direction of association that exists between two variables (in this case, *total number of MOs reported* and *reading proficiency level*).

recordings made with Morae software of participants' mouse and keyboard actions when they searched and read online.

As a first step, I read through all transcripts and extracted those sections where participants read a particular text while thinking aloud. I marked these sections as verbal protocols of reading. The remaining pages of transcript were marked as "conversation about reading."

Next—and with a view to corroborating, as well as deepening and augmenting, what I had learned about participants' reading MOs from the written interviews—I again applied the constant comparative method (Glaser & Strauss, 1967; Merriam, 1998; Strauss & Corbin, 1998) to develop a second layer of categories and codes for the case study transcripts. I continued using the codes previously developed during analysis of participants' written interviews (codes for the diverse criteria participants used to distinguish among their MOs). However, given that the case study transcripts contained information about a wide variety of additional reading-related topics, I now proceeded to identify additional categories and develop additional codes.

***Unit of analysis*.** A crucial first step was to determine the unit of analysis I would use for the case study data. As with the written interview data, I chose to divide the case study transcripts into "idea units" (Chafe, 1980, 1985), and for much the same reason: in their case study utterances about reading and about themselves as readers, participants often referenced two or more ideas in a single utterance (e.g., "It's like, when you read [a news article], it is emotional and then you want to spread the news"). Using the idea unit as my unit of analysis would allow me, as necessary, to apply more than one code per utterance. (For example, with the transcribed statement quoted above, I would be able to

apply one code to the idea unit "it is emotional" and a separate code to "then you want to spread the news.")

Code development. As noted, for data from the case study sessions I developed a coding manual that built on the codes for participants' criteria for distinguishing their diverse reading MOs. As before, I applied the constant comparative method (Glaser & Strauss, 1967; Merriam, 1998; Strauss & Corbin, 1998) to identify categories and develop codes. Identifying categories for this data was a more complex task, given that participants had talked about a multitude of topics besides the criteria they used to distinguish among MOs.

I proceeded by randomly selecting a transcript and, to start, reading its first line with a view to identifying idea units that pertained to reading or to literacy more generally. This filter excluded from consideration idea units containing information unrelated to reading or literacy, such as statements the participant made about how early he/she woke up in the morning, his/her plans for summer travel, and similar topics.

When I encountered an idea unit with information about reading or literacy, I first considered the possible relevance of codes developed earlier. If one of these codes was relevant, I applied it. When none of the available codes was relevant, I used an iterative code-reread-revise procedure to develop emergent codes: I reread the idea unit, applied a short natural-language code to succinctly describe the idea about reading (if any) expressed in that idea unit, read the next idea unit, applied the same code or a new code, and so on until all the idea units in a given transcript had been coded. Then I reread all idea units and their codes, checking for cases where the wording of a code needed clarification

or where two codes could be collapsed into one because they appeared to overlap to a large degree.

One entirely new category of codes pertained to case study participants' identified reading MOs—those already identified by participants in their written interview and additional ones they now identified and described in the course of case study sessions. All MOs were given unique numeric codes, and these codes were applied whenever a particular MO was referenced (whether just mentioned in passing, or taken up as the target of further description or commentary). In cases where a previously described MO was referenced but also described in a significantly new and different way (i.e., in cases where, as a result of further introspection, a participant revised or augmented his/her earlier description of a MO), a new code was applied that indicated this revision. Similarly, in cases where a participant designated a not-before-mentioned MO as a sub-type or version of a previously described MO, this relationship was indicated in the code. (For example, the participant Samantha initially identified and described a MO she used for reading novels, and this MO was coded MO05.01.02. In a subsequent case study session, Samantha then distinguished between two sub-versions of this MO, one that she used for reading novels for pleasure, and a different one that she used for reading novels about which she knew she would be tested at school. The first of these sub-versions of MO MO05.01.02 was coded MO05.01.02a; the second was coded MO05.01.02b.)

When idea units contained information about literacy- and reading-related topics other than participants' MOs for reading, such as comments about the content of books or video games, or comments about school reading instruction, new codes were created. In general, though, given the study's primary focus on participants' reading MOs, categories

and codes developed for these other literacy-related topics were not as fine-grained as those developed to capture the nuances of participants' fine distinctions among their MOs. For example, when a participant referenced a text she had read, a general code was applied for "reading media referenced." As appropriate, a further sub-code was applied for "traditional paper media," "digital media," or "other media" (based on the observation that, in participants' descriptions of their MOs, the distinction between reading-on-a-screen and reading-on-paper was often salient). However, no further codes were created to capture finer distinctions that participants sometimes made in referring to texts they read, such as between different formats and/or genres of print texts.

With the study's third and fourth research questions in mind—regarding the regulation by case study participants of their possibly diverse MOs for reading, and the relationship between the regulation of MOs and the application and regulation of conventional reading comprehension strategies—special care was taken to code for comments about the regulation of MOs and/or reading comprehension strategies.

This coding procedure was repeated across other transcripts until 20% of all the transcripts had been coded. At this point, before conducting a check of interrater agreement, a list of all codes developed to this point was again reviewed and edited (a) to sharpen or clarify the wording of particular codes and (b) to collapse codes that appeared semantically and referentially equivalent. At the same time, care was taken not to erase possibly important nuances and differences between participants' accounts of their reading

activities.[17] For example, even though just a single participant spoke about privately "making up jokes," during reading, to poke fun at characters and situations described in the texts he read, a specific code was created and retained to document this phenomenon.

Interrater agreement. At this point, with 20% of the case study session transcripts coded, I conducted an interrater reliability check (Stemler, 2001). I asked a literacy scholar to participate in a brief orientation to the material and introduction to the codes developed thus far. This second rater then independently coded 25% of the transcripts I had previously coded.

Comparison of codes indicated an interrater agreement rate of 85%. Discrepancies pertained primarily to places in the transcript where one coder applied a code while the other coder did not. When these places in the transcript were revisited, there was rarely any disagreement about which code to apply. Discrepancies in coding, when these occurred, appeared to be due primarily to the length of the list of available codes and the challenge of applying it. In the few instances where coders initially disagreed about a code, the disagreement was quickly resolved through discussion.

Based on this high level of interrater agreement, the remaining un-coded transcripts were then coded. (A list of all codes is provided in Appendix E.)

Separate coding of enacted reading comprehension strategies. To assess participants' enacted procedural knowledge of garden-variety reading comprehension strategies, I coded four 250-word excerpts from the transcript of each participant's verbal protocols of reading. The eleven reading comprehension strategies coded for were:

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[17] With regard to developing categories and codes for participants' reading MOs, my approach thus differed from that recommended by Merriam (1998) and others regarding the importance of limiting the number of categories and codes.

activating prior knowledge, *attending to text features and/or text structure*, *generating and asking questions*, *making predictions*, *visualizing*, *paraphrasing*, *summarizing*, *making connections to self*, *making connections to other texts*, *making inferences*, and *comprehension monitoring*. Descriptions of these strategies were taken from Pressley and Afflerbach (1995).

With these *a priori* codes in hand, I read through each participant's verbal protocols of reading excerpts. Whenever one of these eleven reading comprehension strategies was explicitly enacted or implied as having occurred, I applied the relevant code.

Interrater agreement. To assess interrater reliability (Stemler, 2001) with regard to coding of reading comprehension strategies in verbal protocol data, I asked a literacy scholar to participate in training and then independently code 17% of the data (4 of 24 excerpts). Comparison of codes indicated an interrater agreement rate of 95%. Disagreements pertained to applications of codes for similar strategies (e.g., paraphrasing and summarizing) and to places in the transcript where the use of a strategy was arguably implied as having already occurred (e.g., a participant stating while reading that she "heard about this before," implying that she had activated her prior knowledge about the topic—at least enough for her to realize that she already possessed, in memory, some information that matched or echoed what she was currently reading about). All disagreements were quickly clarified and resolved through discussion.

Based on this high level of interrater agreement, the remaining un-coded verbal protocols of reading were coded.

Corroborative analyses. With all references to reading MOs coded for all participants across all case study sessions, corroborative checks were conducted to detect

discrepancies between data from the written interviews and data from the in-depth case studies. These checks consisted of comparing MOs identified and described by participants during case study sessions with MOs initially identified and described in their written interviews. Interview responses and case study descriptions and comments were aligned, re-read, and carefully compared to detect any inconsistencies or possible fabrications (i.e., situations where a participant initially reported knowing and using a particular MO but then later neither enacted this MO nor said anything further about it).

Results of these various analyses are presented in the following chapter.

CHAPTER 4

Results

Results are reported in five sections. The first four sections correspond to the study's four research questions, while the fifth reports additional findings that do not fit neatly in any of the four preceding sections. Section 1 presents findings from written interview responses and case study sessions about the number and variety of distinct reading MOs known to, and used by, 6th graders (research question #1). Section 2 reports findings regarding the criteria participants used to distinguish among their respective MOs (research question #2). Section 3 reports findings about the criteria that guided the decision-making of case study participants when regulating their use of MOs (research question #3). Section 4 reports findings regarding the relationship between reading MOs and conventional reading comprehension strategies in the experience of case study participants (research question #4). Finally, Section 5 reports additional findings regarding the psychological reality of participants' reading MOs, including findings about the capacity and willingness of thirty randomly sampled 6th graders to reflect on, and report about their MOs; the genesis of case study participants' MOs (as retrospectively reported by them); and case study participants' experience of the influence of formal schooling on their reading MOs.

Section 1: 6th Graders' Knowledge and Use of Diverse Reading MOs

100% of 6th graders in this study reported knowing and using two or more reading MOs. The average number of MOs per participant reported and described in written interviews (n = 30) was 6.2, with a high of 12 and a low of 2, and standard deviation of 2.50.

The sequencing of the questions on the written interview—which first asked participants for an initial global estimate of the number of MOs known to them and used by them personally, before walking them through a scaffolded review of specific reading events they recalled from two recent days and the possibly plural "ways of reading" they used during those reading events—yielded an additional finding: subsequent to the scaffolded review of specific reading events, 20 of 30 participants (67%) reported knowing and using more MOs than they initially estimated; six participants (20%) reported the same number they estimated; and four (13%) reported fewer than they initially estimated. (See Figure 1.)

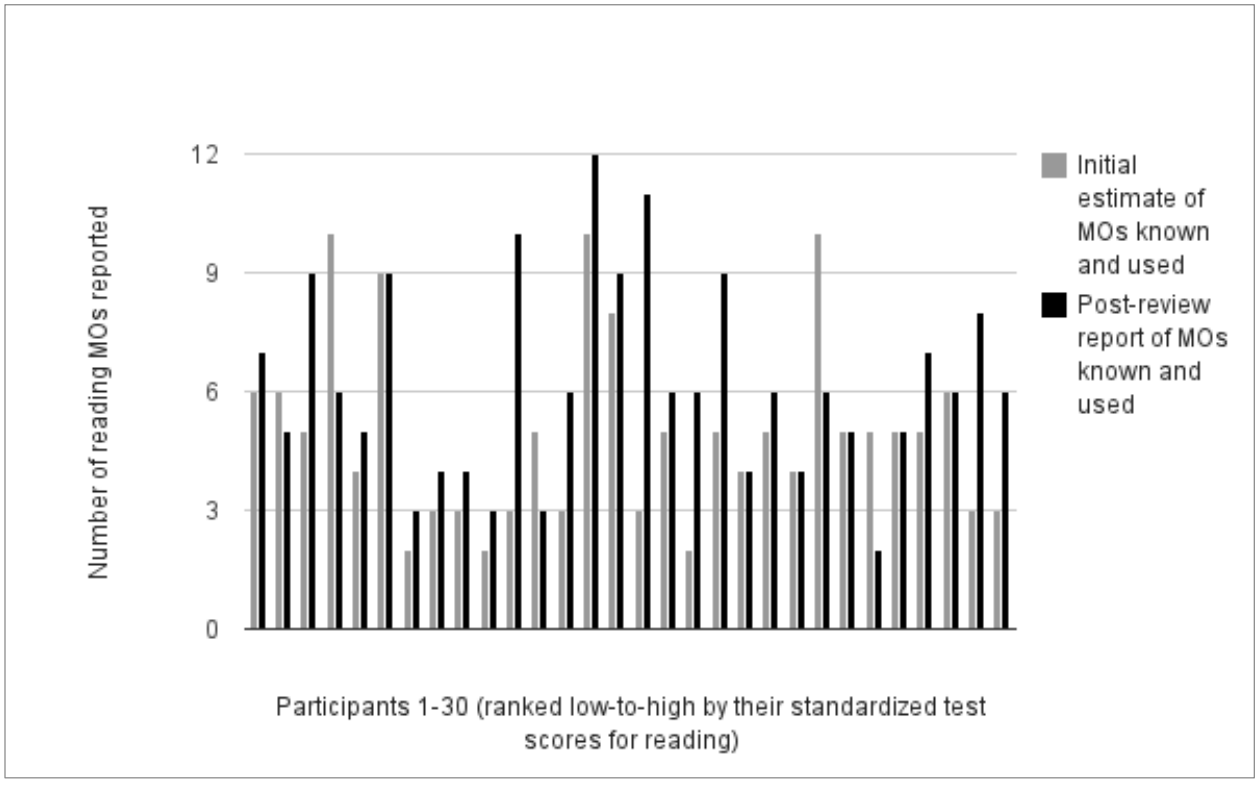

Figure 1. Reading MOs estimated and actually described by participants (n = 30) during the written interviews.

These final counts of participants' MOs comprise all MOs that participants described in their written interview, including ones they reported knowing but did not report actually

using on either of the two days for which they were asked to recollect all the reading events in which they had engaged, from waking in the morning until going to sleep at night. If we exclude these MOs that participants reported as part of their repertoire but that they did not report actually using on one or both of the two days for which they gave a detailed accounting of reading events, the average number of MOs per participant drops from 6.2 to 4.8, with a high of 10 and a low of 2, and standard deviation of 2.25.

Two illustrative repertoires of MOs. To illustrate the range of distinct MOs reported by individual written interview participants (n = 30), Tables 1 and 2 present the MO repertoires of two participants randomly selected from the middle 68% of participants (i.e., randomly selected from among the 20 participants reporting a total number of MOs within one standard deviation of the mean of 6.2 MOs). Participants' descriptions are presented alongside the specific texts with which each MO was associated in the context of the written interview.

Table 1

Repertoire of MOs Reported by Participant 17

MO #	Target Text(s)	MO Description
#1	wrapping on pop tarts, instructions on popcorn	"This way of reading is different because I'm reading instructions, or I'm reading the ingredients, or reminders and this is stuff I all do in the kitchen."
#2	math worksheet with instructions, science chapter, Spanish words from Spanish dictionary	"This way of reading is different because I'm reading worksheets or something to get informed on for school because school is important."

Table 1 (cont'd)

#3	text messages, words on my Nook, Pinterest blurbs	"This way of reading is different because I'm reading something from an electronic device. This is different also because you can highlight stuff, save the text, or just copy a word and search it up while you're reading."
#4	novels	"This way of reading is when I'm reading a novel during a certain time like lunch, or outside swinging."
#5	coupons, boxes of cereal	"This is for reading small things that go to something like how coupons go to certain stores."
#6	sheets of music	"This way is different because I'm reading music as I play it at the same time as I'm reading it."
#7	whatever I'm reading outside	"This way is reading outside with a paper in hand. I do this outside during any part of the day when I can bring a paper so I can draw when a picture comes in my mind. It makes it different, because if I get a picture in my head, I draw it with great detail."
#8	whatever I'm reading	"This way of reading is when I write in the margin. This is at home and at school, any part of the day. I do it so I can write questions and other notes. It makes it different because I can write and put down things that I'm thinking when I read a certain sentence or paragraph."

Note: Minor spelling errors in the participant's hand-written notes have been corrected.

Table 2

Repertoire of MOs Reported by Participant 05

MO #	Target Text(s)	MO Description
#1	magazines	"I read this way for more of a fun. I just skim or look at pictures and captions."
#2	books, papers	"I read way more in depth. I use all of my reading skills and I really understand what I'm reading."
#3	text messages	"I have to read abbreviations and I usually have a reply for this kind of reading. Like thinking as I'm reading of what I'm going to say back to them."
#4	text on the screen, books with questions	"This way of reading I have to follow instructions for this kind of reading. To understand what I need to do."

Table 2 (cont'd)

#5	math problems	"This way of reading I have to really think and answer all the questions to the problem."
#6	text on the screen, Facebook, TV sometimes	"Reading on technology is completely different because you have to read abbreviations or reading fast if it's moving."
#7	plays or scripts	"Reading plays or scripts, when I'm in a play, so I know my lines. You have to use a lot of emotion out loud."

Note: Minor spelling errors in the participant's hand-written notes have been corrected.

Correlation between MOs reported and reading proficiency level. A visual inspection of the chart presenting the total number of MOs participants reported, with participants ranked from low to high according to their standardized test scores for reading (Figure 1), indicated no apparent relationship between participants' reading proficiency and the number of MOs they knew and used. To test this observation, I ran (a) a Pearson Product-Moment Correlation Test (using data from 25 participants for whom I had scaled scores from the same version of the state assessment) and (b) a Spearman's Rank-Order Correlation Test on data from all 30 participants using within-group rankings of reading achievement instead of scaled scores.[18] I also ran a Pearson Product-Moment Correlation Test with all 30 participants using their scores on a different assessment of reading proficiency, the STAR Reading assessment.

[18] The Pearson product-moment correlation coefficient (or Pearson correlation coefficient) is a measure of the strength of a linear association between two variables. The coefficient, r, can take a range of values from +1 to -1, with a value of 0 indicating that there is no association between the two variables. A value greater than 0 indicates a positive association; a value less than 0 indicates a negative association. In general, an r-value between .1 and .3 (or between -0.1 and -0.3) is considered small; an r-value between .3 and .5 (or between -0.3 and -0.5) is considered medium; and a r-value between .5 and 1.0 (or between -0.5 and -1.0) is considered large. The Spearman's Test is a non-parametric measure of the strength and direction of association that exists between two variables, and it can be used when one of the variables is on an ordinal scale.

All three tests indicated no relationship between reading proficiency and number of MOs reported. The Pearson Product-Moment Correlation Test (using data from 25 participants) indicated no relationship (r = .015, n = 25, p = .944). The Spearman's Rank-Order Correlation Test also yielded a correlation coefficient barely different than zero ($r_S(28)$ = .007, p = .972). Finally, the second Pearson Product-Moment Correlation Test (using participants' scores on the STAR assessment) indicated a very small, negative correlation between reading proficiency and the total number of MOs reported—though it was not statistically significant (r = -.148, n = 30, p = .435).

Case study participants' additional MOs. Written interview participants were given an opportunity, at the very end of their interview, to mention "any other ways of reading that [they] sometimes use that [they] haven't mentioned yet." (See Appendix A for the full instrument.) That said, written interviews never lasted more than 75 minutes, and participants did not have much time to do the challenging mental work of recollecting and reflecting on their reading MOs. As will be further discussed in the General Discussion chapter, it therefore seems highly unlikely that the lists of MOs reported by written interview participants were exhaustive or complete. It seems much more likely that these lists represented a subset of the total set of reading MOs known to them, with a likely bias toward inclusion of preferred MOs, frequently used MOs, and socially approved MOs.

By contrast, the six case study participants had much more ample time and opportunity to recollect and reflect—and to return more than once to particular MOs to confirm, correct, or augment a comment or detail they had provided before. Additionally, case study participants at every session read two or more texts (some familiar, some unfamiliar) and these reading events provided concrete reference points for further

observations and reflections about reading MOs. Finally, case study participants also received regular verbal scaffolding—in the form of questions, requests for clarification, and general encouragement from the researcher—to clarify and flesh out their descriptions of their reading MOs.

Consequently, it is perhaps not surprising that, as we move from (a) written interview participants' (n = 30) initial self-reports of the total number of reading MOs they knew and used (mean = 4.8), to (b) written interview participants' (n = 30) final self-reports (at the end of a roughly hour-long written interview session) of the total number or reading MOs they knew and used (mean = 6.2), to (c) case study participants' (n = 6) final self-reports (at the end of roughly five hours of conversation spread over several meetings) of the total number of MOs they knew and used (mean = 11.3), we observe a trend of increasing numbers of MOs being identified and described.

Over the course of roughly five hours of unstructured conversation, reading while thinking aloud, and semi-structured conversation about reading and reading MOs, case study participants identified and described between 4 and 7 additional MOs beyond the ones they had described by the end of their written interview. Tables 10 through 15 in Appendix G list all the MOs reported by each of the six case study participants. Each unique MO is identified by an alphanumeric code and provides a short summary of the participant's description of that MO.

Table 3

Overview of Case Study Participants and MOs Reported

Participant	Gender	Reading Proficiency Level	MOs Initially Estimated (Written Interview)	MOs Actually Described (Written Interview)	Additional MOs Described (Case Study Sessions)	Final Total of All MOs Described
Chris	male	-4.29*	4	5	7	12
Astrid	female	-0.50	3	4	5	9
Harry	male	-0.09	3	6	6	12
Cara	female	+0.23	2	6	5	11
Samantha	female	+1.48	5	7	4	11
Nick	male	+3.07	3	6	7	13

*Chris's information is based on his scaled score for the 2012-13 assessment (in relation to the mean scaled score for that year), not the 2013-14 assessment.
Note: Reading proficiency is reported here as a Standard Score, in terms of the number of standard deviations by which each participant's scaled score on the 2013-14 state standardized assessment for reading was above or below the mean scaled score for all 6th graders. (For example, Nick's scaled score is more than three standard deviations above the mean scaled score.)

Corroboration of previously mentioned MOs. Case study sessions served the dual purpose of (a) eliciting from participants descriptions of additional MOs they did not mention on their written interview and also (b) corroborating the authenticity and accuracy of whatever information they did provide on the written interview.

With regard to this second purpose, analysis of case study transcripts did not turn up any evidence of participants having fabricated self-report information about a reading MO (in their written interview responses) that they then later had to retract or disavow, or about which they later either (a) fell silent and provided no further information or (b)

provided inconsistent information. In other words, analysis of the case study transcripts did not yield any specific basis for concern regarding the overall authenticity and accuracy of participants' self-reports.

At the same time, analysis of data from case study sessions provided multiple examples of participants clarifying, augmenting, or fine-tuning a MO description provided at an earlier point in time (whether on the written interview, or during a prior case study session). For example, the participant Samantha initially described a MO she used with novels in the following terms: "[This way of reading is when] I read way more in depth. I use all of my reading skills and I really understand what I'm reading." Over the course of subsequent case study sessions, Samantha clarified that this MO for novel reading in fact in her experience had two different sub-types. The first of these was the one she used when preparing for a test: "it's my way of reading a novel when it's for AR [a computerized test students regularly took to assess their comprehension of a book they had just finished reading]. When it's for AR testing I really pay attention to get one hundred percent. I do more rereading and I use all my reading skills, like inferring, looking back, asking questions, and others. I also look up new words. [Reading this way] involves staying focused on just one book only." The other version was for recreational novel reading and looked and felt different to Samantha: "I do some skimming if it's boring. I sometimes draw pictures. And I can intersperse one book with another. For example, I sometimes read one chapter in one book and then switch." This clarification by Samantha did not contradict her earlier self-report, but rather added a further layer of nuance.

Section 2: 6th Graders' Criteria for Distinguishing Among MOs

Already *prima facie*, the reading MOs reported by participants in their written interviews appeared to be very diverse, across participants as well as within participants. They ranged from a MO for *relaxed reading of self-chosen novels to enjoy "tuning out" one's surroundings* to a MO for *reading interspersed with talking to someone else about the interesting parts of the text one is reading*, and from a MO for *reading one's personal journal to become "calm" by appreciating the "good things" one has experienced and written about* to a MO for *repeated reading of short, familiar texts (e.g., product labels and signs) "because it lets some stress out."*

This first impression of great diversity was borne out by systematic analysis of the criteria participants used to distinguish among their MOs. Emergent coding of participants' descriptions, using the constant comparative method (Glaser & Strauss, 1967; Merriam, 1998; Strauss & Corbin, 1998), resulted in identification of thirty-one criteria that were referenced by at least two participants in their written interview responses (see Table 4).

Table 4

Criteria Referenced by Two or More Participants to Distinguish Among MOs

Criterion	Notes
alphabetic text only or mixed/additional sign systems	Numerous participants (>6) stated that one or more of their MOs was for use with a particular system of signs, such as musical notation, or for texts consisting mostly of numbers or containing other non-alphabetic signs or symbols (e.g., "for symbols, arrows, and abbreviations"; "it's [math] problems instead of just words").
combined with writing activity or not	Several participants (≤6) referenced writing activities happening concurrent with reading or immediately after reading (e.g., "I write in the margin").

Table 4 (cont'd)

depth of understanding aimed for	Several participants (≤6) referred to the depth of comprehension they were aiming for as a feature of a particular MO (e.g., "when I really want to understand something").
duration of reading event	Several participants (≤6) referenced the length or duration of reading events as being connected to a particular MO (e.g., "this is a longer reading time for me").
emotions experienced	Numerous participants (>6) referenced the emotional valence or impact of enacting a particular way of reading (e.g., "it feels like I'm living with them in the book").
enjoyment	Numerous participants (>6) referenced their level of pleasure or enjoyment as a feature of one or more MOs (e.g., "this is the one I enjoy").
frequency of use	Several participants (≤6) referenced the frequency with which they used a particular MO as a criterion that distinguished it from others (e.g., "mostly use this one").
genre	Numerous participants (>6) referenced text genre, usually by way of stating that a particular MO was "for reading novels," "for reading worksheets," or for reading some other particular genre.
graphical elements	Several participants (≤6) referenced engagement with graphical elements as an aspect of a particular MO ("I look at the pictures").
involving memorizing or not	Several participants (≤6) referenced memorization as an aspect of one of their MOs (e.g., "so I can remember my lines"; "to remember for the test").
learning new information or not	Several participants (≤6) referenced the fact that, when using a particular MO, they gleaned information (e.g., "I try to pick up as much info that I can of what I'm reading"). Given that such statements did not always reference the genre of the texts being read (e.g., reading informational text versus reading novels), the reference to acquiring new information (or not) was coded separately.

Table 4 (cont'd)

level of concentration	Numerous participants (>6) referred to their level or amount of focus, attention, or concentration while reading (e.g., "you read really carefully because you might not understand it").
level of interest	Numerous participants (>6) referred to their level of interest in a text, class of texts, or activity as an important feature of one or more of their MOs (e.g., "when it's boring").
level of stress	Numerous participants (>6) referenced their level of stress, worry, or anxiety as a salient feature of a MO (e.g., "I feel more stressed").
location of reading	Numerous participants (>6) referenced a specific or general location where they used a particular MO (e.g., "in my bed").
malleability of the text	Several participants (≤6) referenced their ability during reading to change the appearance of the digital text (e.g., "you change the way it looks").
navigation options	Several participants (≤6) specifically referenced a particular way of navigating through a text (e.g., "lots of scrolling").
purpose for reading	Several participants (≤6) referenced a specific purpose in relation to a particular MO (e.g., "to let some stress out"; "to learn my lines"). There is arguably some overlap between this factor and some others, such as *enjoyment* or *learning new information*, insofar as those factors might be interpreted as referencing particular purposes for reading.
reader's physical posture and movements	Several participants (≤6) referenced their physical posture and/or movements during reading as an aspect of a particular MO (e.g., "lying in bed").
reading comprehension strategies	Several participants (≤6) directly referenced their use of conventional reading comprehension strategies, and some named individual strategies (e.g., "I use all of my reading skills, like inferring").

Table 4 (cont'd)

referentiality of the text	Several participants (≤6) referred to the referential dimension of texts—and their awareness of, and engagement with that dimension—as a feature of a particular MO (e.g., "because it's true information"; "about a real person").
required or choice	Numerous participants (>6) referred to a MO being used with texts that were required or, on the other hand, voluntarily chosen (e.g., "I have to do it"; "with my type of book, whatever I chose").
single text or multi-text	Several participants (≤6) characterized a MO with regard to whether it involved, or permitted, reading just a single text or more than one text at a time (e.g., "I read one chapter in one book and then switch").
social dimension	Several participants (≤6) referenced interactions or relationships with others (usually peers or siblings) as an aspect of one or more of their MOs (e.g., "I'm thinking of what I'm going to say back").
speed of reading	Several participants (≤6) of participants referenced the velocity with which they read as a criterion setting a MO apart from others (e.g., "I read slower").
subject matter or topic	In characterizing one or more of their MOs, numerous participants (>6) referenced a particular subject or domain (e.g., "reading about science").
technology	Numerous participants (>6) referenced technology. References to this criterion mostly took the form of a comment about reading "on a screen" or "on the computer." Some participants *additionally* characterized a MO in terms of a particular way of navigating text on a screen (e.g., scrolling up and down), digitally annotating text on a screen, or morphing the appearance of digital text during reading, and separate codes were created to capture these details (viz., *navigation options used*, *combined with writing activity or not*, *malleability of text*).

Table 4 (cont'd)

text difficulty	Several participants (≤6) referenced the difficulty level of particular texts or classes of texts (e.g., "when it's hard"; "with hard words").
text's style and craft	Several participants (≤6) referenced specific elements of style or craft as part of their characterization of a MO (e.g., "when it's in the first person").
time of day/week	Several participants (≤6) referenced a particular time of day and/or a particular day of the week when describing a MO (e.g., "at night").
to guide specific action	Numerous participants (>6) referred to reading "instructions" or "directions," and this was captured with the code for *genre*. Additionally, however, a few participants referenced the fact that a particular way of reading immediately resulted in physical activity, or was concurrent with action (e.g., "you're doing it right away"; "putting it all together to make it"), and this additional layer was thought to merit a separate code.

Note: None of these factors by itself was credited with single-handedly shaping a reading MO. Participants' descriptions of MOs always referenced two or more criteria; most descriptions referenced three or more criteria.

Figure 2 displays the total number of criteria participants referenced in their written interviews to distinguish between their MOs.

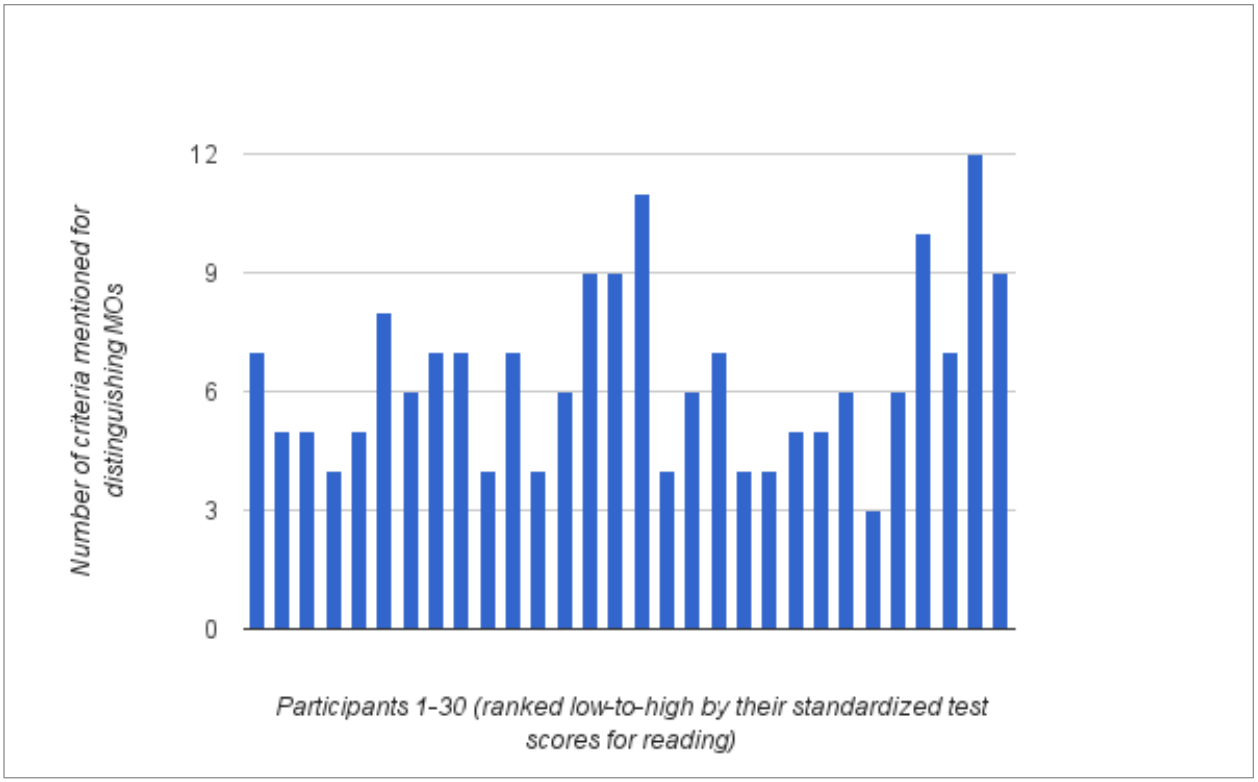

Figure 2. Number of criteria mentioned by written interview participants (n = 30) to distinguish among their MOs.

Correlation between number of criteria reported for distinguishing among MOs and reading proficiency level. A visual inspection of the chart presenting the total number of criteria participants indicated using to distinguish among their MOs, with participants ranked from low to high according to their standardized test scores for reading (Figure 2), indicated no clear overall relationship between participants' reading proficiency and the number of criteria they mentioned. To test this observation, I ran (a) a Pearson Product-Moment Correlation Test (using data from 25 participants for whom I had scaled scores from the same version of the state assessment) and (b) a Spearman's Rank-Order Correlation Test on data from all 30 participants using within-group rankings of reading achievement instead of scaled scores. I also ran a Pearson Product-Moment

Correlation Test with all 30 participants using their scores on the STAR Reading assessment.

The results of these tests were mixed. With the five least proficient readers excluded from consideration, the first Pearson Product-Moment Correlation Test (using data from 25 participants) indicated a modest positive relationship between reading proficiency and the number of criteria reported for distinguishing among MOs—though the relationship was not statistically significant (r = .326, n = 25, p = .111). The Spearman's Rank-Order Correlation Test (using assessment scores for all 30 participants) indicated a very small, negative correlation between reading proficiency and the total number of MOs reported—though it was not statistically significant ($r_S(28)$ = -.176, p = .351). Finally, the second Pearson Product-Moment Correlation Test (using participants' scores on the STAR assessment) indicated no correlation between reading proficiency and the criteria mentioned (r = .056, n = 30, p = .769).

Detailed analysis of case study participants' criteria for distinguishing among MOs. Coding of transcripts of case study sessions allowed for more detailed and in-depth investigation of the criteria 6th graders used to differentiate among their MOs. Table 5 presents all thirty-six criteria referenced at least once by case study participants over the course of the entire length of the study (i.e., their written interview and all case study sessions). In the row devoted to each criterion, the table indicates which participants referenced that criterion at least once.

Table 5

Criteria Referenced by Six Case Study Participants to Distinguish Among Their MOs

Criterion	Chris	Astrid	Harry	Cara	Sam-antha	Nick
genre	✓	✓	✓	✓	✓	✓
technology	✓	✓	✓	✓	✓	✓
subject matter or topic	✓	✓	✓	✓	✓	✓
emotions experienced	✓	✓	✓	✓	✓	✓
social dimension	✓	✓	✓	✓	✓	✓
reading comprehension strategies	✓	✓	✓	✓	✓	✓
level of interest	✓	✓	✓	✓	✓	✓
depth of understanding aimed for	✓	✓	✓	✓	✓	✓
enjoyment	✓	✓	✓	✓	✓	✓
frequency of use	✓	✓	✓	✓	✓	✓
speed of reading	✓	✓	✓	✓	✓	✓
relative preference	✓	✓	✓	✓	✓	✓
referentiality of the text	✓	✓	✓	✓	✓	✓
alphabetic text only or mixed/additional sign systems	n.r.	✓	✓	✓	✓	✓
combined with writing activity or not	n.r.	✓	✓	✓	✓	✓
text's style and craft	n.r.	✓	✓	✓	✓	✓
learning new information or not	✓	n.r.	✓	✓	✓	✓
navigation options	n.r.	n.r.	✓	✓	✓	✓
required or choice	✓	✓	✓	n.r.	✓	n.r.
level of concentration	✓	✓	n.r.	n.r.	✓	✓
time of day/week	✓	n.r.	✓	n.r.	✓	✓

Table 5 (cont'd)

text difficulty	✓	✓	✓	n.r.	n.r.	✓
purpose for reading	✓	✓	✓	✓	n.r.	n.r.
graphical elements	✓	n.r.	✓	✓	✓	n.r.
single text or multi-text	n.r.	n.r.	n.r.	✓	✓	✓
reader's proficiency	n.r.	n.r.	✓	✓	✓	✓
to guide specific action	n.r.	n.r.	✓	✓	✓	n.r.
location of reading	✓	✓	n.r.	n.r.	n.r.	✓
involving memorizing or not	n.r.	✓	n.r.	n.r.	✓	✓
level of reverence	n.r.	✓	✓	n.r.	n.r.	✓
malleability of the text	n.r.	n.r.	✓	n.r.	n.r.	✓
level of stress	n.r.	✓	n.r.	n.r.	✓	n.r.
duration of reading event	✓	n.r.	n.r.	n.r.	n.r.	n.r.
involving running commentary or not	n.r.	n.r.	n.r.	n.r.	n.r.	✓
reader's level of intellectual independence	n.r.	n.r.	n.r.	n.r.	n.r.	✓
reader's physical posture and movements	✓	n.r.	n.r.	n.r.	n.r.	n.r.
Total number of criteria referenced by each participant:	23	24	27	23	27	29

Note: The notation "n.r." indicates that a criterion was "not referenced" by that participant.

No single factor was ever credited with single-handedly shaping a reading MO; in all cases, MOs were described as being shaped by several factors in combination. Also, as shown in Table 5, no participant mentioned every single one of the listed factors. Yet every participant mentioned more than half of the listed factors at least once, and some factors were mentioned by all participants multiple times (e.g., *genre*, *level of interest*, *emotions experienced*). A small number of factors were mentioned by fewer than half of the

participants; only four criteria were unique to a single case study participant (e.g., *reader's physical posture and movements*; *reader's level of intellectual independence*).[19]

Section 3: 6th Graders' Criteria for Regulating their Use of MOs

Analysis of case study transcripts brought to light a variety of criteria participants used for regulating their application of MOs. In this context, "regulating" was taken to refer to participants' decision-making about which MO to apply when, and/or when to switch from one MO to another.

In many cases, and as might be expected, the same criteria used to distinguish among MOs (as reported in Section 2 above) also functioned as criteria for regulation of MOs. For example, many MOs were characterized as being associated with a particular genre of text. In case study sessions, all six participants indicated that they also considered a text's genre at the moment of deciding which of their MOs to apply, or whether to switch from one MO to another. For example, after realizing that a text she had never seen before was not a Mickey Mouse comic book but instead a graphic novel about the Holocaust (the book was Spiegelman's [1981] *Maus II*), participant Cara indicated that she switched from her "problem solving" MO (i.e., MO04.01.01) to the MO she used for informational reading (MO04.02.07). Table 6 lists criteria mentioned by case study participants in relation to their regulation of MOs in their personal repertoire.

[19] As will be further discussed in the General Discussion chapter, the fact that a participant was not observed referencing a particular criterion should not be taken as evidence that the participant did not know that criterion or did not ever take it into account in distinguishing among MOs.

Table 6

Criteria Referenced by Case Study Participants In Relation To Regulating MOs in Their Personal Repertoire

Criterion	Chris	Astrid	Harry	Cara	Sam-antha	Nick
genre of text being read	✓	✓	✓	✓	✓	✓
technology	✓	✓	✓	✓	✓	✓
relative preference	✓	✓	✓	✓	✓	✓
proficiency with MO	n.o.	n.o.	✓	✓	✓	✓
subject matter or topic	✓	✓	✓	✓	✓	✓
level of interest	n.o.	✓	✓	✓	n.o.	✓
level of reverence	n.o.	✓	✓	n.o.	n.o.	✓
referentiality	n.o.	✓	✓	✓	✓	✓
text difficulty	✓	✓	✓	✓	n.o.	n.o.
social dimension	n.o.	✓	n.o.	n.o.	✓	✓
purpose for reading	n.o.	✓	✓	✓	✓	✓
Total number of criteria referenced:	5	10	10	9	8	10

Note: The notation "n.o." indicates that a particular criterion was "not observed" for that participant (i.e., neither explicitly mentioned, nor referenced in passing, nor observed by the researcher when the participant read and thought aloud). This should not be interpreted as indicating that the participant in question did not ever consider that particular criterion when regulating his/her application of MOs. The results reported here of criteria participants considered, or not, were based on a relatively tiny sampling of each participant's reading activity (roughly 5 hours).

Ongoing awareness and monitoring of MOs. With regard to participants' general level of awareness of the MOs they used—and thus, by extension, their possible awareness of the steps and/or processes by which they chose to use a particular MO rather than another or switched between MOs—there was wide variability across participants. Some

participants reported knowing multiple MOs but also reported not often giving deliberate thought to their selection of MOs. These participants did not readily provide detailed explanation about why and how exactly they came to apply a particular MO in a particular situation. On the other hand, some participants reported a much higher level of moment-by-moment awareness of their MOs and of changes they made in their application of MOs. These participants were at times very articulate with regard to explaining why and how they ended up using a particular MO—or why they switched from one to another.

In this group of six case study participants (Nick, Samantha, Cara, Harry, Astrid, and Chris), Nick was one of the most self-aware about his application of MOs. In response to a question about whether, in general, he knew which MO he was about to apply whenever he started reading, Nick replied: "I think I know some of the times [which MO I am going to use when I start reading], but not all of the times. Like, normally when I read a novel or something, I know that's my … I'm going to be reading that specific way. But with this [a history textbook], I'm not…. Since if I ever read this [textbook] just for fun…. It could be this one [Nick's MO for reading informational texts, MO06.01.02] or that one [Nick's MO for reading novels, MO06.01.01]." Samantha, by contrast, reported being less aware: "I think I'm not really aware of it [the MO I'm using], until after I think about it for a minute, which I don't really think about that much. It just kind of happens...." Cara was somewhere in the middle on the MO-awareness spectrum between Nick and Samantha. She stated that in reading often "you do different things, but you just don't realize it." At the same time, Cara was sometimes very perceptive, precise, and articulate about particular reading situations

and the ways in which she had found herself switching MOs or even combining one MO with another.[20]

Influence of preferences on MO regulation. As indicated in Table 6, all case study participants reported having favorite or preferred MOs. Such preferences varied from participant to participant (and of course, as reported in Section 1, no two participants had identical repertoires of MOs about which to feel or express preferences) in terms of their intensity and the importance ascribed to them. As well, some participants indicated a hierarchy of preference in which they could rank *all* their MOs from top to bottom. Other participants indicated having a most-preferred MO, and perhaps a second- and third-most-preferred MO, but then did not express any further preference rankings for their other MOs.

With regard to regulating their application of MOs, all six participants indicated that their relative preferences influenced their decision-making about using or not using particular MOs, or finding opportunities to use them or not. Five of six participants reported that, overall, their favorite MO was the one they used most frequently, and all six described their favorite MO as the one they would most happily switch back to or continue using for a longer period of time.

Influence of self-efficacy beliefs about proficiency on MO regulation. A majority of participants also reported having opinions about their proficiency with particular MOs

[20] Over the course of multiple case study sessions with each case study participant, it was also the case that most participants gradually became more adept at reflecting on their various "ways of reading" and more fluent and articulate at verbalizing their thoughts and observations. Cara's observation that "you do different things [i.e., you apply different MOs], but you just don't realize it" was made at our first case study meeting. In subsequent sessions, she spoke at length about the many things she *did* realize about her MOs and her varied application of those MOs.

relative to their proficiency with other MOs in their repertoire, as well as relative to their peers' proficiency.[21] And this self-appraisal of proficiency was cited as a factor that influenced their decision-making about which MO to apply when. At the same time, these personal estimates of proficiency were not always the best predictor of preference rankings or of reported actual use. For example, after describing the MOs he used for (a) reading the screen while playing video games (i.e., MO03.02.07), (b) reading informational text (i.e., MO03.01.02), and (c) reading novels (i.e., MO03.01.03), participant Harry estimated that he was most proficient at (c), less proficient at (b), and least proficient at (a). He further reported that, based on personal observation and his knowledge of his peers' school grades, these rankings of proficiency also accurately reflected how he compared to his peers: he was "better" than his peers at applying MO (c) to comprehend school-assigned texts and earn high grades on tests, and "below" his peers with regard to MO (a). Nonetheless, Harry reported that (a) was his favorite MO and, in the absence of restrictions set by his parents and limited access to the internet at home, it would also be his most frequently used MO.

Influence of subject matter on MO regulation. All six case study participants indicated that a text's topic or subject matter was a factor influencing their selection and application of MOs. All six had previously identified topic or subject matter as a criterion contributing to the definition of one or more of their MOs, and this sensitivity to textual content—separate from their sensitivity to text genre—again came into play as they talked

[21] Interestingly, this self-assessment relative to peers suggests that participants believed that peers had identical or at least very similar MOs. This belief would provide the necessary basis for a comparison. In the absence of this belief, it would not be meaningful to compare one's proficiency level with the proficiency level of someone else.

about why they would choose to apply one MO instead of another, or how they could intuit (without giving the matter any deliberate thought) that a particular MO would be the "right" one for a text they were about to read. Participant Harry's MO for reading baseball cards (i.e., MO03.03.11) nicely illustrates this point. For him, this MO was fitted for reading baseball cards *specifically*, a very particular genre of text. Yet, as Harry explained, it wasn't the genre but rather the to-him familiar and emotionally significant baseball content that activated and then sustained the MO. Cards of the same genre but for a different sport did not provide Harry with the same reading experience.

Some participants reported a heightened alertness and sensitivity to text content—and to what they perceived as significant shifts or anomalies in content. These shifts and anomalies, in turn, were credited with causing the reader to sometimes change MOs. Nick, for example, reported a reconsideration of MO being triggered by a single textual detail. While reading Chief Joseph's famous surrender speech of 1877 with his MO for reading informational text (i.e., MO06.01.02), Nick came across the name of a Native American chief that struck him as "weird." This one detail, and his reaction to it, almost caused him to shift to his MO for reading autobiographical text (i.e., MO06.02.08): "with the name a little weird, like Chief Ta Hool Hool Shute, I mean, that's just weird, I mean. So, yeah, I would be thinking autobiography, a type of … story? Just because, since it's his perspective, and it's honestly about truthful events, I would think he'd be writing it to tell his grandson or something about what happened. So I could read it that way." Nick clarified that switching to reading the text "that way" for him meant reading it with more emotional receptivity to the characters in the narrative and their experiences and reacting to the text in his own head, during reading, with "clever" comments and quips.

Other participants reported similar moments where an encounter with surprising text content caused them not just to update or revise their understanding of the text, but instead to consider shifting from one MO to another. Astrid, for example, reported occasionally being "bumped" out of her MO for reading text messages (i.e., MO02.01.02) when she encountered a text with surprising content—content requiring her to suspend her texting MO and switch to her MO for concentrated, emotionally receptive reading (i.e., MO02.01.03): "Like with the texting thing, I was with my friends, and I've like texted this person so much that I think I know what they're going to say. So I'll say like the thing back, because I think I know what they're going to say.... But really they say something different, and I'm like, 'Oh, look!' I haven't sent it [the message I already wrote while waiting for them to write], but as soon as they say that, I'm about to go send. But then I'm like, 'Oh, wait: they said something different.' I probably shouldn't have said that. … So that's when I switch [to her novel-reading MO]." Astrid continued: "It's not a novel [i.e., the unexpected text message is not a novel], but you're still thinking about what you're reading, you're taking the time, you're taking the time to like read what they're talking to you about, and like, to actually like listen to the conversation, and not just predict what they're going to say."

Influence of reading purpose and content sometimes trumps the influence of genre. As already mentioned, all six participants described at least one of their MOs with reference to text genre. And case study sessions provided numerous examples of each participant initially activating and applying a particular MO from his/her repertoire of MOs on the basis of an initial judgment made about the genre of a target text. When participants were invited to read a novel I provided, for example, they did not randomly select a MO from their repertoire and try it on for size. Rather, having discerned that the text in front of

them was a novel, they started by applying the MO that, for them individually, was the one they habitually used with novels. In this sense, genre was a decisive factor in participants' regulation of their MOs.

At the same time, the transcript provided several examples of the *genre* factor being trumped by other considerations, such as *purpose for reading* and *topic or subject matter*. A section of transcript from Nick's third case study session illustrates the latter. Nick read a few pages from Robertson's (2013) autobiography *Si-cology: Tales and wisdom from Duck Dynasties favorite uncle*, and described his MO for reading autobiographies in general (i.e., MO06.02.08). However, upon continuing to read, he came across some paragraphs containing Robertson's musings on his Christian faith. And these paragraphs, according to Nick, caused him to shift from his MO for autobiography to his MO for reading the Christian *Bible* (i.e., MO06.02.11). Regarding the nature and cause of the shift, Nick explained:

> Yeah, I did [change the way I was reading], because it normally depends on the topic. Since back there [on an earlier page] we were talking about the 50 pound squirrels, and I can easily read that lightly, but when he's talking about religions, and Jesus and God and things, I have to read that of course very seriously because that's something I also worship, too. So it depends on the topic for when I switch between that one [i.e., MO06.02.08] and that one [i.e., MO06.02.11].

An example of genre being trumped by consideration of *purpose for reading* may be taken from Samantha's transcript. In Samantha's case, MOs with explicit purpose included her MO for novel reading to prepare for a test (i.e., MO05.01.08) and her MO for memorizing lines for a future play performance (i.e., MO05.01.07). As she explained, one and the same text could be approached with different MOs, depending on her purpose. For

example, if she found out that a particular novel she was reading was not going to be tested after all, she might switch to her recreational novel-reading MO (i.e., MO05.02.09) and read the rest of the novel "for fun," skipping or skimming dull parts, pausing to draw pictures, and freely interspersing her reading of chapters or sections from more than one book at a time.

Both these examples (Samantha's and Nick's), then, illustrate how, even when there was no change in a reader's perception of a text's genre, a change in subject matter or in purpose might sometimes cause a shift in MO. The regulation of MOs in participants' reading lives thus often appeared to be influenced by several factors at once, rarely by a single factor.

Section 4: Participants' Knowledge and Use of Conventional Reading Comprehension Strategies

Excerpts from case study participants' think-aloud protocols were coded to ascertain whether participants in fact used any of eleven commonly taught reading comprehension strategies. Table 7 shows how many participants used each of these strategies at least once.

Table 7

Conventional Reading Comprehension Strategies Enacted At Least Once by Six Case Study Participants

Reading comprehension strategy	Chris	Astrid	Harry	Cara	Sam-antha	Nick
activating prior knowledge	✓	✓	✓	✓	✓	✓
attending to text features and/or text structure	✓	✓	✓	✓	✓	✓

Table 7 (cont'd)

generating and asking questions	✓*	n.o.	n.o.	✓	n.o.	✓
making predictions	✓	✓	n.o.	✓	✓	✓
visualizing	✓	n.o.	n.o.	✓	✓	✓
paraphrasing	✓	✓	✓	✓	n.o.	✓
summarizing	n.o.	✓	✓	✓	✓	✓
making inferences	✓	✓	✓	✓	✓	✓
making connections to self	✓	n.o.	✓	✓	✓	✓
making connections to other texts	n.o.	✓	✓	✓	✓	✓
comprehension monitoring	✓	✓	✓	✓	n.o.	✓
Total number of reading comprehension strategies enacted (out of the eleven strategies coded for):	9	8	8	11	8	11

Note: The notation "n.o." indicates that a strategy was "not observed" for that participant in excerpts from his/her verbal protocols of reading. This obviously does not mean that the participant did not know that strategy, only that he/she was not observed enacting it.
*For Chris, asking a question often took the form of simply asking, "What does that mean?" thus formulating a generic and all-purpose question, as opposed to a question somewhat tailored or very tailored to a specific text or context.

As shown in Table 7, every one of the eleven commonly taught reading comprehension strategies was used by at least three of six participants, and most strategies were enacted at least once by a majority of participants. (Tables 16-26 in Appendix H provide quotations from the verbal protocols of reading of each of the six case study participants illustrating an enactment of each strategy they used.) Further, as indicated by the totals in the bottom row of Table 7, and as suggested by a visual inspection of the distribution of check marks, no clear pattern emerged across participants with regard to the use or non-use of particular strategies. For example, while Nick and Cara, the most

proficient and third most proficient readers respectively (as estimated by their reading scores on the state standardized test), enacted all eleven strategies, the three least proficient readers (Chris, Astrid, and Harry) enacted as many strategies as the second most proficient reader (Samantha) and only two or three strategies fewer than their most proficient peer (Nick). Based on the observed distribution of check marks, it seems likely that further coding of additional pages of verbal protocols of reading would yield examples of all participants at some point using all eleven strategies.

At the same time, some variability was observed across participants with regard to both (a) the depth of their declarative knowledge about reading comprehension strategies and (b) their perceptions of the usefulness of such strategies.

Some participants recalled the names of specific strategies without assistance and offered detailed information about their past use of such strategies. Others initially had difficulty recalling specific strategies ("*Looking back* is one….This is bad—I don't remember them…."), yet with some scaffolding from me, they soon recalled more and were furthermore able to describe when they had learned about strategies, how they had used them in the past, and how they continued to use them in the present. Only one participant had great difficulty recalling the names of any strategies and, even after scaffolding and prompting from me, still had next to nothing to say about his past use of strategies.

Among participants who recalled specific strategies, Samantha may serve as an example of a 6th grader demonstrating knowledge in all three of the areas Paris, Lipson, and Wixson (1983) and others have described as necessary for skilled and independent application of strategies: declarative, procedural, and conditional knowledge. After initially having some difficulty recalling the names of specific strategies, Samantha recalled several,

including *inferring*, *asking questions*, *activating background knowledge*, *rereading*, visualizing, and *summarizing*. Samantha also affirmed her use of such strategies in her description of one of her MOs. She independently enacted multiple strategies while reading and thinking aloud, and she explained that using reading comprehension strategies was one of the measures she took to improve her comprehension of texts that were challenging to understand and/or that she needed to comprehend well enough to earn a high score on a test.

Chris, by contrast, had no recollection of any of the eleven commonly taught reading comprehension strategies I coded for (though he enacted nine of them at least once while reading and thinking aloud). When asked about strategies on different days, Chris's reply did not change: "They're things you do while reading. I never really got it." Interestingly, though, Chris did recall learning more complex strategy-involved routines and frameworks, such as the RAT (Read-Around-the-Text) routine and the QAR (Question Answer Relationships) framework. With both of these, Chris's level of recall was relatively shallow: beyond remembering the acronyms, and recalling that RAT was for "when you first start reading something" whereas QAR was about "asking questions," he did not volunteer any further information. Still, while Chris struggled to remember any of the classic individual strategies (e.g., *visualizing*, *predicting*, *summarizing*, *asking questions*), he did recall these more elaborate constructs. Finally, with regard to conditional knowledge about when and why to use strategies, Chris's one observation was that, when he felt confused by what he was reading, it sometimes helped to slow down and reread.

With regard to participants' perceptions of the usefulness and importance of reading comprehension strategies, four of the six made straightforward and unequivocal

comments in favor of strategies. The least proficient reader, Chris, as we saw, was not able to retrieve many specific memories of using strategies (even though he enacted them). Beyond once noting that *slowing down* and *rereading* sometimes helped him comprehend better, he did not make any global pronouncements about the value of strategies. At the same time, Nick, the most proficient reader among the six case study participants, demonstrated good declarative knowledge of strategies (relative to his peers), but he also expressed skepticism about the value of learning strategies and devoting mental resources to monitoring and applying them: "I would use them [reading comprehension strategies]. But to be honest, when the teachers teach them, I don't really listen, because, that's not the thing you would learn by teaching someone, that's the thing you would learn on your own just by reading. So to be honest, I've probably used those, and I just don't know it, but I've never really wanted to or tried to use those." As reported in Table 7, Nick enacted all eleven of the strategies I coded for; and when I drew his attention to moments where his think-aloud verbalizations (during reading) indicated he had likely used a strategy, such as *inferring* or *visualizing*, he readily acknowledged that this was the case. Still, he maintained that, "eventually you just learn it [applying strategies] on your own without any real teacher help."

Relationship between MOs and conventional reading comprehension strategies. Whereas all case study participants demonstrated some level of familiarity with conventional reading comprehension strategies, none of the six indicated that they regulated the MOs in their personal repertoire through the prism of these strategies. On the other hand, all participants implied, and five explicitly stated, that reading comprehension

strategies were in their experience contained within MOs and might or might not be applied in particular reading situations *depending on the MO currently being applied*.

This perspective was most emphatically stated by Nick, the most proficient reader in the group, who, as we just saw, reported generally not thinking about common reading comprehension strategies during reading: "Normally, I would use the novel reading and internet text reading and info text reading [three of Nick's MOs: MO06.01.01, MO06.01.02, and MO06.02.07], just because as I said before, I don't particularly want to use those [reading comprehension strategies] as like a specific set, like, I just don't want to be *inferring*... And so normally I would use novel reading [MO06.01.01], which involves, I guess, all of those things [strategies]. I've never actually listed them out." As a relatively proficient reader for his grade, Nick appeared to do the kind of flexible, unpremeditated, on-the-fly application of strategies that Afflerbach, Pearson, and Paris (2008) describe when they write about "effortful strategies" eventually becoming "automatic skills" by dint of long practice. Whatever the nature of this automaticity, Nick consistently reported—and demonstrated—focusing his conscious strategic intelligence on the matter of MO selection, and of then monitoring the suitability of his chosen MO in relation to such things as his reading task, his enjoyment of the reading experience, and the text's genre and subject matter (and any shifts or anomalies in the text's subject matter).

The majority of other case study participants (four of six) reported being occasionally mindful of reading comprehension strategies. They straightforwardly affirmed the value of knowing and applying such strategies, and they credited strategies with improving their comprehension. At the same time, all four indicated that, in their experience, strategy selection and application occurred in the context of, and in the service

of, one or more of the particular MOs in their repertoire of MOs. This apparent subordination of strategies to MOs was especially clear in the case of participants who characterized a MO at least partly in terms of its mobilization of classic reading comprehension strategies.

In this latter scenario, participants indicated that, *because* they were enacting a particular MO (usually one associated with seeking a deeper-than-usual level of comprehension), they were mindful of recognizing and seizing opportunities to apply strategies. For example, Samantha reported that, when she applied her MO for reading novels "in depth" (i.e., MO05.01.02), or her MO for reading in depth *and* preparing to take a test (i.e., MO05.02.08), she made a point of using "all of her reading skills" including "inferring, looking back, asking questions, and others."

Harry's view of the relationship between MOs and strategies was somewhat less siloed. He reported drawing on his full repertoire of strategies ("mostly all of them"), as needed, *whenever* he sat down to read ("each time I read"). When asked to say more about what it meant to him, in his reading experience, to use strategies "as needed," Harry described situations in which he set out to enact a MO, and commenced reading, but then encountered difficulty ("Because sometimes it gets confusing"). Strategies would then be applied (mostly comprehension-repairing strategies, such as *re-reading* or *searching one's memory for possibly relevant background knowledge*), in order to resolve confusion. Still, these strategies would be applied in the service of continuing the type of reading activity associated with a particular MO (e.g., Harry's MO for reading baseball cards, MO03.03.11, or his MO for reading the Christian *Bible*, MO03.03.08), not universally, nor always in exactly the same way, whenever Harry engaged in any act of reading.

In sum, case study participants mostly viewed reading comprehension strategies as useful and necessary; and most participants reported having some control, or a great deal of control, over their application. At the same time, participants' responses to questions about strategies and MOs, together with their verbal protocols of reading, indicated that they viewed strategies as secondary and subordinate to their MOs, which constituted the main lens through which they orchestrated and monitored their reading activities and made decisions about whether or not, and how exactly, to adjust or change what they were doing and thinking as they read.

Section 5: Additional Results Pertinent to the Psychological Reality of 6th Graders' MOs

Capacity and willingness of 6th graders to describe and discuss their MOs. A basic and important finding from this study was that thirty 6th graders had no apparent difficulty answering questions about MOs, reflecting on their knowledge and use of MOs, and describing differences between MOs. Participants performed these tasks with varying levels of verbal and cognitive dexterity, and the descriptions they provided exhibited varying levels of detail and complexity. Yet the basic finding remains that all thirty gave coherent and, for them, meaningful and authentic responses to questions about reading in diverse ways and how they distinguished among those different ways.

Genesis of 6th graders' MOs. The genesis of participants' MOs was not systematically investigated. Nonetheless, analysis of case study transcripts yielded a number of comments and observations—at least one per participant, and in some cases many more—shedding light on possible trajectories of MO development, as retrospectively reported by 6th graders themselves.

One common theme across participants' comments and observations was that MOs were not acquired or inculcated through formal instruction. Several participants claimed they had gradually, over time, settled into their various ways of reading on their own. Nick, for example, stated: "like, how to novel read, or… that's just something I learned on my own. And that's the same with the informational text and my way of reading it; I learned that on my own." Cara echoed Nick: "It's something [i.e., developing my different ways of reading] I did on my own. Because I taught myself how to read, um, before first grade."

At the same time, several participants acknowledged influences. Nick, for example, credited his parents' reading of bedtime stories with having laid a foundation for his development of his novel-reading MO (i.e., MO06.0101): "The exception [to Nick's independent development of MOs] is really my parents reading me bedtime stories. Um, the bedtime reading is sort of a precursor to novel reading." Cara for her part credited her father with modeling for her a MO for reading the newspaper in a critical and emotionally engaged manner; she stated that seeing her father respond angrily to newspaper articles he found upsetting influenced her development of her MO for reading about current events in a social context (i.e., MO04.02.08), in which she is hyper-alert to information and viewpoints worthy of being relayed to others. Samantha credited her friends with introducing her to emojis and with fueling the development of her MO for reading text messages (i.e., MO05.01.03).

Influence of formal schooling on 6th graders' MOs. Analysis of data from six case study participants yielded numerous observations and comments about the impact of formal schooling on the development and use of MOs, usually in conjunction with observations and comments made about the impact of formal schooling on participants'

acquisition and use of conventional reading comprehension strategies. These observations and comments were extracted from the transcripts of all six participants. However, whereas some participants contributed many observations and comments on this topic, others contributed only one or two. A summary of these contributions should therefore not be seen as reliably representative of the experiences and views of all six participants.

One view expressed by all six participants was that school had not been a source of instruction or learning regarding MOs. All participants commented that, at school, teachers did not explicitly talk about "ways of reading." On the other hand, all six participants indicated that it was in school that they learned about reading comprehension strategies. Students credited school and/or individual teachers they remembered by name with teaching them about individual reading strategies (e.g., *visualizing*, *inferring*, *summarizing*) as well as about certain multi-strategy routines, such as RAT (Reading Around the Text).

With regard to the status and use-value of their MO knowledge in the school setting, participants reported varied experiences and points of view. Among those who provided information about it (five of six), some viewed their MOs as an asset they could use in school and outside school in whatever ways they saw fit. While their MOs were not recognized by teachers, and were not purposefully engaged by curriculum and instruction, these participants did not report any sense of disjuncture between what they knew about MOs and the demands of their daily routines of schoolwork. Others expressed some amount of mild puzzlement or consternation about a disconnection between their knowledge of multiple ways of reading and the narrower focus of their school-based reading experiences. One participant who went a step further was Cara, who expressed frustration with what she portrayed as a dominant school view of reading as a unitary,

uniform activity. Cara dramatized her critique of this unitary view in the form of a portrait of Mrs. Smith (a pseudonym): "Mrs. Smith, like, she thinks, she'll tend to say, reading is just one thing, and I'm thinking no, you've got step by step, you've got problem solving, you got understanding, you got comprehension, you got all the different ways of reading, and yet you think that's all one. It's not; it's different things."[22]

6th graders' interest in inventing new MOs. At the end of the written interview, participants were asked (a) whether or not they had ever in the past invented a MO and also (b) whether or not, in the future, they expected they would at some point invent a new MO. Twenty of thirty (67%) participants answered that they had no recollection of ever inventing a MO; the other ten (33%) reported they had. Looking to the future, fourteen of thirty participants (47%) said they did not expect they would ever invent a new MO; the other sixteen (53%) said they expected they would. Among case study participants, the answers to these questions followed roughly the same pattern, with four (67%) answering that they had never in the past invented a MO, and three (50%) answering that, in the future, they did not expect to invent a new MO.

Case study sessions provided opportunities to engage this latter subset of participants in conversation about their answers to these questions. The three participants who said they did not expect to invent any new MOs in the future generally explained their

[22] The transcript of Cara's comments about her experience of school-based reading instruction, and how this instruction influenced her development of reading MOs, also contains an intriguing aside about occasionally turning "small" strategies into "big" ways of reading: "Sometimes [in school] … they could teach, like, say like a little way of reading, but then, like, I'll make it a big way of reading." Whether this "small" versus "big" distinction corresponds to a distinction between "small" strategies and "big" MOs is a question worthy of further investigation. From a theoretical standpoint, it makes sense that some classic reading comprehension strategies (e.g., asking questions) could be elaborated into a full-blown MO (e.g., a MO centered on adopting a disputatious or forensic stance).

answer by stating that they did not think they would need to invent new MOs because their existing MOs were satisfactory. Participants who said they expected they *would* invent one or more new MOs in the future did not express dissatisfaction with their existing MOs, but rather seemed to enjoy the idea of being inventive. Several tried on the spot to give an example of a new MO they might invent. Cara, for instance, having recently spent a few minutes reading on the Internet, stated: "Like the way, with the split thing [reading two texts side-by-side using a "split screen" web browser add-on], like that's a new way of reading, because not a lot of people can do that. And so then, that's a new way of reading, no one has really did it yet. So I'm going to make a new way of reading, and it is a new way of reading, because yeah, you're switching [between two texts displayed side-by-side]."

CHAPTER 5

General Discussion

The results reported in the previous chapter appear to provide strong support for the study's main hypothesis, namely, that above and beyond what they know about conventional reading comprehension strategies, most or all adolescent readers know and use diverse MOs, and experience reading and regulate their reading activities through the prism of reading MOs.

In summary form, the results are striking: 100% of participants (n = 30) reported that they knew and used two or more "ways of reading" in their daily lives. One hundred percent of participants connected the MOs they reported knowing to specific reading events they located on a recent school day and/or weekend day, and 100% provided information about each of their MOs and why, to them personally and in their day-to-day experience, each counted as a distinct way of reading. Further, 100% of case study participants (n = 6) provided further corroborative detail about the MOs they had previously briefly described, and 100% of these participants enacted some or all of their self-reported MOs while reading both familiar and unfamiliar texts (i.e., no evidence was found of fabrication, exaggeration, or embellishment in participants' earlier or later self-reports regarding MOs). As well, case study participants all identified, described, and enacted additional MOs beyond the ones they initially identified. And while these participants mostly demonstrated robust knowledge of conventional reading comprehension strategies, they all indicated navigating and regulating their reading activities not via such strategies, but instead, through the prism of their diverse and even idiosyncratic reading MOs.

These results are striking, and yet their meaning and significance—how they should be interpreted, in what respects they may be considered robust and in what respects they should be seen as tentative—need to be carefully and, as necessary, critically unpacked. This is the task to which I now turn.

The following discussion is divided into five sections that address five key areas. The first is devoted to the central issue of the psychological reality of reading MOs in the lives of 6th graders in the context of a skeptical reconsideration of the MO construct. The second section addresses the issue of readers' strategic regulation of reading activity and the relationship between MOs and conventional reading comprehension strategies. The third section turns to a discussion of possible broad implications for classroom instruction. Section four acknowledges, and discusses, a number of important limitations on the study's findings. The chapter concludes with a section devoted to possible future directions for research.

Psychological Reality of MOs for Reading

As summarized above, the study's results appear to give strong support to the claim that, quite aside from what they know about reading comprehension strategies, most or all 6th-grade readers know and use multiple reading MOs. Further, the results strongly support the claim that many or all 6th-grade readers perceive reading, reflect on their reading experience, and make decisions about reading through the lens of these MOs—as opposed to doing so through the lens of reading comprehension strategies or through a generic, all-purpose lens of always striving for maximum comprehension of the text they are reading. Written interview responses, combined with transcripts of case study sessions, provided plentiful and vivid evidence of 6th graders distinguishing among MOs, expressing

preferences about MOs, recalling past applications of particular MOs, reflecting on influences that shaped their MOs, enacting particular MOs, and even speculating about MOs they might need to invent in the future. "Psychological reality" is a somewhat loose concept and standard, yet it seems accurate to say that, for the 6th graders in this study, MOs were "psychologically real" and personally meaningful.

That said, a review of participants' varied and idiosyncratic repertoires of MOs provides examples of MOs so disparate—not just in terms of their details, but in terms of the underlying dimensions of experience they invoke, from *physical posture during reading* to *reverence for the text being read*, for instance—that it seems appropriate, here, to play devil's advocate, and to ask: how confident can we really be that, in answering the study's central question about their different "ways of reading," *all* participants (a) understood what the question was asking, and (b) provided information pertaining to the same dimension or level of reading experience (namely, the MO level)? In other words: how confident can we be that the diversity of MOs catalogued in this study was not, at least in part, an artifact of some participants *not* understanding what they were being asked? The information these participants provided may well have been accurate and truthful (e.g., "I look up then back down again"; "I'm in the car reading"). However, they may simply have been reporting incidental information about past reading events, and not actually describing differences between separate and distinct *ways of reading* they personally know and use.

These reservations about the data—and the validity of the findings derived from them—are important to consider here. Responding to them directly may help more fully

clarify the nature of the MO construct and the epistemological status of the evidence we now appear to have in hand regarding its psychological reality for 6th graders.

Demarcating what can count as a MO. It is conceivable that, in the future, MOs will have been so extensively studied that, when a reader reports a MO, it will be possible to search a database of all previously reported and verified MOs and say whether that reader's MO is (a) similar or identical to one already catalogued or (b) truly unprecedented.

In the meantime, in the absence of such a database, the predicament of MO researchers is to have no choice but to defer—at least at first—to the testimony and judgment of readers themselves regarding what is, and what is not, a MO. Once a MO has been identified as such by a given reader, the researcher can—and must—immediately take steps to verify the accuracy and completeness of the description he has obtained. He can elicit further information about the MO and how it differs from other MOs in the reader's repertoire. He can check that it is linked to actual reading events with specific texts. He can try to verify the reader's ability to actually enact the MO as it was described. He can even try to ascertain the frequency with which the reader applies this particular MO in her daily life.

The first step, however, is always to defer to the reader's testimony and judgment. Even in the future scenario sketched above, in which thousands of distinct, verified MOs have been catalogued in a searchable MO database, the researcher presented with a novel and unheard-of MO would have no choice but to accept it—at least at first—at face value.

The reason is that, through the lens of the MO construct, the researcher tries to bring into focus not the objective reality of the reader's cognitive processes, nor an accurate assessment of the reader's knowledge or proficiency, but rather one aspect of the

reader's subjective experience of reading—the way in which, from her perspective and in her experience, shaped by particular sociocultural influences, reading activity takes specific forms, namely, those identified by the reader as "hers."

Each of these personally "owned" ways of reading will of course inevitably be linked to external, observable reality in a variety of ways—linked to particular texts, particular situations, particular tasks, and so on. And once these links to external, observable reality are ascertained, a given MO can then be further studied via these objective correlates (e.g., once it is known that a given reader uses a specific MO for reading poetry, say, or for reading the Christian *Bible*, a researcher can learn more about that MO by studying the reader's transactions with those texts).

But the reverse is not true. No amount of careful observation of a reader's transactions with texts will reliably disclose what she counts as a MO or the particular criteria she uses to distinguish one MO in her repertoire from another.

Two readers may habitually transact with the same types of texts, at roughly the same times of day, and for apparently roughly similar overarching purposes (e.g., to relax, to learn new information). A researcher may feel confident in extrapolating from these observations that the two must know and use roughly the same set of MOs. Yet these readers' testimony about their respective "ways of reading" may reveal that the first of the two makes a hard-and-fast distinction between reading "for school" and "to learn new information," on the one hand, and on the other, reading "to experience emotional connection and intimacy"; whereas the second of the two distinguishes her ways of reading primarily in terms of whether the text being read is "factual" and "true" versus "made up" and "not true," with a pronounced preference for the former.

By the same token, analysis of an individual reader's verbal protocols of reading may indicate that, with two texts of different genres, she engaged in two somewhat different or even very different types of processing. The researcher may point to specific objective differences with regard to the reading comprehension strategies the reader applied and the complexity and coherence of the mental representations the reader constructed. And yet, this reader may report that, for her, these two episodes of reading involved one and the same MO. The researcher may argue that the observed differences are significant—and no doubt, from the perspective of objectively cataloguing the reader's use of reading comprehension strategies, or assessing her reliance on particular text features (e.g., table of contents, index, diagrams), they are. But the issue of the reader's personally and culturally inflected "ways of reading" is a different matter. MOs may or may not align with the distinctions the researcher privileges as the important ones.

Nor is this predicament of the researcher studying MOs resolved once and for all when he has obtained accurate and complete information from a reader about the MOs she knows and uses today. If it is the case, as I have hypothesized, and as would be consistent with theories of strategic change over time (e.g., Siegler, 1996) and what we know about the larger history of reading (e.g., Manguel, 1997; Stahl & King, 2000), that MOs are in principle in a constant state of flux, always in principle open to augmentation and revision, the researcher's deference to the reader's judgment is not something that is ever left behind. With increasing knowledge of MOs and how they evolve over time, a researcher may develop expertise in noticing objective correlates that likely indicate a significant change in MO—or the emergence of an entirely new MO. Even then, however, confirmation will need to be sought from the reader. And even with expertise, it is likely the researcher

will periodically be surprised by a reader's report that, for her, a new way of reading has emerged—a new way that the researcher, for his part, was not in a position to anticipate.

In sum, the methodological challenge of demarcating reading MOs is a challenge qualitatively different from that of demarcating other reading-related phenomena, such as reading comprehension strategies or a reader's knowledge of letter-sound associations (at least as these phenomena are currently defined and studied). Further, the epistemological status of the knowledge we have, at any given point in time, about a reader's MOs also is different from that of knowledge we may have about other reading-related phenomena. In the case of MOs, every instance of the phenomenon must be asterisked with the notation, "as reported by reader Y" or "as reported by reader X." And this notation is *not* simply about the provenance of the information, a standard sourcing citation of the kind expected in all responsible research. The "as reported by reader Y" notation is an acknowledgment of the researcher's initial necessary deference to the reader's judgment, an acknowledgment that, on his own, the researcher could not finally have determined for certain that the reading phenomenon described was its own, distinct MO.

Readers' criteria for distinguishing among MOs. The diverse criteria participants reported in this study for distinguishing among their MOs illustrate the foregoing general discussion regarding the procedure required to initially identify and describe MOs, and subsequently to verify and corroborate readers' reports.

As reported in the previous chapter, the thirty participants in this study together mentioned a grand total of thirty-six different criteria at least once to distinguish among their MOs. No participant mentioned all thirty-six criteria, and when initially asked to distinguish among their reported MOs on the written interview (with not much time to

reflect), participants readily asserted between three and twelve different criteria each. Across participants, the particular criteria asserted to distinguish MOs varied considerably. Some participants demarcated MOs in terms of *genre*, *level of concentration*, *enjoyment*, *level of stress*, *technology*, *subject matter*, and *location of reading*; others invoked criteria such as *emotions involved*, *level of reverence*, *single text or multi-text*, and *referentiality*. Across participants there were some significant overlaps, yet no two participants used exactly the same list of criteria.

These results may be considered in light of the foregoing discussion (in particular, the point about the error of assuming that superficially similar-looking readers possess similar MOs) and in light of what was known about the study's research context and participants—the participants' demographic and academic characteristics, and the school district's profile and history of academic achievement.

The main observation to be made here is that, contrary to what might have been predicted based on the relative homogeneity of the population from which participants were randomly selected, there was significant diversity. This diversity in "ways of reading" was of a kind hitherto undocumented (at least at this level of detail and for an entire cohort of readers) and it did not correspond in any discernible way to other general patterns in the population (e.g., participants' general level of reading proficiency). It was not the case, for example, that only the more proficient readers knew and used MOs. Indeed, as earlier reported, no relationship was found between participants' *number of MOs reported* or their *number of criteria used to distinguish MOs* and their *assessed level of reading proficiency*. Pending corroboration in future replication studies in other school districts with different demographics, I therefore tentatively conclude that, consistent with my initial hypothesis

and the theory and relevant prior research (e.g., Gallagher, 2012; Graff, 2010; Moje, 2000) on which that hypothesis was based, most if not all 6th graders know and use multiple MOs, and vary their use of MOs in non-random ways throughout the day.

With regard to the mean number of MOs per participant reported in this study (6.2 per participant at the end of the written interview, and 11.3 per case study participant by the conclusion of the last case study session), it seems likely that these numbers represent little more than rough ballpark estimates of what may be found in other contexts. It seems likely that considerable variability would be found from one population to another, and even within a single population, from one sub-group to another, based in part on such factors as (among many others): readers' past exposure to diverse forms of emergent literacy experiences at home and in their communities, readers' past and present exposure to diverse genres of texts, readers' past and present exposure to diverse forms of schooling, and readers' past and present exposure to diverse purposes and uses for reading activity. That said, it also seems likely that, with any population of readers, researchers will find a diversity of MOs both across and within readers, *even when a population presents as relatively homogeneous*. It also seems likely that, if a data-collection procedure is used that is similar to the one employed in this study, initial reports of MOs known to and used by participants will represent an underestimate of the true number of MOs known to and used by each participant. A considerable metacognitive effort is required to review the various MOs one employs in one's daily life, and unless there is a shift in school curriculum and instruction (with increased practice in metacognitive activities resulting, in general, in adolescents developing greater metacognitive ability), it seems likely that additional time

for scaffolded reflection will in all or almost all cases elicit reporting of additional MOs (as was the case in this study).

The MO as an integrative construct greater than its component parts. Given that 6th graders were found to demarcate their MOs in terms of criteria that, for the most part, are familiar to the field of reading research (e.g., genre, reader interest, text content or subject matter, readers' purpose for reading), it seems reasonable to ask: what does the MO construct—and the prospect of studying readers through the lens of their MOs—add to what the field already knows about readers and the nature of reading activity, thanks to research focused on individual criteria readers apparently use to distinguish their MOs? For example, given what the field knows about the importance of text genre in shaping readers' processing of text and comprehension outcomes (e.g., Chapman, 1994; Duke & Roberts, 2010; Loizou, Kyriakides, & Hadjicharalambous, 2011; Pappas, 1993; Pappas & Brown, 1987), what does the MO construct add to our understanding?

Given the newness of the MO construct, and the limited empirical data so far about readers' actual experience with, and application of, MOs, it may be too early to tell. Still, based on the definition offered in this dissertation of the MO as a higher-level, regulative construct with which readers "orchestrate their reading activities," it seems plausible that consideration of MOs would add to our understanding of how exactly, why exactly, and when exactly individual factors, such as text genre, have the particular and not-always-consistent effects they do, independently or in combination with other factors.

This new layer of insight may be illustrated with data from the study. As was reported, all the case study participants at some point invoked the criterion of text genre to explain why they did or did not read in particular ways (Table 6). For example, participant

Chris mentioned the referential status of social studies textbooks as a reason for his enjoyment of books about Michigan ("I care about the people in the book because they are in Michigan"); Cara offered detailed comments about the shifting focus of a typical chapter in a social studies textbook (e.g., shifting from one aspect of colonial life to another unrelated aspect) and how this forced her to visualize the information in snapshots instead of as a movie (as she would do with a chapter of continuously unfolding action in a novel); and Astrid described in detail how reading text messages on her phone, with social pressure to reply immediately, caused her to develop a skimming, rejoinder-anticipating reading MO. Yet beyond demonstrating knowledge of, and sensitivity to, genre, several participants also provided examples of how, in the context of multiple MOs in their personal repertoire of MOs, the influence of text genre on their reading activity was not always straightforward. For example, participant Nick provided an example of a shift in a text's subject matter causing him to temporarily switch from one MO to another: while reading Robertson's (2013) autobiographical *Si-cology*, for which he used his MO for autobiographies (i.e., MO06.02.08), Nick encountered passages in which Robertson discusses his Christian faith, and this prompted Nick to switch to a different MO (i.e., MO06.02.11) that he used for reverential reading of "serious" texts with ideas or information pertaining to spiritual matters of soul and salvation. Astrid similarly described how encountering an unusually sincere and personally meaningful text message from a friend prompted her to switch from one MO to another.

What these examples illustrate are ways in which, with the MO construct in hand, and with awareness of the diverse MOs readers know and use, our understanding of the impact on readers of a factor such as text genre may become more precise and nuanced—

and better equipped to explain apparent anomalies or inconsistencies in the ways readers transact with texts.

MOs as a dimension of readerly agency and identity. Relatedly, attention to MOs may bring into focus additional ways in which readers are in principle capable of (a) exercising agency and (b) at the same time constructing, asserting, or renegotiating the identity—or identities—underlying and/or deriving from their actions (see Hall, 2010, 2012; Moje & Lewis, 2007; Moje & Luke, 2009; Sarup, 1998).

Readers in general can of course be agentic in a wide variety of ways, such as at the level of decisions about the particular texts they choose to read, the amount of time they devote to reading, or the level of effort they put into reading. The data collected in this study indicate that adolescent readers can and do additionally exercise agency at the level of the MOs they know, and the choices and adjustments they make among these MOs during reading.

As already reported, all six case study participants talked about choices they made and actions they took as readers at least in part in terms of particular MOs. They did so to varying degrees. Chris, at one end of the spectrum, rarely referenced assertive and deliberate choices made during reading; most of the time he appeared to read—and think about reading—in a more reactive and self-protective manner, in terms of avoiding discomfort or confusion. That said, even he talked about his preferences among MOs, about his enjoyment of a particular "way of reading" (by contrast with another), about wanting to continue reading *in a particular way* (as opposed to simply reading in general), and about the importance of particular MOs (e.g., MO01.02.06, his MO for reading the identifying markings on locomotives) to his self-image as a vintage train hobbyist. Other participants

were more articulate, specific, and assertive. In the course of reflecting on the MOs in their personal repertoire, they referred to reasons for switching from one to another, and they expressed pleasure in their actual and potential efficacy as readers capable of undertaking specific reading actions. As we saw in the previous section, Nick and Astrid (for example) responded to what they perceived as significant shifts in the content of the texts they were reading by deliberately switching MOs. Though these actions may perhaps be classified as reactive, in the sense that they were taken in response to words in the text being read, they also evinced a sense of control—and in fact required the exercise of both critical judgment and cognitive dexterity on Nick's and Astrid's part. They noticed a shift in text content, and then they were able to *do* something in response.

Nick was the participant who demonstrated the most pronounced and sophisticated sense of his readerly agency. He reflected on his MOs in terms of such things as (a) the situational appropriateness of the running commentary that he reported often playing in his mind while he read and (b) his pride in maintaining his intellectual independence as a reader—trying always to arrive at his own interpretation of the text he was reading rather than ask someone else or "look for an answer online." Given the complexity of these MO features (viz., generating running commentary and asserting readerly independence), Nick appeared especially alert to actions he might take or choices he might make to sustain them or regulate them.

Alongside these agentic choices and actions, participants on numerous occasions additionally indicated the projection of a sense of readerly identity connected to, but

separate from, their procedural knowledge about a particular MO.[23] Nick, for example, did not simply describe the steps and procedures he implemented to puzzle out the meaning of a text on his own; in addition, he indicated a high level of commitment to, and affective investment in, preserving his self-image as an independent-minded, autonomous reader capable of constructing his own interpretations of difficult or puzzling passages. He expressed pride regarding this identity. Similarly, Harry indicated that his skill at, and pleasure in, reading baseball cards (i.e., MO03.03.11) was connected to his identity as a baseball player. For him, reading and rereading his collection of baseball cards both expressed and reinforced this identity—connecting him to the exploits and lore of the sport's greatest players and providing him and his teammates with a standard of comparison for their own pitching and batting records. For her part, Astrid indicated that her MO for reading the *Bible* (i.e., MO02.04.09) was connected to her identity as a practicing Christian.

In general, then, MOs appeared to function for the majority of case study participants as (among other things) a tool for, and also an arena of, personal agency and also identity construction. When applying a particular MO, the majority of participants indicated that they knew what they were up to—what particular kind of activity they were doing. Indeed, in the absence of such orienting schemas for reading, we might expect

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[23] I have used the term "projection" here (instead of "presence" or "existence") to indicate the idea that readerly identity never achieves the status of an established and simply verifiable fact but is rather always (re)constructed and (re)asserted anew, over and over again, through readers' specific activities (see Holland *et al.,* 1998). Furthermore, these activities unfold in a dynamic social context where more and less powerful others are also engaged in constructing and asserting *their* identities through similar and also different readerly activities. In this dynamic social context, it seems more accurate to speak of readerly identities as being *constructed*, *projected*, and/or *negotiated* rather than as being *established*, *discovered*, or simply *known*.

readers to more often become confused or overwhelmed. After all, texts may be navigated and read in so many different ways (cf. Derrida, 1978; Rosenblatt, 1969, 1978). An MO in this regard may be seen as a kind of playbook that gives the reader the option of doing "just" one particular type of reading activity at a time—whether for just a few seconds or for many minutes or even hours.

Further, with a particular MO in play, a reader can proceed with some measure of clarity and equanimity—clarity regarding the types of micro-actions she will perform while reading (a subset of all possible micro-actions) and the kinds of thoughts and feelings she is likely to experience; and equanimity vis-à-vis all the many other things she will *not* be doing, thinking, or experiencing. In making these choices, she is in effect carving out for herself a sense of identity as someone who knows about, who is capable of, and/or who cares about one or another particular way of reading. Whether this identity is one the reader perceives herself as sharing in common with some or many others (e.g., Samantha's sense of herself as someone with specialized knowledge of emojis she can use to text back and forth with her friends), or—on the other hand—as one that sets her apart (e.g., Nick's sense of himself as a reader with a unique perspective, as expressed in the sometimes sardonic commentary that plays in his mind during reading), it may anchor and orient her in the literacy landscape she inhabits.

In sum, with the MO construct in mind and with awareness of adolescents' multiple and diverse MOs, we may be better equipped to notice diverse forms of readerly agency and readerly identity. By virtue of knowing plural and diverse MOs, the 6th graders in this study were able to be agentic in specific ways—ways beyond what could be imagined (a) if they all were applying versions of a single generic, all-purpose MO for meaning

construction and/or (b) if their decision-making as readers were restricted to choosing among reading comprehension strategies. At the same time, and in connection with their MOs, these 6th graders were able to cultivate particular sociocultural and readerly identities.

Relationship of MOs to Reading Comprehension Strategies

As was reported in the Results chapter, all six case study participants demonstrated practical knowledge of several common reading comprehension strategies, and most demonstrated declarative knowledge. In addition, all reported having learned about reading comprehension strategies in school. Yet none reported using such strategies in order to be strategic (in the larger sense of that word)—to plan, adjust, or regulate the overall direction or tenor of their reading activity. Those who did reference reading comprehension strategies—whether in general, or with regard to a recent experience of reading while thinking aloud—talked about applying them in specific targeted ways, as needed, to improve comprehension of difficult sentences or passages.

By contrast, as described and discussed in the previous section, all six case study participants referred to being agentic and/or were in fact agentic with regard to the reading MOs they reported knowing. Further, once a given MO was activated and being applied, it appeared to function as a "true" strategy in terms of appearing to govern and regulate the application of component elements or sub-actions. For example, when Astrid used her MO for attentive and absorbed reading of novels (i.e., MO02.01.03), she tracked and thought about words that communicated or connoted emotion ("It's all about tone"), which she specifically did *not* do when she switched to her MO for reading informational text (i.e., MO02.02.05), which involved frequent re-reading of phrases and entire sentences

to fix information in memory. Similarly, when Cara applied her puzzle-solving MO (i.e., MO04.01.01) to novels and occasionally to informational texts, she focused her attention on ferreting out and mentally cataloging interesting details that she took to be "clues"—in the expectation of eventually being able to connect these clues and solve a larger "puzzle" or "problem" hidden in the text. This was not something she ever did—or expected to do—when she applied her MO for reading and following directions for the purpose of making something (i.e., MO04.01.04).

Six short case studies with six 6th graders represents a minuscule sampling of reader activity and provides little basis for inductive generalizations. Still, the observations made here (about MOs apparently playing the role of overarching strategies in the experience of these participants) *are* worthy of discussion insofar as they are consistent with the theory-based analysis presented in the Introduction chapter regarding the following: (a) the importance of a strategy-tactics distinction and the idea that garden-variety reading comprehension strategies resemble tactics more than overarching strategies; (b) the deductive inference that, if reading comprehension strategies are not the source of readers' overarching strategic regulation of their reading activity, that source must be sought at a superordinate level; (c) the critical point that, contrary to the still widely accepted and still hugely influential "autonomous view" of reading (Au, 2006; Garcia & Flores, 2012; Street, 1984, 1995), every reading event unfolds in some particular, socioculturally and historically situated way; and (d) the hypothesis that reading MOs—defined as personally and socioculturally situated ways of orchestrating reading activities—could constitute a source of strategic orientation and regulation of reading activity, including the targeted and as-needed application of conventional reading comprehension strategies.

At this point, and on the basis of the data collected and analyzed for this dissertation study, it does indeed appear that reading MOs could provide a plausible answer to the question of what might guide and regulate reading comprehension strategies. MOs provide a plausible answer to the question: What *must* be there, in the mind and experience of a proficient reader, that allows her to flexibly and adaptively apply appropriate reading comprehension strategies in the ways she does to achieve the particular kinds of comprehension outcomes that mainstream reading researchers and educators praise as "proficient"? And by the same token: What *must* be there, in the minds and experiences of *all* readers, be they proficient or not, that allows them to read the texts they commonly read, with enjoyment or not, in the particular idiosyncratic but non-random, culturally inflected, familiarly paced and structured ways they do?

As illustrated in this study's case study data, 6th-grade readers know and apply such MOs. And in the reading lives of these 6th graders, MOs do indeed appear to play some kind of regulative, strategic role—superordinate to conventional reading strategies.

Possible reasons for this apparent subordination of reading strategies to MOs might include the fact that MOs represent a kind of higher-level chunking of the work of strategic regulation. Chunking of this kind is advantageous to a reading mind operating with limited working memory capacity (Daneman & Merikle, 1996; Miller, 1956). Conscious control of numerous individual reading comprehension strategies may involve a big commitment of cognitive resources—especially for readers who are still in the process of acquiring strategies. If the commitment is prohibitively high, the reader's mind may shut down (Sinatra, Brown, & Reynolds, 2002).

MOs may perhaps save a reader from this type of shutdown by efficiently organizing and streamlining her attention and activity. With MOs, less deliberate awareness of individual component strategies may be necessary. Instead, the reader may be able to devote her limited mental resources to the challenge of processing ideas.

Thus, MOs may allow readers to focus on ideas and on constructing a coherent and situationally useful representation of the text—not ideas "in general," or a universally coherent and useful representation, but instead ideas and representations that make sense and are satisfying in the context of a particular MO (McKeown, Beck, & Blake, 2009).

Possible Implications for Educators

It is premature to draw any definite practical implications for educators—let alone make any specific recommendations—on the basis of a small study exploring a newly proposed construct. Nonetheless, already on the basis of the results reported here, it seems reasonable to tease out some tentative and modest possible implications for educators regarding the study's main findings.

The most obvious implication to be drawn from this study is that many, if not all, 6th graders are likely to be capable of reporting specific information about whatever different ways of reading they know and use. In this study, 100% of participants were able and willing to do this, and these participants represented a full range of reading proficiency levels. Insofar as 6th grade teachers are interested in learning more about their students and what appears to be an important dimension of their experience of reading, it therefore seems safe to predict that, with proper introduction and explanation, questions posed about students' "ways of reading" will for the most part elicit intelligible answers and potentially useful information.

The good news, in this regard, is that the work of "properly" introducing and explaining the idea of different "ways of reading" appears to be relatively straightforward and low-cost. As was demonstrated in this study with thirty randomly selected students on fifteen separate occasions (i.e., in each of fifteen separate research meetings with one, two, or three participants at a time lasting 50-70 minutes), eliciting information about "ways of reading" may take just a few minutes, brief oral instructions, a simple printed instrument, and some colored pencils.

Based on the actual content of responses obtained from 6th graders in the course of this study, it also seems reasonable to expect that, whatever information educators obtain from their students, it is likely to be diverse and possibly idiosyncratic. Further, insofar as students' responses are linked by them to specific details about the various "reading events" in which they engaged on a recent weekend day and a recent school day, the data obtained are also likely to provide teachers with useful information about the diverse texts students read (especially outside school), the diverse situations in which students read, the diverse forms of enjoyment or satisfaction students derive from reading, and so on.

With regard to processing this information, and thinking about ways to use it as a basis for classroom conversation and learning, guidance may perhaps be taken from the home-culture "funds of knowledge" research by González, Moll, and Amanti (2005) and allied research on "culturally relevant teaching" (Ladson-Billings, 1995). This research has indicated that intellectual and motivational benefits may derive from forging connections between school curriculum and instructional activities and students' outside-school knowledge and interests (e.g., May, 2010; May, Bingham, & Pendergast, 2014; Pendergast et al., 2015). Similarly, with regard to MOs, it seems plausible that acknowledging and

building on students' MOs for reading may, in general, as well as in particular targeted ways, improve student learning and engagement.

A related implication derived from the study's case study sessions—during which participants spoke with me for roughly five hours each about their different "ways of reading"—is that, under the right circumstances, MOs can provide a rich and sustaining focus for lively conversation with 6th graders. Obviously, there is a huge difference between a one-on-one research meeting and a class period with one teacher and 30-40 students; a classroom teacher could not possibly engage all her students at the same time in in-depth conversation about their individual MOs. Still, a takeaway implication remains that adolescent readers of widely varying levels of proficiency may, in principle, be able and willing to talk about their MOs. With judicious use of digital platforms and tools (when those are available), combinations of synchronous and asynchronous conversations, and strategic grouping of students to allow for peer-to-peer sharing as well as conversation involving the teacher, it seems possible that, at some point, classroom teachers might find ways to involve all their students in reflective conversation about MOs. Scaffolded reflective discussion—with the teacher, as well as between peers—has generally been found to improve the metacognitive abilities and the learning achievement of students of all ages, including elementary-age students (e.g., Manion & Alexander, 1997; Meloth & Deering, 1992).[24]

[24] Teachers and students engaging in mutually informative conversation about their reading MOs could overlap with talk about readerly identities—as advocated by Jetton and Lee (2012) among others, who call for teachers to "find opportunities in the classroom to appreciate and value [students'] narratives" about their identities "developed through the sociocultural activities in which they participate inside and outside of school" (p. 95).

Leveraging students' MOs to advance learning of school-privileged academic MOs. Whereas it seems plausible that acknowledging students' diverse MOs and encouraging students to share and discuss their MOs could have general intellectual and motivational benefits for student learning, classroom teachers may worry that devoting precious time to students' MOs could distract their attention from high-value academic reading strategies and goals—those that students most urgently need to learn and internalize if they are to do well on high-stakes standardized tests and succeed in college and career. Teachers may also worry that giving too much attention to students' homegrown MOs may promote a relativistic, any-MO-is-as-good-as-another attitude among students.

These concerns are not without merit, and they raise important pedagogical and indeed political questions too complex to be thoroughly addressed here.[25] Still, drawing on what we know from decades of education research about the role of prior knowledge in successful learning (e.g., Bransford, Brown, & Cocking, 1999) and specifically about the importance of directly engaging students' existing knowledge (including whatever misconceptions they may have), it seems possible to respond to these concerns by sketching some possible scenarios—and tentative guidelines—for leveraging students' knowledge of diverse reading MOs to advance learning of school-privileged academic reading routines and strategies.

Homegrown MOs that echo academic MOs. One scenario teachers may encounter is that of a student describing and/or demonstrating a homegrown MO that already *prima*

[25] Among these questions must surely be the following: What ethical responsibility do teachers have to treat students' homegrown reading MOs with the same level of respect they would afford students' home cultural practices more generally?

facie closely parallels a particular academic MO of interest. For example, a student might describe a MO she uses to research coveted consumer products online. Insofar as this MO involves using the Internet to research a product's details, compare prices across different websites, read customer reviews, and pursue leads to find less expensive substitutes, it might in many respects closely parallel a school-valued academic MO for using the web to research a historical event or a controversial issue. Or again, a student might report a homegrown MO for rapidly skimming text messages from her friends yet with heightened sensitivity for words or phrases that reveal her friends' true underlying feelings (whether about her, about someone else, or about a particular topic or event). Teachers might see in this MO a close parallel to a school-privileged MO for reading novels, poems, speeches, and other texts with an eye for words, turns of phrase, or other details that convey the author's or narrator's tone—that is to say, his or her implied attitude toward a particular idea being explained or a character being described.

As will be clear from both these examples, even when a student's MO parallels or in some way anticipates a particular academic MO, a good deal of explanation and scaffolding may still be needed before the student herself sees the connection and learns from it. Two MOs are unlikely to be perfectly congruent. The teacher will likely need to explain (for example) that, in noticing emotionally charged words in her friends' text messages, and in trying to puzzle out the various layers of emotion sometimes being expressed via a single short phrase (or via a single emoji, for that matter), the student has in fact engaged in a type of interpretive detective work very similar to that of a reader of literary texts or political speeches trying to discern the author's or narrator's true feelings or attitude. Given that the teacher is, in effect, drawing an elaborate analogy between the MOs, he or

she may need to spend time drawing out and making explicit all the point-to-point connections and parallels (e.g., the student's friends don't always express exactly what their true feelings are, and that is analogous to the author of a poem [for example] not directly stating what her true feelings and thoughts are).

Still, with a student's homegrown MO in play as a starting point and ongoing reference point for the instructional conversation about a new academic reading MO, teacher and student are likely to experience a very different teaching-learning dynamic and trajectory than they would in a classroom where the teacher does not acknowledge and build on students' pre-existing knowledge. In the first place, with a student's MO explicitly acknowledged as a legitimate and indeed essential starting point for the instructional conversation, the student is positioned as a knowledgeable and active partner in the learning event, rather than as a passive recipient of the teacher's instruction. She is the expert regarding her MO, and as the teacher draws out the analogy between the two MOs of interest, she will therefore have an important role to play in determining whether the analogy "works" or not.

Further, as the analogy gets spelled out, with the student's MO as a reference point, the instructional conversation is likely to be much more specific and multifaceted. It should in principle now bounce back and forth between specific aspects of the student's MO (e.g., how exactly the student figures out which words in a text message to focus on) and parallel aspects of the academic MO. Drawing on her own knowledge and experience, the student may also find herself much more interested than otherwise in asking clarifying or exploratory questions about the academic MO she is being apprenticed into. And aspects of academic MOs that are in general not often discussed, but that are potentially of great

interest to students (e.g., whether and why academic MOs, like so many homegrown MOs, involve or indeed require some kind of affective investment on the reader's part), are more likely than otherwise to be addressed.

In sum, when a student's homegrown MO echoes or anticipates a particular academic MO a teacher wants students to acquire, there are solid reasons to think that making this connection explicit will benefit student learning.

Leveraging the fact of MO diversity to heighten attention to detail. Even when students' MOs do not closely parallel desired academic MOs, the activity of explaining and illustrating what MOs are—and underscoring the important fact of MO diversity—may create conditions for accelerated and deeper-than-usual learning of new MOs.

Recognition of MO diversity may be beneficial on at least two fronts. In the first place (as has already been pointed out), acknowledging the existence of diverse MOs, and demonstrating that students themselves know and use multiple MOs, may promote a sense among students of both newfound competence and confidence. With MOs in the picture, students of all backgrounds and all levels of reading proficiency are in effect being told, "You know much more about reading than you thought you did," and, "What you already know provides a foundation you can build on."[26]

Second, and perhaps more importantly, recognition and discussion of MO diversity can provide students with a new and more helpfully granular and detail-focused perspective on reading and what it means to become a proficient reader. The first big step

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[26] The magnitude of this boost to students' confidence and perceived competence will no doubt be greatest among students who have hitherto accepted a global and negative assessment of their proficiency as readers, seeing themselves as poor or struggling readers in a global sense.

is for students to see that reading is not one uniform activity, but instead, like cooking or playing sports, a type of activity that can take many different forms. But it may be the smaller follow-up steps that in fact yield the most valuable learning. For once a number of reading MOs have been described and illustrated (starting with those reported by students and teacher), learners can engage in a process of comparing and contrasting their MOs, with an eye to describing what each one is "good for" or "useful for," not just intellectually, but affectively and culturally, too. This kind of appreciative attention to detail may lay the groundwork for detailed attention to the features and uses of a new academic MO the teacher plans to introduce. When this new MO is explained and illustrated, it may be helpfully woven into the ongoing conversation about multiple, diverse MOs, and the value of growing and refining one's personal repertoire of MOs to become a versatile and resilient reader.

Increasing metacognition about reading and creating new tools for self-regulation. In the end, the biggest single benefit to be derived from acknowledging and honoring students' diverse MOs and from making these MOs a focus of instructional conversations—whether in small, ad hoc ways, or more substantial ways—may be the boost given (a) to students' metacognitive powers and, relatedly, (b) to their ability to self-regulate their reading activities in new and more precise ways.

It is likely not the case that the mere fact of making MOs a topic of conversation will *automatically* yield metacognitive benefits. Still, assuming that the topic of MOs is introduced by a teacher who (a) explains and illustrates what MOs are, (b) involves students in sharing and discussing their own MOs, and (c) emphasizes that becoming a proficient reader entails growing and refining one's personal repertoire of multiple MOs, it

seems likely that a MO-focused instructional approach may have at least as much benefit for students' metacognitive awareness and self-monitoring as other metacognition-enhancing interventions that have shown positive effects on student learning (see Paris & Winograd [1990] for overview; Taylor, 1999).

With awareness of his/her own MOs, every student in effect acquires a new target for introspection and self-reflection. Nor is this a static target, to be acknowledged and described once and then forgotten. Assuming the teacher has made the point that new MOs may be acquired and that existing ones may evolve, and that becoming a proficient reader entails growing and refining one's personal repertoire of useful MOs, noticing and reflecting on MOs should be an ongoing source of insight—and a useful new tool for self-regulation.

Limitations

Findings from this study must be viewed in light of a number of limitations. These limitations arise from several sources: specific design choices I made, as well as broader methodological and epistemological issues that pertain more generally to the type of research I conducted.

Limitations pertaining to self-report data. General concern is warranted regarding the reliability of self-reported data about internal mental states and actions. The fact that this study relied heavily on self-report data is an important limitation.

Participants' ability to verbalize their thoughts. A specific aspect of this limitation pertains to participants' language knowledge and skills—in particular, their expressive vocabularies and their knowledge of language for drawing fine distinctions. Differences between participants with regard to these factors may have resulted in data that

inaccurately reflected participants' actual experience and knowledge of MOs. For example, a participant with less advanced expressive language skills may have been unable to find appropriate words to express everything she knew about, and did with, MOs.

Social desirability bias. Another specific concern—and limitation—pertaining to the study's reliance on self-report data involves the risk of social desirability bias and social desirability responding (SDR) (Paulhus, 1991). Social desirability bias is the tendency of respondents to say what they think a researcher wants to hear or, more generally, to give answers they anticipate will be viewed favorably by others. It can take the form of over-reporting "good behavior" or under-reporting "bad" or undesirable behavior.

In this study, it is possible that, despite my best efforts to remain publicly neutral and agnostic regarding the desirability of knowing and using more than just one MO, and despite the statements I made about individual differences and the idea that "all that matters is saying what's true for you personally," some participants may have been led to believe that reporting a larger number of "ways of reading" would make them appear smarter. As described above in the Method chapter, the study's design contained features intended to both deter and detect any exaggeration or outright fabrication of MOs by participants. In the written interview, for example, participants first listed specific reading events in which they had engaged, and only then were they asked to identify the "ways of reading" they had used on those particular occasions. Additionally, they were asked to describe each "way of reading" and explain how it differed from other ways. Case study participants, in turn, were asked to further describe and explain each of their previously mentioned MOs, and they enacted many of the MOs they had earlier reported. Nonetheless, despite these precautions and checks, it is possible that some participants may have

exaggerated their total count of MOs, if not by inventing MOs from whole cloth, then perhaps by taking what for them, at this point in time, was really a single MO (e.g., *reading online*) and splitting it into two MOs (e.g., *reading online alone* and *reading online with a friend*).

What is especially troubling about the threat of SDR is that the effect may be unevenly distributed across participants. Some participants may be more prone to SDR than others, and there is no easy, clear-cut way to separate those who are more susceptible from those who are less. This explains why SDR is a special concern in studies that measure individual differences using self-report data. In this study, the concern would be that the mean number of MOs per participant may be an overestimate of the true mean.[27]

Limitations pertaining to specific procedures used. Specific concerns are warranted regarding particular aspects of the procedures used, including the initial explanation of "ways of reading" given to participants and the instrument used for the written interview.

Participants had not previously been asked to report about their diverse "ways of reading" and were not (as far as I could ascertain) at all familiar with the phrase "ways of reading." There can be no doubt, then, that the initial introduction to the idea of "reading in

[27] It is very difficult to estimate the size of the SDR threat in this study. When a phenomenon has been more extensively studied (e.g., lying, frequency of sexual activity), or when the answers of at least some participants can be independently verified, it is sometimes possible to evaluate data for SDR distortions and even to statistically adjust participants' responses to account for SDR (see Paulhus, 1991). Those steps are obviously not possible in this case, given that the MO construct is being investigated for the first time. At this point, given the consistency of participants' answers, and given that case study participants on several occasions explicitly rejected an opportunity to add another MO to their list of reported MOs (e.g., after reading an unfamiliar text I provided), I tend to think that the impact of social desirability bias in this study was relatively small.

different ways," including the two analogies I provided (likening different ways of reading to different ways of brushing one's teeth and different ways of moving on one's feet), strongly influenced participants' initial responses and, possibly, their underlying thinking about, and filtering of, their personal experiences and memories of reading.

Earlier in this chapter, I proposed one interpretation of the fact that, after just relatively brief and minimal explanation, and with relatively little scaffolding, 100% of participants reported knowing and using two or more MOs. The interpretation offered was that, while participants had no prior experience talking about their MOs, they all in fact had years of daily experience with distinguishing among their different ways of reading. Consequently, when a researcher asked them to identify and describe their MOs, this request was readily intelligible and not difficult to comply with. The only hard part, for some participants, lay in verbalizing the criteria used to distinguish MOs (as would likely also be the case for 6th graders asked to verbalize their criteria for distinguishing among their different ways of walking and running, such as *strolling*, *marching*, *jogging*, and *sprinting*).

That said, a competing interpretation of the high percentage of participants reporting two or more MOs could be that the script used to introduce participants to the idea of "ways of reading" was leading, and that the instrument was leading, too. Specifically, it might be argued that, simply by virtue of referring to *ways* (plural) of reading, and providing an instrument containing tables with multiple blank rows for participants to describe their possibly plural MOs, I biased participants to report more "ways of reading" than they would otherwise have reported.

This possible biasing effect introduces another limitation on the study's findings.

Limitations pertaining to population and sampling. It goes without saying that, while apparently robust (e.g., 100% of participants reported knowing and using at least two distinct MOs), the findings reported here are based on a relatively small sample (n = 30) from a single school district and the generalizability of the findings to other populations of 6th graders is therefore limited.

A more specific concern and limitation pertains to the homogeneity of the studied population. As described in the Method chapter (see especially the Research Context section), the population from which participants were sampled contained students at many different levels of reading proficiency and family income, and the thirty adolescents randomly selected and enrolled were representative of that diversity. That said, all participants were white and none were English Language Learners. Further, a strong majority of participants had been grade-mates or even classmates in the same district for as many as six years prior to 6th grade. In other words, they had experienced very similar, if not identical, curriculum and instruction for most of their school careers.

By design, I used this homogeneity of school experience as the basis for inferences about the likely source and development of participants' MOs. I reasoned as follows: given that students who have experienced such similar curriculum and instruction for multiple years have ended up, at the end of their 6th grade year, with such diverse and idiosyncratic repertoires of MOs, it seems reasonable to infer that MOs are not primarily shaped by school experience. Otherwise we would expect to see much more similarity—if not uniformity—across participants, at least with regard to their more academically focused reading MOs. I thus arrived at the tentative conclusion that adolescents' MOs are likely to be heavily shaped by personal and cultural factors, and that new academically purposed

MOs do not easily or automatically become established in adolescents' MO repertoires as a result of attending school—even in a district where literacy curriculum and instruction are as high-quality as they were in the district where this study was conducted.

However, inferences along these lines are based on certain key assumptions. For example, it is assumed that, if school curriculum and instruction *were* a source of students' MOs, this would result in recognizably similar-looking MOs across participants. Yet this may not be the case. That is, it may be the case that school experience *does* powerfully shape students' MOs *yet does so in diverse and idiosyncratic ways*. It is possible, in other words, that the participants in this study acquired their diverse MOs at least in part *as a consequence* of experiencing the uniform and high-quality curriculum and instruction they experienced, most of them over multiple years, and that, in the absence of this homogeneous school experience, their MOs would be *less* diverse.

The design of this study does not allow us to answer questions along these lines. Further research is needed.

Future Directions for Research

While this study found strong initial evidence of the psychological reality of diverse non-instructed reading MOs among 6th graders in one rural school district, it raises as many questions as it answers. Some of these questions pertain to doubts we can and should reasonably entertain regarding the soundness of the study's procedures and the reliability and validity of the results that were obtained. Others pertain to extending and deepening the study's findings and to illuminating the MO construct—and its psychological reality—from additional angles. These questions call for further research.

Most urgently, there is a need to replicate the study in other school districts with participants drawn from other populations with more diverse demographic and cultural characteristics. Based on theory and empirical research we have about differences and similarities across populations (e.g., research on students in urban versus suburban and rural contexts), it seems likely that 6th graders everywhere know and use diverse non-instructed MOs. At the same time, it seems plausible that the nature of that diversity will differ from one population to another, with general trends possibly emerging with regard to the criteria adolescents invoke to distinguish among their MOs, preferences for particular MOs, the number of MOs directly tied to school-centered reading purposes, and so on. Given the diversity that was documented in this study with participants drawn from a single relatively homogeneous population of 6th graders, it seems plausible that at least as much internal diversity—and possibly much more—will be found in other contexts with less homogeneous populations.

In conjunction with such replication studies, there is also now a basis for investigating MOs among younger readers. Given that 100% of the randomly sampled 6th graders in this study reported knowing and using two or more MOs, it stands to reason that MOs first emerge prior to 6th grade. Here again, based on theory and the empirical research we have about younger and older readers in general, it seems highly likely that diverse MOs will be documented across the lifespan. Research on differences in caregiver approaches to lap reading (e.g., Anderson-Yockel & Haynes, 1994; Ninio, 1980; Wheeler, 1982) provide a basis for the hypothesis that, even before children begin independently decoding words, they acquire situated, culturally inflected attitudes and expectations

toward reading, and that these attitudes and expectations are the seeds of children's earliest reading MOs.

With regard to studying the emergence of MOs and their development across time, a longitudinal study would of course be ideal. Such a study would perhaps enroll participants in Kindergarten, if not before that, and would then follow them across several years, using regularly spaced interview and think-aloud sessions to capture data illuminating the earliest stages of MO development. A cross-sectional study—sampling participants from grades K, 1, 2, 3, and 4, for example—would also be revealing in this regard. A cross-sectional study would be less informative than a longitudinal study about readers' developmental trajectories and the particular processes and dynamics of MOs emerging, developing, and likely also sometimes being abandoned (one thinks here of Siegler's [1996] micro-genetic studies of preschool- and primary school-aged children and their acquisition and regulation of various types of strategies), yet it might at least answer the question: At what age do young readers first report knowing and using distinct reading MOs?

Beyond looking at younger readers to determine when they start using MOs and first report experiencing reading through the prism of diverse MOs, future research might also try to shed light on the "lifespan" of especially significant individual MOs (as so designated by participants themselves, or as designated by researchers in relation to a particular context of application, such as school). For example, if we assume that readers' acquisition of particular MOs, or classes of MOs, are positively correlated with improved academic achievement, it may be of interest to shed light on the genesis and development of these "high value" MOs. In particular, given the focus in many schools on teaching reading comprehension strategies (e.g., *visualizing*, *predicting*, *asking questions*), it may be

of great interest to trace how exactly young readers do or don't integrate newly learned strategies into one or more of their existing MOs.

Relatedly, future studies might test the relative efficacy of teaching conventional reading comprehension strategies (a) in the context of also explicitly teaching about MOs, acknowledging the existence of students' MOs, and making efforts to connect new strategies to students' existing MOs; and on the other hand, (b) in the context of teaching strategies by themselves, without acknowledgement of the existence and role of MOs. The present study provides a starting point for thinking about the development of such modestly scoped interventions and quasi-experimental intervention studies. In light of the finding that 6th graders in one district were universally willing and able to report about their MOs with relatively minimal explanation and scaffolding, it seems plausible that a modest talk-focused intervention (i.e., teachers engaging students in exploratory conversation about MOs, describing some of their own MOs, and inviting students to periodically jot observations about their MOs in a MO journal, for instance) could be designed to be very low cost and minimally disruptive to existing curriculum and instructional routines. A simple quasi-experimental comparison of treatment and control classrooms would begin to illuminate the possible benefits of making MOs part of the school curriculum, not only for improving students' test scores, but also—and more importantly—for deepening and enriching in-class discussion around reading and the varied challenges and joys of transacting with texts.

CHAPTER 6

Conclusion

This study sought to test the hypothesis that, above and beyond whatever knowledge they may have of conventional reading comprehension strategies (e.g., *visualizing*, *predicting*, *summarizing*), adolescent readers know and use a diverse array of reading MOs to orient and regulate their everyday reading activities. For this study—and drawing on a review of diverse lines of reading research—I conceptualized readers' MOs as experientially distinct, subjectively coherent, and habitual ways of orchestrating reading activities that typically comprise reading strategies, but also comprise other elements and features including culture- and subculture-specific attitudes, topic knowledge, epistemic beliefs, affective investments, and experience with particular types of social interaction around texts.

This hypothesis about the ubiquity and importance of diverse reading MOs in readers' lives stemmed from a critical review of three main areas of reading scholarship: cognitively focused theoretical models of reading processes (e.g., Kintsch, 1998; McNamara, Miller, & Bransford, 2000; Paris, Lipson, & Wixson, 1983) and related accounts of the development of reading ability and reading comprehension proficiency (e.g., Adams, 1990; Duke & Carlisle, 2011; Johnston, Barnes, & Desrochers, 2008; National Early Literacy Panel, 2008; Paris, 2005); descriptive and experimental research on reading comprehension strategies (e.g., Paris & Oka, 1986; Pressley, 2006); and socioculturally focused research on readers' diverse reading practices (e.g., Heath, 1983; Moje, 2000).

My review of this extensive body of scholarship led me to question the adequacy of available cognitive models of reading and accounts of the development of reading ability to

explain—and study—the full range of diverse approaches to reading that researchers have documented within and across readers (e.g., Gallagher, 2012; Graff, 2010). How might such diverse approaches be explained? Over the years, cognitively oriented researchers have pointed to the influence of a variety of factors including text genre, readers' purpose, and background knowledge. And yet, the evidence we have suggests that, influential as these factors (and others like them) may be, they are not unilaterally determinative. Readers may approach texts of a particular genre in more than one way (e.g., Cherland, 1994); readers with the same general purpose in mind (e.g., studying for a test) may tackle that task by reading in more than one way (Barnett, 2000); and readers drawing on the same level of background knowledge may apply that knowledge in more than one way (e.g., Kendeou & van den Broek, 2007). Above and beyond the influence of these factors, there thus appears to be room for readers to exercise a degree of strategic choice on the basis of whatever habitual "go-to" ways of reading they have acquired and come to rely on—the reading MOs in their personal repertoire.

Which is not to say that readers' decisions at this level of strategic self-regulation are always—or even often—of the sort that reading researchers and teachers will find "optimal" or "adaptive" (in terms of achieving the particular types of comprehension outcomes that researchers and teachers tend to value). Indeed, readers may know and use a diverse array of reading MOs, switch strategically among them, and yet score below average—even well below average—on traditional standardized measures of comprehension. As I have conceptualized them, knowledge and use of diverse reading MOs would not by themselves be at all predictive of readers' achieving conventionally valued

comprehension outcomes (i.e., outcomes requiring application of particular school-privileged reading MOs).

The MO construct thus returns to center-stage the question of what it means to read strategically and, by extension, the question of how readers acquire and develop strategic intelligence. With reading MOs in the picture (and assuming that readers know and use more than one MO), mainstream conceptions of what strategic reading looks like are considerably broadened. Whereas cognitively oriented research has reserved the "strategic reader" label for readers who flexibly adjust their application of conventional reading comprehension strategies to achieve particular school-privileged outcomes (e.g., better recall of a text's main claims and supporting evidence), an MO-focused framework uses the "strategic reader" label for any reader with more than one MO—no matter how apparently unproductive those MOs may be.

In thus broadening the mainstream view of what can count as strategic reading activity, the MO-focused perspective seeks to recognize *whatever* type and/or level of strategic intelligence readers possess, no matter how apparently minimal or ineffectual it may be. Yet the point of this approach is not to assert that all instances of strategic decision-making are equally effective or equally important to study and teach; it is abundantly clear that, depending on a given reader's context and her individual needs and goals, particular strategic priorities and particular reading MOs will be more valuable than others. That said, the MO-focused perspective does insist on recognizing and celebrating strategic intelligence wherever it may be found, and whatever forms it may take—including that of a 6th grader (for example) applying her MO for *high-speed skimming of gossipy text messages from friends* instead of her MO for *figuring out the emotional tone and*

unspoken implications of the text she's reading. If a 6th grader makes a distinction of this kind, it merits being noticed—by researchers, teachers, and by the 6th grader herself.

The all-important first step in this regard—the step this dissertation study has attempted to take—is simply to establish whether or not readers in fact possess and use MOs. For regardless of how effective particular MOs may be, the available evidence points to the reality of readers' MOs constituting a distinct level of conscious awareness at which readerly choices are made and reading activity is regulated—a level separate from, and arguably superordinate to, the level at which readers choose and regulate conventional reading comprehension strategies.

Based on results of this first investigation of the psychological reality of the MO construct for a small sample of 6th grade students, I conclude for now—pending future corroborative investigation—that my main hypothesis about the existence of a diversity of MOs within and across readers has been substantially affirmed. By the end of their 6th grade year, 100% of adolescent readers in one Midwestern school district apparently knew and used a diverse array of MOs for reading. Further, it appeared that 6th graders consciously viewed their reading activity, and orchestrated that activity, through the prism of their often idiosyncratic reading MOs—as opposed to doing so through the lens of the reading comprehension strategies or text genres they knew, or through the lens of a generic, unitary construct of reading, based on a single all-purpose MO of always striving for maximum comprehension.

Contribution to the Field of Reading Research

The MO construct. This study's primary contribution to the field of reading research is its articulation of the construct of the *reading MO*. As tentatively defined and

operationalized in this study, there is no doubt that the MO construct raises as many questions as it answers. For instance: are there minimum requirements a candidate MO must meet, or certain features a candidate MO must have, to count as a MO? Or: what would we say to a reader who, in all seriousness, reported knowing hundreds of MOs, because he could reliably distinguish between (for instance) (a) his particular way of reading newspaper articles about controversial current events issues when he is feeling relaxed and purposefully civically engaged, (b) his particular way of reading newspaper articles about controversial current events issues when he is feeling relaxed but also somewhat disenchanted with the state of civil society, (c) his particular way of reading newspaper articles about controversial current events issues when he is feeling anxious as well as disenchanted with the state of civil society, and so on, virtually *ad infinitum*? This dissertation has proposed and tentatively articulated the construct of the reading MO, but it has barely begun to answer these sorts of thorny questions.

Nonetheless, with encouragement taken from the study's robust empirical results, it seems plausible to use the tentative formulations put forward in these pages as a starting point for future clarificatory work.

Work in this direction seems especially worthwhile given the divide that has grown up between the more cognitively oriented branch of reading research, with its more decontextualized, "autonomous view" (Street, 1984) of reading and how reading proficiency is attained; and, on the other hand, the more socioculturally oriented branch with its more "ideological view" (Street, 1984) of reading as being always socially situated and contested (for discussion of these branches, see Purcell-Gates, Jacobson, & Degener, 2004). Insofar as the MO construct brings together factors usually prioritized by the

cognitively focused branch (e.g., readers' acquisition of such things as reading comprehension strategies, genre knowledge, and topic knowledge) with factors traditionally prioritized by the socioculturally focused branch (e.g., the influence of readers' sociocultural backgrounds, outside-school funds of knowledge, and issues of identity formation and social positioning), it may perhaps open a new space for dialogue and connections across perspectives. It seems possible that cognitively oriented and socioculturally oriented scholars might share an interest in a construct that (a) recognizes the importance of readers' knowledge of such things as reading comprehension strategies while it also (b) recognizes that such knowledge—and the application of such knowledge—is never neutral and is always socioculturally situated and motivated, and can legitimately take diverse forms.

Procedure and instrument. A construct that is too complex to investigate empirically may be of limited use to the field. A second contribution made by this study therefore lies in the demonstration that the MO construct can be relatively straightforwardly operationalized and empirically studied. As reported, 100% of randomly sampled 6th graders—adolescent readers of varying levels of reading proficiency, from >3 standard deviations above to >3 standard deviations below the state average in reading, as measured by the state standardized reading assessment—were able and willing to report about their diverse "ways of reading."

There is no doubt that the researcher script and the written interview instrument used in this study can be improved—to achieve greater clarity, and to further reduce possible biasing effects due to the wording of the questions and instructions. As well, it seems likely that the script and the interview instrument would need to be revised for use

in different contexts. Still, the encouraging finding was that, with relatively minimal prompting and scaffolding, and with the aid of a relatively simple instrument (i.e., the written interview form), 100% of participants were willing and able to report about their diverse "ways of reading." It appears that, despite being raised in a world where reading is still mostly conceived of, and spoken of, as a unitary ability, adolescents remain aware of knowing and using distinct, non-uniform, culturally and personally inflected ways of reading. It seems reasonable to expect that 6th graders in other school districts would, in principle, possess the same awareness and the same willingness to report it. The procedures and instrument used in this study may thus provide other researchers interested in adolescents' reading MOs with a starting point for their work.

New perspective on adolescent readers and what they know. A third contribution this study makes to the field is a new and—I would argue—greatly enriched perspective on the scope of adolescent readers' knowledge about reading and about themselves as readers.

To a certain extent, this perspective builds on the one espoused by socioculturally and sociocognitively oriented scholars (e.g., Cherland, 1994; Gallagher, 2012; Gee, 1989, 1990; Heath, 1982, 1983; Ives, 2011; Moje, 2000) who have shed light on how readers' varied literacy activities—including their particular ways of constructing meaning from texts—are deeply shaped by their sociocultural backgrounds and the ways they are positioned (and position themselves) vis-à-vis the surrounding culture and social forces. The work of these scholars has offered the field much deeper understanding of, and appreciation for, such practices as "gangsta" adolescents' reading and writing of graffiti (Moje, 2000), Samoan children's memorizing of passages from the Christian *Bible* (Dickie &

McDonald, 2011), and struggling readers' performance of "discursive identities" to save face and protect status in the classroom (Hall, 2007).

The perspective offered by this study, and supported by its empirical findings, builds on this sociocultural and sociocognitive perspective, yet at the same time deepens and extends it. Rather than focus on a single reading practice, it casts its net as widely as possible to consider *all* of the everyday reading activities of adolescents—their school-based reading activities alongside their out-of-school activities, their most apparently humdrum activities alongside their most unusual ones. Further, rather than have it be the researcher who identifies a practice as being "of interest," this perspective starts from adolescents' own descriptions of the diversity *they* see—uncovering the actual diversity and depth of what these readers know and do from the inside. In short, it takes the big picture view of diversity in readers' practices and zooms in to show that there is a further level of diversity *within* many areas of reading activity (e.g., reading of informational text at school) that until now were generally seen as homogeneous (though perhaps more expertly executed by some readers than by others).

The new perspective offered by this dissertation study, then, suggests that adolescent readers know much more about reading, and about themselves as readers, than has generally hitherto been recognized. The content of this knowledge may not look impressive to all. A proficient adult reader—not to mention a field expert focused on his/her disciplinary reading routines—may look at the MOs reported by a striving 6th-grade reader and see little of promise. The 6th grader's MOs may be differentiated on the basis of criteria our more advanced reader deems unimportant (e.g., *enjoyment*, *graphical elements*, *social dimension*), and none of the 6th grader's MOs may look like a good fit for

important academic reading tasks (e.g., identifying a text's main ideas or central theme, judging a text's trustworthiness). The new perspective, however, insists on recognizing what the 6th grader has achieved—namely, a level of differentiation and specialization in reading MOs or "routines" (Shanahan & Shanahan, 2008) that was previously thought to be the purview of disciplinary experts and those being apprenticed into one or another specialized disciplinary reading routine.[28]

To those who see little of value in this proliferation of specialized or niche reading MOs among 6th graders, this new perspective offers two responses. First, it points to the idea that, for better or worse, human experience, in all its diversity, is the source and fuel of all learning and growth (Dewey, 1938/1975). Whether or not they are deemed impressive or promising, these MOs represent the cognitive, affective, and motivational ground from which all future reading routines and forms of reading proficiency—however *proficiency* may be defined—will develop. There is, then, a strong case to be made in favor of understanding these MOs, valuing them, and trying to tap into them as a resource for future growth—rather than ignoring them or trying simply to overwrite them. Indeed, if we can learn to connect with, and build upon, a 6th grader's knowledge and use of her diverse MOs, we may be able to help her achieve more rapid, personally meaningful, and self-sustaining growth over the long run than we would by trying to impose a uniform, decontextualized conception of proficient reading and "what good readers do."

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[28] Indeed, this study's findings may be fruitfully connected to the recent surge of interest in the disciplinary reading routines of advanced readers—and of less advanced readers being apprenticed into these routines (e.g., Jetton & Shanahan, 2012; Moje, 2008; Monte-Sano, 2010). This study embraces the idea of specialized reading routines (Shanahan & Shanahan, 2008) and suggests that, in fact, by the end of 6th grade *all* readers at all levels of test-determined reading proficiency possess specialized reading routines of some kind and make decisions about when to apply which ones.

Second, and building on this first response, the new perspective offered here points to the work of cognitive scientists such as Siegler (1996) who have shown that, across domains, proliferation and diversification in children's strategic repertoires is normal and also, in the long run, advantageous to the learner. Children develop and apply diverse problem-solving strategies, and continue to do so—perplexingly, from the point of view of many teachers and parents—even when they appear to have seen with their own eyes that one strategy is superior to another. As Siegler explains, this phase of inconsistent and non-optimal strategy application (at least from an "expert" perspective) appears to be a time of great cognitive growth. For it turns out (among other things) that the amount of initial strategic variability in a child's problem-solving actions tends to be predictive of her subsequent progress. And so it may well be with readers' MOs. In addition to their being a reflection of readers' backgrounds and influences, MOs represent a reader's store of strategic options and resources. Whatever may be said about their effectiveness and efficiency today (as judged in relation to a particular, culturally situated standard), their efflorescence may be a necessary and healthy stage in the development of greater strategic intelligence.

Yet here we have reached the point where speculation about what may be the case has begun to outrun the results of the present study. It goes without saying that much follow-up research will be necessary to corroborate, deepen, and extend this study's findings. I look forward to contributing to that next phase of research.

APPENDICES

Appendix A: Structured Written Interview Instrument

The structured written interview instrument is reproduced on the following pages as *Figure 3*. It has been re-formatted in places to fit on 8.5" by 11" pages; as used in the study, the instrument was formatted for U.S. legal-size paper with dimensions of 8.5" by 14". The longer pages made it possible for students to report all the reading events they could remember from a single day, from waking in the morning until going to sleep at night, on a single sheet of paper (as opposed to having the chart run on to a second sheet, and requiring participants to do much more page turning).

Figure 3. Structured written interview instrument.

Ways of Reading – Written interview

Grade: _____ Gender (circle one): Male / Female

Thank you for taking a few minutes to complete this short survey about reading.

Question #1:

How many different ways do you know to move using your feet?

In your head, count the number of different ways you know how to move using your feet.

Write that number here: _____

Question #2:

How many different ways do you know how to read?

In your head, count the number of different ways you know how to read.

Write that number here: _____

Part 1: Reading at School

Question #3:

This next question is about what you do as a reader on a typical **school day**.

Directions

Figure 3 (cont'd)

First step: Think of a typical school day—maybe yesterday or the day before. Then, in the empty chart on the following page, draw a **black circle dot** in the middle column under the title "Times I Read" for each time you did some reading on that day. (It doesn't matter what you were reading. Reading the back of a cereal box or a text message counts as reading. So does reading a textbook or a novel.)

Next, write a short description of what you were reading next to each black dot (like in the example below). *Don't worry about spelling*.

Time of Day	Times I read	Short description
6am – 7am	●	I read words on screen while playing my video game
7am – 8am	●	I read the back of a cereal box
	●	I read my novel on the bus
	●	I read a text message from my friend
8am – 9am	●	I read my social studies textbook
	●	I read my math textbook

Now it's your turn:

Time of Day	Times I read	Short description
5am – 6am		
6am – 7am		
7am – 8am		
8am – 9am		
9am – 10am		

Figure 3 (cont'd)

10am – 11am		
11am – 12noon		
12noon – 1pm		
1pm – 2pm		
2pm – 3pm		
3pm – 4pm		
4pm – 5pm		
5pm – 6pm		
6pm – 7pm		
7pm – 8pm		
8pm – 9pm		
9pm – 10pm		
10pm – 11pm		
11pm – 12midnight		

Figure 3 (cont'd)

12midnight – 1am		

Second step: When you are done adding black dots to the chart, choose a colored pencil (any color you like). Then go through the whole chart, top to bottom, and circle all the "reading times" (all the black dots) where it felt like you were reading *in the same way*.

For example, if it felt like you were doing the same thing when you read the words on the screen in your video game and when you read the back of a cereal box, you would circle those two black dots with the same color.

When you get to a "reading time" (a black dot) where you think you were reading in a different way, switch to a different colored pencil. For example, if you were reading in a different way when you read your novel and when you read the back of a cereal box, switch to a different color to show the difference.

Keep going down the page and switch to a new color whenever you say to yourself, "For this black dot, I was reading in a different way than at the other times I read."

After filling in the chart for a few minutes, it might look something like this:

Time of Day	Times I read	Short description
6am – 7am		I read words on screen while playing my video game
7am – 8am		I read the back of a cereal box I read my novel on the bus I read a text message from my friend
8am – 9am		I read my social studies textbook I read my math textbook

Question #4:

Directions

Now you're going to make a legend to explain the colors you used in your school day reading chart.

Figure 3 (cont'd)

In the "Color" column of the chart below, draw a circle in a separate row with each different colored pencil that you used before. Then use the column on the right to explain what made this way of reading *different* from other ways of reading.

Don't worry about spelling or writing complete sentences! What's important is to jot down your thoughts about what made each way of reading seem different or feel different to you.

My ways of reading on a school day:

Color	Explain what makes this way of reading look or feel different

Figure 3 (cont'd)

(If you need more space to write, please use the back of this page.)

Part 2: Reading on the Weekend

Question #5:

This next question is about what you do as a reader on a typical **weekend day**.

Directions

First step: Think of a typical weekend day—maybe last Saturday or Sunday. Then, in the chart on the next page, draw a **black circle dot** in the "Times I Read" column for each time you did some reading on that day. (It doesn't matter what you were reading. Reading the back of a cereal box or a friend's Facebook webpage counts as reading. So does reading a novel or a magazine.)

Next, write a short description of what you were reading next to each black dot (like in the example below). *Don't worry about spelling*.

Time of Day	Times I read	Short description
8am – 9am	●	I read the back of a cereal box
9am – 10am	● ● ●	I read my novel on the couch I read a magazine I read an email from my grandparents
10am – 11am	●	I read my friend's Facebook webpage

Figure 3 (cont'd)

Time of Day	Times I read	Short description
5am – 6am		
6am – 7am		
7am – 8am		
8am – 9am		
9am – 10am		
10am – 11am		
11am – 12noon		
12noon – 1pm		
1pm – 2pm		
2pm – 3pm		
3pm – 4pm		
4pm – 5pm		
5pm – 6pm		

Figure 3 (cont'd)

6pm – 7pm		
7pm – 8pm		
8pm – 9pm		
9pm – 10pm		
10pm – 11pm		
11pm – 12midnight		
12midnight – 1am		

Second step: When you are done adding black dots to the chart, choose a colored pencil (any color you like). Then go through the whole chart, top to bottom, and circle all the "reading times" (all the black dots) where it felt like you were reading *in the same way*.

For example, if it felt like you were doing the same thing when you read the back of a cereal box and when you read a magazine, you would circle those two black dots with the same color.

When you get to a "reading time" (a black dot) where you think you were reading in a different way, switch to a different colored pencil. For example, if you think you were reading in a different way when you read your novel and when you read the back of a cereal box, switch to a different color to show the difference.

Keep going down the page and switch to a new color whenever you say to yourself, "For this black dot, I was reading in a different way than at the other times I read."

After filling in the chart for a few minutes, it might look something like this:

Time of Day	Times I read	Short description
8am – 9am		I read the back of a cereal box

Figure 3 (cont'd)

9am – 10am		I read my novel on the couch I read a magazine I read an email from my grandparents
10am – 11am		I read my friend's Facebook webpage

Question #6:

Directions

Now you're going to make a legend to explain the colors you used in your weekend reading chart (like you did for the school day reading chart).

In the "Color" column of the chart below, draw a circle in a separate row with each different colored pencil that you used before. Then use the column on the right to explain what made this way of reading *different* from other ways of reading.

Don't worry about spelling or writing complete sentences! What's important is to jot down your thoughts about what made each way of reading seem different or feel different to you.

My ways of reading on a weekend day:

Color	Explain what makes this way of reading look or feel different

Figure 3 (cont'd)

(If you need more space to write, please use the back of this page.)

Part 3: Other Ways of Reading

Question #7: Next-to-Next-to-Last Question

Directions

Are there any other ways of reading that you sometimes do that you haven't mentioned yet?

Please use this next chart to name any other way of reading you can think of—even if it is a way of reading that you're not sure "counts" as a way of reading.

Other ways of reading I haven't mentioned so far	Where/when/why do you do this?	What makes this way of reading different from other ways?

Figure 3 (cont'd)

Question #8: Next-to-Last Question

Directions

Turn back to Question #2 on the first page of the survey and look at the answer you wrote. Take a minute to decide if you have changed your mind about this answer.

If you have changed your mind at all, draw a line through the number you wrote earlier and write your new answer next to it. If you have not changed your mind, put a check mark (√) next to the answer you wrote earlier.

Question #9: Last Question

Directions

Have you ever invented a new way of reading? (Circle one:) YES / NO

In the future, do you think you will invent a new way of reading? (Circle one:) YES / NO

If you answered YES to either of these questions, please give an example and/or explain your answer here:

Figure 3 (cont'd)

(If you need more space to write, please use the back of this page.)

This is the end of the survey.

Thank you very much for your time!

Appendix B: Researcher Script For Written Interviews

[After confirming the names of the 1-3 student(s) attending the session and having each student read and sign the participant assent form, the researcher said the following:]

Thank you very much for meeting with me today to answer some questions about reading and about you as a reader—what you read and when you read, at home and at school, what you like to read, and so on.

As you already know, this is not a test of any kind. There are no right or wrong answers to the questions I'm going to ask you. This is simply a chance for me to find out, from you, about your reading habits, the sorts of things you like to do or don't like to do when you read, and so on.

All that really matters is that you take your time with each question and answer it as honestly, fully, and specifically as possible.

As you already know, your answers today will be de-identified--which means that no one will know which answers were given by you. Your name will not be connected to your answers. So I hope that makes you feel comfortable about giving completely honest answers. No teachers or parents or anyone else will know which answers were given by you.

And of course, if you have any questions about the questions--if it's not clear to you what a question is asking, or if there's a word that's confusing--please go ahead and ask me right away.

Any questions for me so far?

[After answering any questions:] Great. Well, let's turn to the written interview pages you have in front of you. The questions I'm going to ask you are printed on these

pages. I thought it would be helpful to have the questions written down. That way, I'll read the questions, but you can reread them if you want, and you can take your time to think and then write your answer in the space that's provided.

So let's get started on the first page.

One main thing I'm curious about, in terms of you as a reader and how you read, is whether to you it feels like you always read in the same way every time you read. When you pick up a book or a magazine or read something on the computer, does it feel to you like your brain is doing the same thing every time? Or does it sometimes feel like there's a difference, and that now when you're reading your brain is doing one sort of thing, but at another time, when you're reading something else, or when you're at home instead of at school, or when you're in a different mood, your brain is doing something different?

That may sound a bit confusing, so I'll explain what I mean a bit more by comparing reading to other things we all probably do every day, like brushing our teeth, or moving around on our feet.

Think about those activities for a minute, brushing your teeth and moving around on your feet. Do you always do those things, brush your teeth and move around on your feet, in pretty much exactly the same way? Or do you sometimes do them in different ways?

If I were answering that question, I might say: Well, I pretty much brush my teeth in exactly the same way before I go to bed every night. My son, on the other hand--he seems to brush his teeth in several different ways. So he would give a different answer. But me, I brush my teeth in basically the same way every time. But now with moving around on my feet, that's different for me. With that I'd say, I sometimes, stroll, when I'm not in a rush.

Sometimes I jog, to get exercise. Sometimes I sprint--when I'm playing soccer. And I also dance. So those are, for me, different ways of moving around on my feet.

And these silhouette pictures here, on the page, show some different ways that some people have of moving around on their feet.

But it's probably the case that everyone is a bit different, or even very different. You might brush your teeth in just one way, the same way every time, or you might have different ways of brushing your teeth. And the same thing with moving around on your feet. You might have just one way, or three or four ways, or more than that. It's very different from person to person, and that's completely okay.

So let's start by thinking about just that one: moving around on your feet. Think about yourself, and what you do in your life, at school and at home, on weekdays and on the weekend. And then answer that first question on page one: How many different ways do you know to move around on your feet? Write the number there. [Pause]

Great. Now let's go back to talking about reading. The rest of this interview is about reading, and in a minute I'm going to ask you to tell me about a regular school day, and all the times that you read something on a regular school day, from when you woke up until when you went to sleep.

But before we get into those details, I'm curious to know what you're thinking right now, about reading, and about whether as a reader you have one way of reading that you use all the time, or more than one. Take a minute to think: When I read, does it feel like I'm doing the same thing every time, or do I sometimes read in one way, sometimes in a different way? How many different ways of reading do I know and do I do on a typical day? One way, two different ways, or more than that?

And again: there are no correct or incorrect answers here. It's simply what's true for you. This is a personal question that only you can answer for yourself and what you do.

After thinking about it, go ahead and write your answer there. [Pause]

Great.

[From this point on, the script follows the directions printed on the written interview instrument (see Appendix A). The researcher read these directions aloud, one section at a time, and then waited for participants to complete that section before moving on to the next section.]

Appendix C: Texts Referenced And/Or Read During Case Study Sessions

List One: Texts provided by the researcher

Note: Texts marked with an asterisk were provided to, and read by, all six case study participants during one of their case study sessions.

Anderson, M. T. (2002). *Feed*. Somerville, MA: Candlewick Press.

Brittain, B. (1983). *The wish giver: Three tales of Coven Tree*. New York, NY: HarperTrophy.

Carnegie, D. (1981). *How to win friends and influence people* (rev. ed.). New York, NY: Pocket Books.

*_The History Place Great Speeches Collection_. (n.d.). *Chief Joseph surrenders*. Retrieved from http://www.historyplace.com/speeches/joseph.htm

*Ciardi, J. (1962). About the teeth of sharks. In *You read to me, I'll read to you*. Philadelphia, PA: Lippincott.

The Charters of Freedom. (n.d.). The Declaration of Independence: A transcription. Retrieved from http://www.archives.gov/exhibits/charters/declaration_transcript.html.

Edwards, A. (1967). *The Bible for young readers: The Old Testament*. New York, NY: Golden Press.

*Florian, D. (1999). The tick. In *Insectopedia*. New York, NY: Scholastic.

*Gibbons, G. (1998). *Planet earth inside out*. New York, NY: HarperCollins.

*Lewis, J. P. (1990). The beak of the pelican. In *A hippopotamusn't*. New York, NY: The Dial Press.

*McConnell, D. (2002). *Michigan's story*. Hillsdale, MI: Hillsdale Educational Publishers.

*Nesbitt, K. (2005). Good morning, dear students. In *When the teacher isn't looking*. Minnetonka, MN: Meadowbrook Press.

Ryan, P. M. (2000). *Esperanza rising*. New York, NY: Scholastic.

*Schmidt, G. (2011). *Okay for now*. New York, NY: Houghton Mifflin Harcourt.

*Spiegelman, A. (1992). *Maus II: A survivor's tale*. New York, NY: Pantheon Books.

*The Common Application. (2014). The common application: First-year application. Retrieved from https://www.commonapp.org

List Two: Texts provided by participants

Note: All participants referenced and/or showed and read text messages, images, posts, comments, and other content on web platforms such as Facebook or Pinterest. For these items, I have listed below only the platform used—not the individual texts that were referenced, shown, and/or read.

Bushnell Trail Scout Hunting Camera. (n.d.). In *Bushnell Company website*. Retrieved from http://www.bushnell.com/getmedia/9006f198-317c-44c7-8af1-369c205d5e15/119835_119937_1199071LIM.pdf?ext=.pdf

Clare, C. (2008). *City of bones*. New York, NY: Margaret K. McElderry Books.

Clash of Clans. (2012). Supercell [Mobile application software]. Retrieved from http://supercell.com/en/games/clashofclans/

Clash of Clans Wiki. [Web application software]. (n.d.) Retrieved from http://clashofclans.wikia.com/wiki/Clash_of_Clans_Wiki

Collins, S. (2008). *The hunger games*. New York, NY: Scholastic.

D'Arge, M. (2009). *Lifting the sky*. New York, NY: Bloomsbury USA Childrens.

Facebook. [Web application software]. (n.d.). Retrieved from http://www.facebook.com

Fun Run. (2012). Dirtybit [Mobile application software]. Retrieved from http://dirtybit.no/funrun/#.VSQu95TF-oA

Geometry Dash. (n.d.). RobTop Games AB [Mobile application software]. Retrieved from http://www.robtopgames.com/

Grizzly attack. (July/August 2014). In *Turkey Country Magazine*, *5*(6), 50-65.

Heritage Units. (n.d.). [Website]. Retrieved from https://heritageunits.com/

Herzog, B. (2009). *Full count: A baseball number book*. New York, NY: Ann Arbor, MI: Sleeping Bear Press.

Hunter, E. (2011). *The forgotten warrior*. New York, NY: HarperCollins.

Model Railroader. (n.d.). [Online magazine]. Retrieved from http://mrr.trains.com/magazine.

Patterson, J. (2012). *Angel*. New York, NY: Little, Brown and Company.

Peterson, M. (2004). *Among the barons*. New York, NY: Simon & Schuster.

Pinterest. [Web application software]. (n.d.). Retrieved from http://www.pinterest.com

Robertson, S. (2013). *Si-cology: Tales and wisdom from Duck Dynasties favorite uncle*. New York, NY: Howard Books.

Sullivan Supply. (n.d.). [Online catalog]. Retrieved from https://www.sullivansupply.com/

Trains (n.d.). [Online magazine]. Retrieved from http://trn.trains.com/magazine

Tumblr. [Web application software]. (n.d.). Retrieved from https://www.tumblr.com

Turkey Country. (n.d.). [Online magazine]. Retrieved from http://www.turkeycountrymagazine.com/

Twitter. [Web application software]. (n.d.). Retrieved from http://www.twitter.com

Appendix D: Example Semi-structured Conversation Question Stems

Below are examples of core questions and follow-up questions used during the semi-structured conversation component of the study's case study sessions conducted with six participants.

- Tell me more about what you were doing and feeling just now, as a reader, while you were reading….?
- The way you were reading just now—was that the same as, or different from, what you were doing and feeling earlier when you were reading….?
- Can you say more about what felt different to you?
- Were there things you noticed your brain doing here, when you were reading this text, that you didn't notice your brain doing earlier when you were reading...?
- Can you tell me a bit more about that?
- Were there things you noticed your eyes doing here, when you were reading this text, that you didn't notice your eyes doing before when you were reading...?
- Can you tell me a bit more about that?
- Were there things you were feeling as you read this text that felt different from what you were feeling when you were reading….?
- Can you tell me more about that?
- Can you tell me more about the times or places that you read in this way?
- Can you tell me a bit more about that?
- Can you tell me about when you first started reading in this way?

- Can you tell me about how you learned to read in this way?
- Can you tell me a bit more about that?
- Anything else?

Appendix E: Codes Developed For Case Study Data

The following codes were used with participants' case study data. In Table 8 below, codes are grouped in two areas: codes to identify criteria participants used to distinguish among their MOs, and codes to identify other types of information provided by participants about reading, about themselves as readers (globally), about the genesis of reading MOs, about reading instruction at school, and other reading- and literacy-related topics.

Table 8

Codes Used to Analyze Transcripts of Case Study Sessions

Code ID	Code Short Description	Code Explanation
Codes for criteria used to distinguish among MOs		
ACT	To guide specific action	Information about a MO being connected to specific action in the world.
ALPH	Alphabetic text only or mixed/additional sign systems	Information about a MO being fitted for strictly alphabetic text only or for text involving other semiotic systems.
COMM	With internal running commentary	Information about a MO involving interior running commentary in the reader's mind.
CONC	Reader's level of concentration matters	Information about a MO having particular requirements for concentration or focus on the reader's part.
CRFT	Text's craft or style matter	Information about a MO being fitted for texts based on their style or craft.
DIFF	Difficulty of the text being read matters	Information about a MO being fitted for texts based on their level of difficulty (as perceived by the reader him/herself).
DUR	Duration of the reading event	Information about a MO being suitable based on the duration of the reading event.

Table 8 (cont'd)

EFF	Reader's level of effort matters	Information about a MO involving or requiring a particular level of effort on the reader's part.
EMO	Emotions associated with this MO matter	Information about a MO being linked to particular emotions or a particular level of emotional intensity.
ENJ	Reader's enjoyment matters	Information about a MO being linked to a particular level of quality of enjoyment.
FREQ	Frequency of use matters	Information about a MO being identified by virtue of the frequency with which it is used.
GENR	Genre of the text matters	Information about a MO being linked to a particular genre or genres.
GRAPH	Graphical dimension matters	Information about a MO being linked to elements of graphicacy.
IND	Independence as reader matters	Information about a MO involving or requiring a particular experience of readerly independence.
INFO	Learning new information matters	Information about a MO being suited to learning new information.
INTS	Reader's level of interest matters	Information about a MO involving or requiring a particular level of reader interest.
LOC	Location of reading event matters	Information about a MO being linked to a particular location.
MALL	Malleability of the text matters	Information about a MO being fitted for texts that are malleable.
MEM	Memorization matters	Information about a MO being suitable for memorizing information.
NAV	Navigability of the text matters	Information about a MO involving or requiring particular text-navigation affordances and/or skills.
NUMB	Number of texts matters	Information about a MO being suited for suited for reading one text at a time or more the one text at a time.

Table 8 (cont'd)

PHYS	Reader's physical posture and/or movements matter	Information about a MO being associated with particular physical posture and/or body movements.
PREF	Personal preference for MO matters	Information about a MO being preferred or not.
PROF	Proficiency with MO matters	Information about a MO being identified by its user by virtue of his/her proficiency with it.
PURP	Reader's purpose matters	Information about a MO being linked to a particular purpose the reader aims to accomplish. (There is arguably some overlap possible between this code and *enjoyment* and *learning new information* [if either of those is perceived as the purpose a reader aims to achieve]. However, there are obviously many other purposes besides enjoyment and learning new information, and it is appropriate to code *both* for PURP *and also* for ENJ and/or for INFO in cases where a purpose such as "memorizing lines" or "relieving stress" is aimed for and the reading experience is *additionally* enjoyable or informative.)
REF	Referentiality of the text matters	Information about a MO being specifically linked to the referential status or authenticity of a text.
REQ	Whether the reading is required or not matters	Information about a MO being identified by its user in terms of whether or not a particular reading activity was required or, on the other hand, freely chosen.
REV	Reader's level of reverence matters	Information about a MO being fitted for, or responsive to, a particular level of reverence the reader feels for the text.
SOC	Social interactions or context reading is connected to matters	Information about a MO being associated with, and/or fitted for, particular social interactions or context.
SPEE	Speed of reading matters	Information about a MO being associated with, or fitted for, a particular speed of reading.

Table 8 (cont'd)

STR	Use of reading comprehension strategies matters	Information about a MO being associated with, or fitted for, the use of particular reading comprehension strategies.
STRS	Stress during reading matters	Information about a MO being linked to a particular type or level of stress experienced by the reader.
SUBJ	Subject matter of the text matters	Information about a MO being linked to, or suited to, particular topic or subject matter.
TECH	Technology used to read matters	Information about a MO being associated with, or fitted for, particular use of reading technology.
TIME	Time of day/week matters	Information about a MO being linked to, or fitted for, reading at a particular time of day or week.
WRIT	Combined with writing activity matters	Information about a MO involving or requiring some type of writing activity.
Code ID	Code Description	Code Details
Codes for other categories of information		
GEN	Genesis of MO(s)	Information provided about the history of a MO.
INFL	Influence on MOs	Information about a specific influence that shaped one or more MOs.
R-MAT	Reading materials referenced	Information about specific reading materials.
REG-M	Regulation of MOs	Information about the regulation of MOs, especially about choices or decisions regarding which MO to apply, or switching between MOs.
REG-S	Regulation of reading comprehension strategies	Information about the regulation of reading comprehension strategies.

Appendix F: Reading Comprehension Strategy Codes

Table 9 lists the eleven codes and corresponding reading comprehension strategies for which I coded case study participants' verbal protocols of reading. These eleven strategies were selected as examples of the sorts of locally targeted strategies that since the 1980s have increasingly been taught to students in K-12 classrooms. In the school district where this dissertation study was conducted, these strategies are taught starting in Kindergarten. At the Kindergarten level, *visualizing*, *predicting*, and *making connections* are taught and practiced; additional strategies from this list are taught in subsequent years. All the strategies listed here have been taught and practiced by the end of fourth grade.

Table 9

Codes Used to Analyze Verbal Protocols of Reading to Identify Reading Comprehension Strategies Applied by Case Study Participants

Code ID	Code Description	Code Explanation
KNOW	*activating prior knowledge*	The reader recalls what he/she already knows about a topic.
CRFT	*attending to text features and/or text structure*	The reader uses observations of text features or text structures to guide his/her construction of meaning from the text.
QUES	*generating and asking questions*	The reader formulates and poses questions during reading.
PRED	*making predictions*	The reader formulates a prediction about what will happen next in the text.
VISU	*visualizing*	The reader makes a mental image as he/she constructs meaning from the text.

Table 9 (cont'd)

PARA	*Paraphrasing*	The reader reformulates words or sentences he/she has just read in his/her own words.
SUMM	*summarizing*	The reader distills the main ideas or gist of a passage he/she has just read.
INFER	*making inferences*	The reader infers information that was not explicitly stated in the text.
CON-S	*making connections to self*	The reader draws a link between information in the text and an aspect of his/her own life and experience.
CON-T	*making connections to other texts*	The reader draws a link between information in the text he/she is reading and information in another text.
MONIT	*comprehension monitoring*	The reader checks that his/her comprehension of the text he/she is reading appears to be satisfactorily coherent and accurate.

Appendix G: Case Study Participants' MOs

The following six tables (10-15) list all the reading MOs reported by six case study participants over the course of this study, comprising both (a) MOs they initially reported in their responses to the written interview and (b) MOs they subsequently reported during case study sessions.

Table 10

Case Study Participant Nick's MOs

MO ID	MO Description
MO06.01.01	Nick characterized this MO as one he uses for "normal or regular novel reading." This MO is used when Nick can "concentrate the best." "It's normally when I'm at home or when the place I'm at is quiet or tranquil."
MO06.01.02	Nick characterized this MO as one he uses for reading print informational texts. "I do this with history or science texts."
MO06.01.03	Nick characterized this MO as one he uses for reading the clock. It's different because it involves reading numbers on the clock face.
MO06.01.04	Nick characterized this MO as one he uses for "learning words in [his] spelling word book."
MO06.01.05	Nick characterized this MO as one he uses for reading labels on products.
MO06.01.06	Nick characterized this MO as one he uses for reading "special symbols" that are "normally in older books." He noted that he does not use this MO much.
MO06.02.07	Nick characterized this MO as one he uses for reading articles on the internet. "It's a quick skimming way of reading." Even though he associates it strongly with reading on the internet, Nick reported that he can "use it when reading online but also with some print texts for reading news articles."
MO06.02.08	Nick characterized this MO as one he uses for reading autobiographies. This MO is a sub-type of MO06.01.01 that he uses for reading novels. "This is a bit different, because it's the story of a real person."

Table 10 (cont'd)

MO06.02.09	Nick characterized this MO as one he uses for reading poems. This MO is a sub-type of MO06.01.01 according to Nick.
MO06.02.10	Nick characterized this MO as one he uses for reading football player cards containing stats and biographical information.
MO06.02.11	Nick characterized this MO as one he uses for reading the Christian *Bible* specifically. It is most similar to MO06.01.02 used with informational texts.
MO06.02.12	Nick characterized this MO as one he uses for reading sports magazines specifically, such as the ESPN sports magazine. He is an avid sports fan.
MO06.04.13	Nick characterized this MO as one he uses for what he called "social reading": "This is for reading YouTube comments and text like that. You can reply and also be replied to."

Table 11

Case Study Participant Samantha's MOs

MO ID	MO Description
MO05.01.01	Samantha characterized this MO as one she uses for pleasure reading: "I read this way for more of a fun. I just skim or look at pictures and captions." This MO is often used with magazines.
MO05.01.02	Samantha characterized this MO as one she uses to read "in depth." In this MO, she uses "all of [her] reading skills and I really understand what I'm reading." This MO is mostly for novel reading.
MO05.01.03	Samantha characterized this MO as one she uses for texting. It involves knowing and using many "abbreviations" and "I usually have a reply for this kind of reading." While reading, she is "thinking as I'm reading of what I'm going to say back to them." This MO also involves special symbols such as emojis.
MO05.01.04	Samantha characterized this MO as one she uses when reading instructions to accomplish a task outside the world of the text: "I have to follow instructions for this kind of reading. To understand what I need to do."
MO05.01.05	Samantha characterized this MO as one she uses for reading math problems: "This way of reading I have to really think and answer all the questions to the problem."

Table 11 (cont'd)

MO05.01.06	Samantha characterized this MO as one she uses for reading on a screen: "Reading on technology is completely different because you have to read abbreviations or reading fast if it's moving" (i.e., if you or someone else is scrolling up or down a page). This MO is separate from MO05.01.03 for texting.
MO05.01.07	Samantha characterized this MO as one she uses for reading plays or scripts: "when I'm in a play, so I know my lines." This MO also involves activating and using "a lot of emotion."
MO05.01.08	Samantha characterized this MO as one she uses for reading a novel when she will have to take a test. This MO is a sub-type of MO05.02.02. "When it's for AR testing I really pay attention to get 100%. I do more rereading and I use all my reading skills, like inferring, looking back, asking questions, and others. I also look up new words. It involves staying focused on just one book only."
MO05.02.09	Samantha characterized this MO as one she uses for novel reading that is entirely recreational. This MO is a sub-type of MO05.02.02. "I do some skimming if it's boring. I sometimes draw pictures. And I can intersperse one book with another. For example, I sometimes read one chapter in one book and then switch."
MO05.02.10	Samantha characterized this MO as one she uses for reading informational texts. "You're learning a lot. They don't use first person, so that makes it boring. It involves retelling and using some reading skills. It involves remembering what teachers have said."
MO05.03.11	Samantha characterized this MO as one she uses for reading and memorizing pattern cards for horse showmanship competitions. This MO is somewhat similar to MO05.01.04 insofar as it's about following instructions, but this way centrally involves non-alphabetic symbols. (Note: MO05.01.03 for texting also involves non-alphabetic symbols, such as emojis, but these convey emotion, not just referential information, and they require different skills and mindset to read.)

Table 12

Case Study Participant Cara's MOs

MO ID	MO Description
MO04.01.01	Cara characterized this MO as one that involves reading to find clues to solve problems that are objectively there in the text: "I would read to find a problem, then I would try to get the answer before the answer is given away. I would find clues or go ahead a couple pages." This MO "can be used with a novel [and] also with a news article or an informational text."
MO04.01.02	Cara characterized this MO as one she uses for reading music: "I would read a sheet of music so that I know what notes to play and get the song right."
MO04.01.03	Cara characterized this MO as one she uses when she reads a text to assist someone else: "I would be reading to someone who needs help to read or had some trouble with a word." Cara has younger siblings who are learning to read. She uses this MO when her goal is to "show him [a sibling] and tell him the clues to find the meaning."
MO04.01.04	Cara characterized this MO as one she uses for reading instructions, such as recipes: "I would be reading instructions on how to make something correctly." This way of reading is harder and slower than (MO04.01.02), which she uses for reading musical notation. "They are similar, though."
MO04.01.05	Cara characterized this MO as one she uses when reading on her tablet: "This way of reading is what things I ... do on my tablet, or tell someone something on my tablet." Cara referred to playing games on her tablet.
MO04.01.06	Cara characterized this MO as one she uses when doing assignments that require her to follow a sequence of steps: "Step by step reading. I do this only if I can't figure out how to make or do something. I don't like step-by-step papers because there's nothing exciting about it."
MO04.02.07	Cara characterized this MO as one she uses for reading informational texts, especially school texts. "The paper is informational and not funny or emotional."

Table 12 (cont'd)

MO04.02.08	Cara characterized this MO as one she uses for reading informational texts when they contain news that she knows she will want to relay to others. "This way of reading is for reading news. It is close to informational reading [MO04.02.07], but after you read you want to spread it urgently and share the news. It can be emotional, though it isn't always. This also makes it different from informational reading which is not funny or emotional."
MO04.03.09	Cara characterized this MO as her "confused way of reading" for fixing-up comprehension breakdowns. She switches into this MO when she feels lost: "like if I get to a confusing paragraph, I'll reread it, and then go back over what I read, and reread up to that paragraph, and then you read it, and try to understand what the author meant."
MO04.04.010	Cara characterized this MO as one she switches into for reading novels when she is experiencing deep and intense absorption in the events and characters of a story. She sometimes called this her "riding along" way of reading, as in the following comment: "I'm like riding along with them [the characters in the novel *Haddix*], and then somebody, sometimes when she [the protagonist] forgets something, I'll instantly remember it, and it's like, I'm with them, but then I can't tell them anything. So it's like I'm just riding along with them."
MO04.04.11	Cara characterized this MO as one she uses for reading math problems. "This is a math problem way of reading. I use it with catalogs as well. It involves figuring out the one best way and right way to solve a problem." It involves coming to a single definite answer. For example, looking for the precise difference in price between two items in a catalog.

Table 13

Case Study Participant Harry's MOs

MO ID	MO Description
MO03.01.01	Harry characterized this MO as one he uses when reading on a screen, such as a computer screen. (Note that MO03.02.07 below is also used for reading on screens, but specifically for reading and using screen information that gets displayed during a video game.)
MO03.01.02	Harry characterized this MO as one he uses for reading textbooks and other school texts.

Table 13 (cont'd)

MO03.01.03	Harry characterized this MO as one he uses daily for pleasure reading and enjoys using more than any other of his MOs for reading traditional print text (i.e., excluding MOs for reading on a screen): "I enjoy reading [this way] the most, like after school and free time." Harry explained that this MO is somewhat tied to the time of day when he tends to use it, but "mostly about what I'm reading--mostly fiction, adventure, mystery."
MO03.01.04	Harry characterized this MO as one he uses for reading time on an analog clock face.
MO03.01.05	Harry characterized this MO as one he uses for "reading my spelling book to sort the words and spell them and learn the spelling."
MO03.01.06	Harry characterized this MO as one he uses for reading piano notes.
MO03.02.07	Harry characterized this MO as one he uses specifically for "reading stats, numbers, names" when he's playing a sports video game on the screen. This MO is different because "it's hands on, and I can change the appearance of the text" and "you get to control everything."
MO03.03.08	Harry characterized this MO as one he uses for reading in the Christian *Bible*. He explained that, "the vocabulary can be difficult, but it's truthful."
MO03.03.09	Harry characterized this MO as one he uses specifically for reading in the phone book, where his mind works "back and forth from symbols to numbers."
MO03.03.10	Harry characterized this MO as one he uses for "reading forms to fill out, like applications, and also reading instructions, cookbooks, and blueprints." It is very action oriented "because you've got to do something right away."
MO03.03.11	Harry characterized this MO as one he uses specifically for reading baseball cards. It combines several ways of reading, such as informational reading (MO03.02.02), enjoyment reading (MO03.01.03), and stats reading (MO03.01.07).
MO03.04.12	Harry characterized this MO as one he uses for reading in a football playbook to learn plays. The text being read consists of symbols, arrows, and abbreviations.

Table 14

Case Study Participant Astrid's MOs

MO ID	MO Description
MO02.01.01	Astrid characterized this MO as one she uses for reading directions and instructions: "When I read directions I'm thinking what will I have to do [in the] future, and I'm focusing on them, and what they say, and what's my job."
MO02.01.02	Astrid characterized this MO as one she uses when texting: "When I'm texting mostly because I'm not thinking about it, I'm just replying to the person."
MO02.01.03	Astrid characterized this MO as one she uses for attentive, sustained reading: "I'm thinking about what I'm reading but I'm mostly trying to understand what the author is telling me and what's going on in the story." This way of reading is attentive to the text's emotional valence: "It's all about tone."
MO02.01.04	Astrid characterized this MO as one she resorts to when she is overwhelmed by the text: "You're reading but you don't even know what the author is telling you." This MO involves reading fast and skimming: "I tend to read really fast and skim."
MO02.02.05	Astrid characterized this MO as one she uses for informational text reading: "This means that you have to slow down and think about what you're reading. To memorize dates, names, etcetera, and really think about the information." This MO often involves rereading sentences and paragraphs.
MO02.02.06	Astrid characterized this MO as one she uses for reading on a computer screen. Reading with this MO involves skimming and more shallow processing of information: "When you're reading on electronics or on the Internet, you don't really think about it as much as books." (Note: this MO for "reading on electronics" is different than MO02.01.02, used for reading text messages; Astrid describes this MO as being most similar to MO02.02.05, used for informational reading.)
MO02.03.07	Astrid characterized this MO as one that is "focused on paraphrasing for the purpose of telling someone else about it. You're still taking in information, like with the other one [MO02.02.05], but this is more stressful than that [MO02.02.05]."
MO02.03.08	Astrid characterized this MO as one that is for "reading to fill out an [application] form. You're thinking while you're reading to grab information about yourself and your stuff."

Table 14 (cont'd)

MO02.04.09	Astrid characterized this MO as one she uses for reading the Christian *Bible*: "this is different because I'm Christian and this story is true, while a novel is not true."

Table 15

Case Study Participant Chris's MOs

MO ID	MO Description
MO01.01.01	Chris characterized this MO as involving cursory scanning of text and looking at pictures: "I look up then back down to what I'm reading. Don't pay attention to much."
MO01.01.02	Chris characterized this MO as the MO he enjoys most and uses most frequently: "I read the words, then do something else. I mostly read like this. I like to read like this alot." Chris also indicated that he uses this MO when he has ample time to read (i.e., this is not the MO he would use when reading under pressure of time to finish reading a school-assigned text).
MO01.01.03	Chris characterized this MO as one he uses when he needs to stay intently focused on the text he is reading: "I stay on the page and don't really look up. I keep my eye on the page." Compared to MO01.01.02, this MO is less enjoyable for Chris.
MO01.01.04	Chris characterized this MO as one in which he does not have sole responsibility for decoding the text at hand; a second and more proficient reader is involved: "I let the person read and I follow."
MO01.01.05	Chris characterized this MO as a form of distracted, desultory, bored reading: "I read, then I look up, then I read more." This MO is used "in my bed [in the afternoon] when I do not want to read." MO01.01.05 appears similar to MO01.01.01.
MO01.02.06	Chris characterized this MO as one he uses when reading labels and names on objects, such as the names painted on the sides of locomotives. Chris is an avid train enthusiast and weekend train-spotter; he collects and builds model trains, and spends hours watching passing trains at locations he has scouted out in advance. Asked to explain what makes this MO different from others, he explained: "They're shorter. Words. And easier to read."

Table 15 (cont'd)

MO01.03.07	Chris characterized this MO as one he uses to "read computers." (Note that Chris reported a separate MO, MO01.05.12, for reading specifically on a small hand-held digital device.)
MO01.03.08	Chris characterized this MO as one he uses when he reads "to do something … like you're going to be writing about it. So you read it different."
MO01.04.09	Chris characterized this MO as one he uses when studying for a test. It feels different because "I wouldn't read fast, I would read slower, and I would probably read it over and over again."
MO01.04.10	Chris characterized this MO as one he uses when reading texts that are "not normal or weird." Chris reported this MO as distinct from the MO he applies when a text is "easy and it makes sense."
MO01.04.11	Chris characterized this MO as one he uses when reading challenging texts for which he is prepared to think hard and try hard: "In this way of reading, I think more; I try to think what's it's talking about."
MO01.05.12	Chris characterized this MO as one he uses for reading on a hand-held digital device, such as his iPhone. To Chris this "feels different because the book is like in your hand" and "it's different, in terms of what your hands and your fingers do." This is not Chris's preferred way of reading; he said he preferred reading a paper-print book "because you can like see the cover, and on here, it just opens it up to a page when you start up."

Appendix H: Examples Of Reading Comprehension Strategies In Use By Case Study Participants

Table 16

Examples of Case Study Participants Activating Background Knowledge

Participant	Example of *activating background knowledge* in use
Chris	"I heard of the bear dunes, I think."
Astrid	"I remember this unit we did in science."
Harry	"Like, I've heard of Wrigley before. Like the Chicago Cubs, I think their stadium is called, like, Wrigley Field."
Cara	"Because I know Al Qaeda is the main, is the group that does terrorist attacks."
Samantha	"They can make anything out of goat's milk. They can make soap with it." (Note: Samantha reading a page in a novel that mentions goat cheese.)
Nick	"I think I read something about that guy, Carmello Anthony.

Table 17

Examples of Case Study Participants Attending to Text Features and/or Structures

Participant	Example of *attending to text features and/or structures* in use
Chris	"I don't know who that is. And... Wait. Where is the first page at? This isn't the first page. Here, this is the first page." (Note: Chris orienting himself to the opening pages of the graphic novel *Maus*.)
Astrid	"Normally when I'm reading like, this in the background right here, these little captions you can read those, but you're kind of thinking, this is what this is, but…. Or if people want to comment, if you're thinking, that's really cool, you just kind of put your comment up here, what you're thinking about it." (Note: Astrid reading through a webpage on the Pinterest platform.)

Table 17 (cont'd)

Harry	"And it has these [quotation marks], so it must be someone talking. A speech."
Cara	"Sometimes when I read the book, they'll drop off... like if they switch between characters [at the end of a chapter], they'll drop off. And then switch to another whole story, and pick up."
Samantha	"There's only two people talking and there's no describing of things really.... And there's tons of pictures."
Nick	"Oh god, this is all, how long is this [article]? Okay, this is probably where I'm going to skim some parts."

Table 18

Examples of Case Study Participants Generating and Asking Questions

Participant	Example of *generating and asking questions* in use
Chris	"The earth was covered with oceans?"
Astrid	NA
Harry	NA
Cara	"Like I'm thinking, like, how could they have been married if he's like mean to her, and then like, how could his father have a heart attack when he just phoned them."
Samantha	NA
Nick	"The Kremlin? What was that?"

Table 19

Examples of Case Study Participants Making Predictions

Participant	Example of *making predicting* in use
Chris	"In the winter, if water is going through, it can freeze."

Table 19 (cont'd)

Astrid	"I wouldn't read all of them, because, basically, I can already expect what they're going to say, like, oh yeah you're so cool, I love you."
Harry	NA
Cara	"I thought it would be like rodeo stuff." (Cara starting to read through a product catalog.)
Samantha	"Maybe they want to sweat it all out before the fair." (Note: Samantha is making a prediction about the purpose of a product in a catalog and the effect this product will have on the animals using it.)
Nick	"So, they're saying something about like, of course, dissolving political bands. I'm guessing they're saying, like, in case something goes bad."

Table 20

Examples of Case Study Participants Visualizing

Participant	Example of *visualizing* in use
Chris	"I'm picturing it … them [the locomotives] running."
Astrid	NA
Harry	NA
Cara	"It's just like, she looks for wiggly fishes, and I'm seeing the fish go weeeee."
Samantha	"When it says the mists hang low on the mountains, I'm just like picturing mountains with mists."
Nick	"One thing I was picturing was, the stork carrying like the baby, from one of the Disney movies. And also, since I just heard, how does she get that face-full, so I was, like, eating the fish, the face full."

Table 21

Examples of Case Study Participants Paraphrasing

Participant	Example of *paraphrasing* in use
Chris	"[They're] in the mountains. And they're fighting the US."
Astrid	"So it's like, him and a few friends were like, throwing, like they were pitching and playing baseball together."
Harry	"He's a switch hitter, he plays catcher sometimes, not that often now, but he plays catcher sometimes, and then he plays first base sometimes."
Cara	"It's like, because Al Qaeda could be like changing the name, so that, like, people won't blame Al Qaeda."
Samantha	NA
Nick	"Okay, so here they're talking about the rights that we have, you know, the right to bear arms, and stuff like that."

Table 22

Examples of Case Study Participants Summarizing

Participant	Example of *summarizing* in use
Chris	NA
Astrid	"I think it's terrorists that attacked Kenyan people who live in a coastal town, on the coastal shores. So.... terrorists attacked."
Harry	"John 316. This one is how we know what love is."
Cara	"Like, this book wants to teach people how to be a good citizen, and how they can improve their job."
Samantha	"So they were trying to, like, take possession of, um, Lake Huron and Superior... And all of the other countries."
Nick	"So it's basically talking about how, different, you know, ways you can do that.... Get around the rules."

Table 23

Examples of Case Study Participants Inferring

Participant	Example of *inferring* in use
Chris	"Yeah, it wouldn't be fire in the tubes, because that would burn off."
Astrid	"Joe Pepitone and Horace Clarke, I think, are like important, because he said like, 'to me,' so he must be... honored, I guess."
Harry	"Because, they probably didn't see the bear, because bears like hiding."
Cara	"It looks like they're in a school and the mouse is drawing pictures or something."
Samantha	"It's not a novel. They don't normally have surrender speeches written in novels." (Samantha inferring that the excerpt she's reading is from a speech, not a novel.)
Nick	"So, also I'm wondering, since the ladies didn't have the power to go into government back then, that's maybe why they only said the men's rights."

Table 24

Examples of Case Study Participants Making Connections to Self

Participant	Example of *making connections to self* in use
Chris	"So this [indicating location on map] is where I'll be going to go see it [a vintage locomotive]."
Astrid	NA
Harry	"I can relate to it, because I'm a [baseball] catcher."
Cara	"I've been to a fair with cows, but not to something like that [a big agricultural fair]."
Samantha	"Reminds me of the other day when I had a scary dream and I got in bed with my mom."
Nick	"That sounds like me on the phone."

Table 25

Examples of Case Study Participants Making Connections to Texts

Participant	Example of *making connections to texts* in use
Chris	NA
Astrid	NA
Harry	"Like based on war, like I've read textbooks that are based on World War One or World War Two."
Cara	"In the other book [in the series], she got hit by a car, and broke both her legs."
Samantha	"I love *Grey's Anatomy* [TV drama], so I've seen a lot of these conjoined twins on there actually."
Nick	"Have you heard of Jim Kilbarg, Kelberg. I can't pronounce his last name. It's spelled like K-J-E-L. But he made one of my favorite books, I absolutely love this book, it's called *Red*. And I read that book, and it starts off talking like this one."

Table 26

Examples of Case Study Participants Monitoring Comprehension

Participant	Example of *monitoring comprehension* in use
Chris	"Only the first little sentence made sense."
Astrid	"So here is where I would normally stop, because there's a lot of words that I can't really pronounce, so I won't really know what they are."
Harry	"Like, um, I'm kind of confused here, because it didn't give you, like, a headline."
Cara	"Um, it's a little confusing why he didn't want to go find his own kids."
Samantha	NA
Nick	"The Catskill Mountains? Is that what that was? I thought it was like another word for the ghetto. Maybe not."

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