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ASKING CONTENT TEACHERS: WHAT ARE THE LITERACY PRACTICES AND PURPOSES THAT HIGH SCHOOL SCIENCE AND SOCIAL STUDIES TEACHERS USE TO ACCOMPLISH THEIR GOALS AND HOW ARE THEY REPRESENTED IN STUDENT TASKS?

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ABSTRACT

ASKING CONTENT TEACHERS: WHAT ARE THE LITERACY PRACTICES AND PURPOSES THAT HIGH SCHOOL SCIENCE AND SOCIAL STUDIES TEACHERS USE TO ACCOMPLISH THEIR GOALS AND HOW ARE THEY REPRESENTED IN STUDENT TASKS?

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The purpose of this study was to explore the views that high school science and social studies teachers' hold about literacy. Practices were categorized in terms of the teachers' instructional goals and the reading and writing involved their teaching. This study focused on seven teachers across urban and suburban perspectives. The teachers represented the disciplines of science and social studies across upper and lower track class levels. This study answers the following questions: What literacy practices do high school teachers use to accomplish their science and social studies instructional goals? What are the purposes for using these literacy practices? How do these literacy practices involve reading and writing?

Data collection derived from a range of methods and data sources including pre and post interviews, observations, and student artifacts. Data was analyzed through the constant comparison method to get a sense of the larger patterns around teachers' goals and related practices and HyperRESEARCH® software to corroborate the larger patterns and code the pre and post interviews to expose these patterns in more depth.

It was determined that teachers characterized three goals across discipline, school, and track. First, teachers described their goals in terms of federal, state, and district mandates and initiatives. Second, teachers wanted their students to connect or apply their knowledge and understanding to real world situations. Third, teachers described engagement in learning as learning how to learn or motivation to want to learn. While all three goals were described by the teachers the emphasis placed on each goal told a notably different story at each school.

Findings in this study indicate a relationship between reading and writing achievement of students and teacher emphasis placed on goals. Teachers at the urban high school placed higher emphasis on the demands of mandates, whereas, teachers from the suburban school placed higher emphasis on connecting knowledge and understanding to the real world. This study uncovers a connection between school situation and teacher emphasis on instructional goals and related practices. This study sets up further discussions about the distinctions between urban and suburban high school teachers around their instructional goals and practices.

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INTRODUCTION

Statement of the Problem

When teachers confront the prospect of teaching reading and writing in addition to their content a few embrace the idea, some balk altogether or linger somewhere in between, but most struggle to make sense of the task. A belief that middle and high school teachers should play a role in improving literacy among adolescents exists (Massey & Heafner, 2004). However, there are consistent reports that content teachers believe it is not their responsibility to teach reading and writing (Draper, 2002). Several studies emphasize teacher resistance to the idea of teaching literacy within subject areas (O'Brien, D. G. *et al.*, 1995; O'Brien, D. G., 1988; Sturtevant & Linek, 2003). In fact, a perception among some is that teachers of content resist teaching reading and writing to the extent that they do not teach literacy at all (Campbell & Kmiecik, 2004; O'Brien, D. G. *et al.*, 1995). While this paradigm of resistance to teaching literacy among subject specific teachers exists it is restrictive in its depiction of the broader scope of the problem.

Those adopting a paradigm of resistance view of the problem neglect to consider the motive behind teachers' decisions about teaching reading and writing strategies as well as their own content. Fisher & Ivey (2005) recognize that the idea of every teacher being a teacher of reading is not necessarily working; they reason that teachers view reading and writing strategy instruction as not relevant to their content instruction. This melds with another point of view among researchers suggesting that content area teachers find teaching literacy a

challenge (Campbell & Kmiecik, 2004; O'Brien, D. G. *et al.*, 1995). Instead of pronouncing teachers as resisters we need to position ourselves to look more closely below the surface to the underlying causes of teachers' seemingly disregard of the idea of introducing reading and writing instruction into their specific subject areas. The purpose of this qualitative study is to explore the views that high school teachers' hold about literacy. This study is important as it will help broaden a limited body of research that considers teachers views in explanation of their resistance to teaching literacy strategies within content instruction.

Research on content literacy has consistently described this resistance in terms of the struggles and hurdles that block secondary teachers from infusing literacy into their subject matter practices. Researchers have offered common insights about what effects secondary teachers' abilities to teach literacy within their subject area (Sturtevant & Linek, 2003). However, the problem is not as straightforward as it seems. Complicating matters is the notion that teachers are constrained by a variety of challenges; no single problem determines whether a teacher chooses to infuse his/her curriculum with literacy instruction.

To begin with, problems stemming from issues of time, materials, and policy control teachers' views on literacy instruction. For example, textbooks place limits on the decisions teachers make about what and how they teach (Draper, 2002). School, district, state, and federal policies like *No Child Left Behind* dictate how, when, and what they teach. Time constrains teachers based on curriculum mandates and school day parameters (Campbell & Kmiecik, 2004;

O'Brien, et al., 1995). Professional development also constrains teachers especially when it is offered away from the school environment (Campbell & Kmiecik, 2004; Draper, 2002; O'Brien, et al., 1995).

Additionally, student issues present problems for teachers attempting to teach literacy. According to content teachers, some of the most challenging issues that get in the way of teaching literacy center on student motivation, interests, and attitudes (Campbell & Kmiecik, 2004). Campbell & Kmiecik (2004) report problems of text as likely culprits; often class-assigned reading is considered boring or not relevant to the interests or experiences of the students. More importantly, identifying motivational strategies and putting them into practice continues to frustrate teachers (Campbell & Kmiecik, 2004).

Teacher issues also stand in the way of infusing content with reading and writing instruction. For instance, teachers find helping students learn and use critical thinking skills, study skills, and vocabulary is hindered by their own capabilities in teaching literacy strategies (Campbell & Kmiecik, 2004). Such strategies are thought to increase textbook understanding, but they tend to be constraining in nature because of their structural operations (O'Brien, et al., 1995). They are constructed around rules of engagement, which impose a certain way to think on the learner and constrain how a content teacher implements a lesson. Teachers and lessons become controlled by the literacy strategy used (O'Brien, et al., 1995).

Language is another issue that impacts thinking about literacy strategy instruction within specific domains. Language is the common denominator or

conduit through which all learning occurs. Students need sufficient language skills and abilities to learn. However, learning in the content areas requires the knowledge and understanding of certain language specific to that domain. While the need for language is common across all learning, the specific language used within a domain is unique and many times not transferable or does not create meaning in a different domain. Vocabulary, therefore, is unique to its own domain. Literacy researchers need to find out how literacy is viewed by teachers in their specific disciplines and collaborate with domain specific researchers to develop meaningful strategies that reach across disciplines (Vansledright, 2004).

Currently our knowledge about how secondary teachers describe their views about literacy within the context of their teaching is limited. In order to have an impact on secondary teachers' thinking literacy researchers need to ask teachers directly about their views of literacy in connection to their contexts. We need to figure out how to make teaching literacy more relevant to content teachers. We need to determine the skills that content teachers expect their students to possess to be successful. We need to recognize that a broader scope of literacies beyond the generally accepted reading and writing strategies might be more suited to teaching in subject specific domains. With this knowledge literacy researchers can collaborate with domain specific researchers to develop meaningful strategies that reach across disciplines (Vansledright, 2004).

Significance of the Study

As demands for more and higher quality reading and writing instruction heighten (NAEP, 2005; National Commission on Writing, 2003, 2004; IRA, 1999), responsibility for this instruction is fast becoming a secondary issue where expectations for teaching reading and writing have invaded the content area. More and more students are coming to middle and high schools with reading difficulties (Moje, Young, Readance, & Moore, 2000). The continuation of reading support is deemed necessary as many of these students can read fluently, but are unable to comprehend (Pressley & Block, 2002).

Adolescent literacy is of critical concern to educators, parents, the research community, and the U.S. government, as high stakes testing indicators continue to point to lower achievement scores in reading and writing at this age level (U.S. Dept. of Ed, 2006; NAEP, 2005; Alvermann, 2002; IRA, 1999). The need to improve reading achievement is crucial. According to ACT, half of all high school graduates are not ready for college-level reading. Half of African American and Hispanic 9th graders do not graduate from high school on time. And, older students who struggle with reading and writing are more likely to drop out of school (U.S. Dept. of Ed, 2006).

Furthermore, the most recent NAEP reading results demonstrate a need for improving the reading performance among secondary students. According to NAEP, reading performance of high school seniors continues to decline. In 2005, the average reading score for high school seniors was the lowest since 1992. Results indicated that students performed poorly when asked to identify main

ideas and understand informational passages (Alliance, 2005). Also, when asked to think at higher levels students had difficulty making critical judgments, explaining their reasoning, and extending ideas in text (Alliance, 2005; NAEP, 2005).

Research points to a need to continue reading support throughout school. Reading difficulties persist over time; they do not go away (NICHD *et al.*, 2002). Approximately 74 percent of children with early reading disabilities continue to have reading difficulties years later (NICHD et al., 2002). Even those adolescents who achieve at the proficient level require continuing instruction, as they are faced with increasingly complex texts to decipher and understand (NICHD et al., 2002).

In addition the National Commission on Writing recommends doubling the amount of time students should spend on writing across grade levels and all subject areas. This raises issues specific to high school students, especially those nearing graduation, in terms of employability. The business community confirms that people who cannot write or communicate clearly will not be hired and are unlikely to last long enough to be considered for promotion (Writing, 2004).

Prominently missing in the literature on adolescent or content literacy, however, is research documenting teachers' views or understandings about literacy specific to their domain areas. The findings of this study can shape and broaden our understandings of content literacy and will fill the gap in research literature about how content teachers view literacy. These findings will inform

teacher educators, preservice teacher education programs, and can bring about a collaborative relationship between literacy researchers and content specific researchers to impact future content literacy instruction for adolescents.

CHAPTER 2
LITERATURE REVIEW

I begin this chapter by presenting a review of literature that forefronts, and explains a paradigm of resistance toward secondary content literacy instruction, teachers' beliefs about literacy instruction and the challenges that may position teachers toward perceived resistance, current thinking about content and adolescent literacy, and subject matter instruction.

For years reading consultants and specialists have attempted to educate, persuade, and coach secondary content teachers about the value of teaching literacy skills and strategies to their students within their specific domains. We promised that if they taught reading and writing strategies their students would become better learners in general, better at learning social studies, science, math and the like. We even selected what we deemed the appropriate strategies for them to teach. Some teachers did try the prescribed strategies, but more often than not we struggled to convince our content colleagues of the importance of changing their instruction to include these prescribed reading strategies. Instead we met with resistance from many and heard phrases like "this, too, shall pass", "didn't I hear about that 20 years ago?" "didn't do it then, not gonna do it now." Those of us in the reading community tried to impart our views upon content teachers; we did not think to ask them how they viewed reading and writing of content. Teachers more sympathetic to our cause, who set forth to figure out how they could accommodate our requests of teaching reading and writing strategies, grappled with the notion that they had too much content to cram in by the end of the year. Many struggled with trying to reconcile their

content goals with certain specific literacy strategies they had been asked to implement. This struggle between reading specialists and content teachers continues today; the same issue plagues new generations of teachers and the same outcome has become a standard and is seen as resistance to teaching literacy in the content areas. We need to know whether literacy teachers and content teachers are on the same page in terms of thinking about literacy. How do content teachers define literacy? Are long standing commonly accepted literacy strategies out of sync with the latest thinking about newer or multiple literacies? How a teacher of content defines literacy could have an extraordinary effect on how literacy could or should be taught in their respective domains. We need to understand the complexities underlying this perception of resistance to teaching reading and writing in specific domains; the only meaningful way to gain these understandings is to ask teachers. Important questions to ask are:

1) What literacy practices do high school teachers use to accomplish their science and social studies instructional goals?
2) What are the purposes for using these literacy practices?
3) How do these literacy practices involve reading and writing?

Resistance to Content Literacy

Early research on content reading made assumptions about content teachers' reluctance to teach reading and writing within their subject area. One assumption centered on states' secondary reading course and teacher training requirements. As a result of these requirements preservice and inservice teachers should be comfortable and confident enough in their knowledge about

content reading to be able to incorporate reading instruction in their classroom lessons (Stewart & O'Brien, 1989). Further, it was assumed that these teachers understood the importance of content area reading, therefore should consider it within their realm of responsibility (Stewart & O'Brien, 1989). This expectation garnered negative reactions by teachers and created a mismatch in terms of what was assumed and expected of teachers and the reality of teacher beliefs. This traditional research on teachers of content has categorized content teachers who do not teach reading and writing within their content into a paradigm of resistance (O'Brien, 1988; O'Brien & Stewart, 1990; O'Brien, Stewart, & Moje, 1995; Stewart & O'Brien, 1989). Much of the early research documents teacher reluctance and refusal to engage in teaching reading and writing within their specific domains with little attention paid to teacher views about the issue. The literature told half of the story.

Effectiveness of secondary content literacy courses has not yet fully been established (Gerhke, Shaefer, & Schlick, 1982). Since every state in the country requires teacher candidates to take a secondary reading/content area literacy course (Romine, McKenna, & Robinson, 1996) one wonders why there is a lack of research establishing the value of such a course. Further, since this requirement exists there should be a consistent standard as to the makeup of this course and just what it is that secondary specific domain teachers ought to know about to improve literacy. That brings into question the idea that one secondary reading/literacy course can accomplish all that this class seems to infer. It does not seem plausible that one course can provide all that each

individual subject area teacher candidate needs to know to infuse literacy into science, math, social studies, etc. The fact that these courses are typically taught by literacy people does not seem to lend itself to teaching subject specific literacy skills. Literacy courses should be revised to reflect a collaborative effort between the literacy research community and subject specific researchers. Content area preservice teachers have been required to include a content reading course among their coursework for decades. This course typically taught preservice teachers how to teach generic rules and strategies that were directed at improving reading comprehension. One class taught by a literacy person to all content area preservice teachers about strategies which are generic does not seem to be working. Content literacy classes created and taught in conjunction with instructors who are domain specific.

The prominent infusion model has been largely constructed by university professionals for pre- and inservice teachers (O'Brien, Stewart, & Moje, 1995). Traditionally, the primary way to infuse reading and writing into content instruction was through preservice teacher education or teacher inservice (Stewart & O'Brien, 1989; Stewart, 1990; O'Brien, Stewart, & Moje, 1995). Unfortunately, this has had limited success in terms of change in instructional practice for teachers (Stewart & O'Brien, 1989, Stewart, 1990).

The literature seems to "blame" the university teacher ed programs for creating the resistance by not considering the school community (subject matter concerns) when developing the almighty content literacy course that preservice teachers were/are required to take. I also noticed that the early literacy

researchers questioned (actually couldn't understand) why their teacher candidates did not transfer the knowledge from their ONE (generic and taught by literacy people) literacy course to their teaching. Their assumption was that these teachers had taken the content reading course so they should be prepared to infuse reading into their content and they weren't so what's wrong with them.

Most of the research relating to teacher resistance to incorporating literacy strategies into content was undertaken in the 80s and early 90s. The earlier research was essentially disconnected to the challenges underlying the problem. Since that time when content literacy was defined as reading and writing within content exclusively, content literacy, today, incorporates a much broader scope in terms of "what" and "who" and are signified as so under the new monikers of "new literacies", "multiple literacies" or "adolescent literacy". Specifically, the idea of text has broadened to include in and out of school texts and other forms of textualization beyond print which can be symbolically represented as pictures, conversation patterns, film and video, electronic images and performances (Moje, Dillon, O'Brien, 2000; Neilsen, 1998).

Missing here are the voices of content specific teachers and researchers. We need to question the resistance paradigm further to include these voices. The theory that teachers are simply resisting content literacy instruction denotes negativity, but is a more complicated problem; it is grounded in the secondary teachers' role. So, we need to bring content teachers and subject specific researchers into the discussion.

Challenges

Indeed many secondary teachers have not infused reading strategies, in the traditional sense, into their teaching of content areas. While these teachers did decline to teach reading and writing, their decisions were misrepresented in the literature and their reasons for failing to comply while seemingly rebellious were as a result of being misunderstood. This opposition is portrayed throughout the literature of the 80s and 90s with little acknowledgment of the underlying complexities surrounding this issue. Early literature also couched this opposition within a narrower context of literacy, reading and writing, than the literacies of today warrant. Moje, Dillon, & O'Brien (2000) begin to shed light on the complexities of the teacher world, the constraints secondary schools place on content teachers and the mismatch between the idea of a paradigm of resistance and the challenges impacting teachers' decisions about what to teach on a daily basis. The following themes describe and acknowledge the complications of the teacher world and recontextualize the resistance theory represented in the literature.

Motivations, interests, attitudes, and texts. Teachers continue to be frustrated about what to do to help students engage in their learning (Campbell & Kmiecik, 2004). Many content teachers consider it a challenge to motivate students to read; students' attitudes and interest levels significantly get in the way of their reading of text (Campbell & Kmiecik, 2004).

Oftentimes, the text itself is seen as the problem where students consider class-assigned reading a boring task or not relevant to their interests or

experiences (Campbell & Kmiecik, 2004). Students are not alone in regarding textbooks boring; many times teachers consider textbooks uninteresting as well. Further, textbooks have been found to be inconsiderate where sections seem to be unrelated to the topic. Teachers also find textbooks limiting in terms of the decisions they make about what and how they teach (Draper, 2002). For these reasons, teachers choose to leave the textbook behind, at times, in favor of other instructional tools like storytelling, internet webcams, hands-on activities and the like to motivate students' interest in learning. Instead of the textbook being used as the primary source of information, teachers reconceptualize a textbook as an important resource. In addition to textbooks teachers rely on primary sources, newspapers and magazines, internet sources, film, and other supplemental resources to engage students in learning. Bean, Bean, & Bean (1999) concur that being literate no longer means learning to read and write with traditional print texts.

Teacher issues. A number of issues affecting teachers deter them from infusing their content with literacy instruction. First, teachers are uncomfortable in their own knowledge and preparedness in teaching literacy strategies when it comes to teaching students how to learn and use the skills necessary to think critically, problem solve, and understand vocabulary concepts (Campbell & Kmiecik, 2004).

Another challenge plaguing content teachers is what to do with difficult text. Teachers feel unprepared to deal with students who have reading problems. At times teachers choose to spoon-feed texts to their students, reading a text

aloud or summarizing an entire text for them to facilitate learning (Massey & Heafner, 2004). Other teachers may do nothing to help students navigate text; instead they assign text with little to no support. Either scenario suggests that teachers may not know how to help students construct meaning from the texts that are assigned.

Many middle and high school teachers may not provide their students with needed reading support; they may be reluctant to try new techniques that they do not see as connected to their content. Teachers may need to see models or concrete examples of how these techniques do connect to the ideas they are teaching (Massey & Heafner, 2004).

Professional development issues also constrain teachers especially when the inservice is offered away from the school environment (Campbell & Kmiecik, 2004; Draper, 2002; O'Brien, et al., 1995). Research on professional development suggests that a more effective way for teachers to make the transfer from teacher inservice to their teaching is to participate in the inservice within their own schools where they have access to their classes and can try-out new ideas and techniques with their own students and collaborate with colleagues in the process (Liebermann, 1995).

A further issue constraining teachers' is their own educational experiences. Teachers form their beliefs about literacy through their experiences on the job and prior experiences as students (Lortie, 1975). Teachers' prior education tends to be so influential that they are likely to do what they were taught. Much of the negativity on the part of content teachers reflects their views

about teaching and learning which were developed throughout their prior experiences (Lortie, 1975). This leads us to wonder about a possible mismatch to teachers' memories as students and how much of what teachers remember is drawn upon in their own teaching.

Policy issues. Teachers are also challenged by the dictates of school, district, state, and federal policies. Teachers are faced with the reality of high stakes testing in standards-based environments where edicts like *No Child Left Behind* and state directed assessment programs direct curriculum and instruction. For example, common among teachers across the country is the task of aligning district curriculum with state and federal guidelines. Teachers find themselves monitored and regulated by outside forces in terms of how, when, and what they teach. Even issues related to local school district mandates about calendar, curriculum, and the schedule of the secondary school day constrain teachers regarding their decisions about what, when, and how to teach.

Strategy instruction issues. Literacy strategy use can be constraining in their use and can restrict the teachers who use them (O'Brien, et al., 1995). Literacy strategy research still tends to identify and discuss certain strategies generally accepted within the literacy research community. The problem of whether reading strategies and practices as defined and structured by literacy researchers should be expected pedagogy of domain specific teachers raises interesting issues and questions about how literacy is defined and by whom.

Early literature on resistance described preservice teachers' feelings of inadequacy toward using literacy strategies; they were not quite sure they should

be included or even taught in their domain (Stewart & O'Brien, 1989). Many teachers today have not yet embraced the idea because they see these strategies as foreign to their curriculum (Fisher & Ivey, 2005). Some researchers conclude that these specific strategies may not be focused on what really matters to content teachers or in terms of how students learn content (Fisher & Ivey, 2005). Knowledge has broadened to include new thinking about literacy and literacy instruction as new technologies require new literacies and new definitions of literacy practice in classrooms (Leu, Kinzer, Coiro, & Cammack, 2004). Furthermore, literacy strategies can be distinctly different across domains, defined in multiple ways, as different types of literacy expertise are called for depending on the content being taught (Mayer, 2004; Moje, Dillon, & O'Brien., 2000; Vansledright, 2004) and across the different Discourse knowledges of the disciplines (Moje, Collazo, Carrillo, & Marx, 2001). Particularly important for understanding history is learning to read subtextually, for example, when reading primary sources as a means of understanding the reader would be focused on the author's intentions and perspective (Vansledright, 2004).

Content Literacy and Subject Matter

Content teachers have historically been criticized for neglecting to incorporate reading and writing instruction into their subject matter lessons. It is time to release subject matter teachers from this culpability. It may be that the literacy community could have done a better job of understanding content teachers' views. The following two sections reflect understandings that content

teachers have known and that the literacy community is realizing and helps to dispel the myth of resistance.

Content Literacy or Adolescent Literacy? Research has come far in the last few decades in terms of what it means to teach reading and writing in the content areas. In the 80s when the definition of reading transformed to more reflect Rosenblatt's (1978) idea that there was something powerful happening between a text, a reader and a context in order to construct meaning, we were beginning to give credence to this dynamic transaction in connection to reading instruction in the classroom. In school, however, we continued to define text in narrow terms, specifically as "textbook". We saw reading in more generic ways and assumed that reading in one content was generally the same across all contents. We looked at students as a whole, not as unique in the experiences they bring to the process of constructing meaning from what they read.

Labels connote certain understandings. Certain terms limit how we think about things in general and literacy in the narrow sense. Now as more research has been done we are far beyond the times when the debate centered on whether content area reading instruction should concentrate on content-dependent skills or on generic skills. Researchers have agreed that reading demands in content areas differ across domains based on differences in both types of texts and the tasks being required, and based on varying structures of the disciplines having different perspectives on the world and ways of constructing knowledge (Moore, Readance, & Rickelman, 1983). We no longer should rely on or advocate a common set of strategies to improve reading and

writing across all content areas; strategies should be adjusted to fit the specific needs generated by each domain. Literacy practices are transforming to meet the demands of a changing world (Luke & Elkins, 1998). Definitions of text are also changing. Neilsen (1998) suggests a broader understanding of text beyond the limited scope of the traditional schooled literacy (conventional practices found in school where teachers assign reading, questions to answer, themed essays, and worksheets to fill-out (O'Brien, 1998) to every day life literacy (symbolic resources) that helps all people shape and reshape their identities.

The 1999 position statement by the international Reading Association's Commission on Adolescent Literacy calls for renewed attention to the literacy needs of adolescents (Moore, Bean, Birdyshaw, & Ryck, 1999). So, there is a perceived need for a different focus on the learning of adolescents (Moje, Young, Readance, Moore, 2000). The need for renewed focus on the literacy learning of adolescents seems clear (Moje, Young, Readance, Moore, 2000). Moje (2002) sees this as a purposeful shift, where more awareness encourages more funding.

Recently, literature in the field of secondary content literacy reflects a paradigm shift from content literacy to adolescent literacy. Maybe we are simply doing a better job of understanding content literacy instruction at the secondary level. According to Vacca (1998) content literacy connotes learning which is identified by the in-school literacy of content specific materials and limited to reading and writing in academic contexts. This might not map on to the literacy needs of adolescents as the full range of adolescent literacy is more complex

than what is traditionally encompassed within school-sanctioned literate activity of content literacy.

Literacy defined in terms of adolescents is more complicated. The term adolescent literacy signifies a much broader scope than secondary reading or content literacy and is more inclusive in terms of what young people count as text which include texts beyond traditional classroom textbooks, for example, digital texts or hypertexts. Adolescents use these multiple literacies to navigate their daily lives (Alvermann, 2001; Moje et al., 2000). Thus, effective literacy instruction for adolescents should consider students' perceptions of their abilities as readers and writers, level of motivation and background knowledge, and their interests. Further, instruction should be embedded in the regular curriculum and make use of multiple forms of texts read for multiple purposes in a variety of learning situations where teachers extend and elaborate on the literacy practices adolescents already own and value (Alvermann, 2001).

Adolescent literacy and the traditional thinking about content literacy may be more alike than we think. Teachers use digital literacies in nontransformative ways to help enhance comprehension of more traditional text, for example, using film to help students understand novels, etc. Many teachers use media texts to supplement and enhance already existing curricula (Stevens, 2002). Stevens (2002) found that when her students created their own lessons they were able to deconstruct traditional texts and address transformative processes and practices more broadly than when they tried to use specific content and strategies from a textbook. They designed projects that blended various text formats, literacy

practices and processes, and afforded opportunities for student voice and choice (Stevens, 2002).

Stevens (2002) also found a disconnect between the lives and interests of adolescents and school-sanctioned texts. Teachers need to be more open-minded to students' interests when choosing texts/novels that confront bigger issues of racism, bias, and oppression. Tatum (2008) concurs, but believes there are ways to use the traditional school-sanctioned texts if teachers extract the bigger universal issues within these texts where the issues become the content and the text the vehicle. Adolescent literacy positions students at the center of these literacy decisions, practices and selection of texts.

There must be a happy medium between adolescent literacy and content literacy, a relationship of sorts or a melding of the two ideologies. As long as school sanctioned literacies remain a constant we need to find ways to include the literacies students use outside of school contexts. There is some evidence that outside literacies have become inside literacies in places (Hinchman, Alvermann, Boyd, Brozo, & Vacca, 2004; Stevens, 2002).

Subject matter concerns. Defining literacy in the content areas is complex at best. If it is difficult to define literacy as it applies to specific domains then it also must be difficult to determine or design literacy instruction to fit these unique content areas. It is plausible then that traditional or generic content reading and writing instruction would not map on well across all subject areas. In science alone, there are many ways to talk about literacy. The goal for students' learning of science is to prepare them well enough to participate in real world situations

infused with science. Teachers, therefore, need to understand the situated natures of both science and learning in an effort to design curriculum that teaches the knowledge students need to navigate real scientific problems. (Murphy, Lunn & Jones, 2006).

Teachers in different subject matter areas have different beliefs and practices and different reasons for justifying what it is they believe and do in the classroom (Grossman & Stodolsky, 1994, 1995; O'Brien et al., 1995). Further, not only do differences exist across content areas, they are also idiosyncratic. According to Zeichner and Tabachnick (1985), these beliefs appear to be individual-specific in nature indicating that teachers within the same subject domain may have different beliefs and practices about teaching and learning, content, and literacy. Further, the reading of texts is not about direct comprehension of meaning; instead it is constrained by the domain specific to the passage or text being read (Vansledright, 2004). Vansledright (2004) reminds us, though, that we continue to promote the general or global reading strategies for specific domains because we have limited knowledge about content specific forms of literacy. There is little knowledge about how reading practice can be distinctly different across domains where different types of literacy expertise are required (Alexander, 2000, Vansledright, 2004).

Even good readers who know how to apply comprehension strategies, such as rereading, summarizing, and constructing word meanings from context may know little about the structure of a specific domain. In social studies reading materials are typically selected to encourage multiple perspectives of social

studies include primary and secondary source documents, non-fiction, fiction, poetry, letters, and textbooks (Massey & Heafner, 2004, Vansledright, 2004). Social studies teachers want their students to develop historical understanding skills when interacting with text; students need to know how to evaluate, analyze, and synthesize historical evidence. Students need reading skills necessary to gain insights and interpret what happened in the past; they need to engage in critical thinking skills that allow them to grasp such text structures as cause and effect and chronological order of events (Massey & Heafner, 2004). It is important, for example, to know how to read intertextually to corroborate evidence across sources and how to read subtextually when reading primary sources and understanding the author's intentions and perspective is the purpose (Vansledright, 2004). Specific heuristics required of readers of history go beyond general comprehension strategies to include assessing where a source text comes from and who wrote it; what the subtext of the source entails, for example, the purpose of the author, the text as a rhetorical device; the location of text in the broader historical context; and how the claims of the text and stories it tells are corroborated by other source texts from the same historical period. This type of reading of text demands a lot of intertextual reading (Vansledright, 2004). While other domains might use these same heuristics the degree that historical reading uses them is unique and therefore demands literacy instruction that fits the specific ways of learning and knowing.

Reading practices need to be distinctly different representing different types of literacy expertise across domains (Mayer, 2004; Moje, Dillon, & O'Brien.,

2000; Vansledright, 2004). Reading and writing in the disciplines is shaped by the unique conceptual, textual, and semantic demands of each area (Moje, Dillon, O'Brien, 2000).

Cognitive Strategy Instruction

Recent thinking draws attention to the relationship between instructional strategies and cognitive strategies. However, we understand little about cognitive strategy instruction within the content area. Conley (2008) reconceptualizes content area literacy instruction to include teaching cognitive strategies where students learn to self-regulate their learning, to evaluate and monitor their own comprehension and thinking. He sites confusion between strategy use resulting from a teacher's instructional decision making and an adolescent's independent use of a strategy with text. The confusion exists in the use of the term *strategy* which is used interchangeably in both situations when, in fact, the two points of view are considerably different. One is about the teacher's performance of a teaching activity where the teacher rehearses a strategy again and again with students in hopes that it will eventually stick; the other, from the student's view is the use of the strategy as a deliberate action on the part of the student to learn subject matter ideas in a cognitive way. For students, the purposeful use of cognitive strategies becomes metacognitive, selected by them for their own purposes and in self-regulated ways to execute learning of ideas (Conley, 2008; Schumacher & Deschler, 2006).

Conley (2008) also distinguishes those components essential to cognitive strategy instruction including explanation, modeling, and guided practice. The

key to teaching a cognitive strategy is teaching students the steps involved in using a cognitive strategy, explaining the purpose for using the strategy, modeling or thinking aloud while carrying out the strategy, and gradually releasing the use of the strategy to the students as they become more independent, self-regulated or cognitive users of the strategy.

Situated Cognition Theory

Situtated cognition theory suggests most learning occurs in natural ways through activities, contexts, and cultures. Schools too often abstract learning by unsituating it, teaching concepts far removed and unrecognizable from natural contexts and applications (Lave, 1988; Dewey, 1916; Vygotsky, 1978). Lave (1988) suggests more naturally situated conditions to include "apprentice-like" situations. Further, thinking about situated learning suggests learning happens through authentic contexts where communication among peers and experts naturally connects to authentic activity, context, and culture (Brown, Collins, & Duguid, 1989). This study is impacted by thinking about two related areas of situated cognition theory, cognitive apprenticeship and social constructivism.

Cognitive Apprenticeship. Collins, Brown, & Newman (1989) have developed an instructional model, *cognitive apprenticeships*, based on a representation of an apprentice working under a master craftsperson. They have identified elements found in best-case learning environments. This model would include modeling, coaching, scaffolding and fading, reflection, and exploration (Collins, Brown, & Newman, 1989).

This perspective that learning and cognition are situated in natural settings of everyday living (Brown, Collins, & Duguid, 1989, Lave & Wenger, 1991) implies that discussions about text can improve comprehension, comprehension strategies can be taught within discussions about text. Lave and Wenger (1991) extend the perspective on situated learning to their notion of legitimate peripheral participation. According to Lave and Wenger (1991) knowledge is learned "in situ" or by participating in the doing of the activity. Legitimate peripheral participation is a process whereby the learner or apprentice observes the learning, as modeled by an expert, from the outside or periphery of the activity. As knowledge develops the apprentice becomes a practitioner slowly moving toward the expert role of full participation within the social activity. Further, learning is situated within social coparticipation where it fluctuates between the different perspectives of the coparticipants. Further, learning often involves mentoring persons by someone more knowledgeable, thereby making it an inherently social act where the primary means of learning involves language (Vygotsky, 1978; Lave and Wenger, 1991).

Working from Vygotsky's (1978) thinking about scaffolding in apprentice-like ways, authentic tasks should be developed just beyond, zone of proximal development (ZPD), what students can accomplish independently. Tasks, however, should not be so challenging that students' ability to handle them will not happen even with support, for instance, modeling or coaching by teachers, strategies, or peers. This support of tasks within the ZPD should help students reach an appropriate level of task engagement.

Social Constructivism. Situated approaches to learning suggest students who collaborate with one another and their instructor can move toward a better understanding of content because the understanding is shared. Students learn concepts and ideas more thoroughly when multiple opinions and perspectives are shared in cultural and social contexts (Vygotsky, 1978). Further, social involvement between a person and other people and their cultural artifacts mediates learning; individuals, then, internalize and appropriate the mediated learning anew.

Transactional Theory

Another related area of research that influences situated learning and this study is reader response theory (Rosenblatt, 1978, 1983). Reading of text is explained as a situated event in a particular context of the reader where interaction with text, transactions, involving the experiences, interests, and concerns of the reader take place (Rosenblatt, 1983).

Every transaction involves a particular reader, a particular text, occurring at a particular time in a particular context. Meaning happens only as a result of this transaction between reader and text where the text "actually remains just marks on paper" until a reader enacts a transaction with it (Rosenblatt, 1983). Rosenblatt (1983) discusses two forms of transaction, efferent and aesthetic. Rosenblatt (1983) distinguishes between the efferent stance as one in which the reader is primarily seeking information from the text, and the aesthetic stance, in which the reader is primarily focused on the experience lived through during the reading.

Learning and Literacy

How we think about or define literacy and learning impacts thinking about the validity of the resistance paradigm in this study. Thinking about how we learn recognizes distinctions within learning which exist within and across subject areas and texts. Further, thinking about literacy positions language within distinct Discourses that identify particular ways of learning within subject areas. Therefore, if learning, literacy, and language exist in idiosyncratic ways in each content area, teacher complaints that traditional reading and writing strategies do not map on well to their specific domains seems plausible as a reason to resist incorporating them into their lessons.

Learning. Kintsch (1986) defines text as the method of transmitting information where the text itself is merely secondary to the learning. For example, a student solving a word problem may be able to read the verbal form of the problem, but not understand the operations to actually solve the problem. Misunderstanding of the situation described by the text becomes the problem. Understanding the text and knowing what to do with the information extracted from the words are two distinct functions of reading (Kintsch, 1986). It makes sense that these functions can play out differently within each subject area where texts demand distinct ways of thinking and acting to make meaning.

van Dijk and Kintsch (1983) make a case for two distinct representations of text, a *textbase model* and *situation model*. The textbase model represents the interactions a reader or listener has while constructing meaning during the process of comprehension. The amount of prior knowledge or experience one

has will indicate how much of a textbase one needs. In contrast, the situation model is the mental representation of the context described by the text. A textbase represents the semantic understanding of the text, whereas, the situation model reflects a mental map, structure, or operation described by the information semantically expressed in the content. One textual representation is constrained by the other, but in ways that allow it to have distinct characteristics and differences in behavior within text. So, how the text is represented will have something to do with how the situation is interpreted. By the same logic, a well-structured situation model would impact how well one interprets text at the textbase level. It is reasonable that textbases and situation models would also be constrained by the unique ways of thinking and acting within different subject areas.

Situated Literacy. How we think about or define literacy also impacts this study in terms of how language is situated. The traditional definition that literacy is the ability to read and write does not project the whole story. Gee (2000) thinks about literacy in terms of "Discourse/s" and explains Discourse as a socially accepted association among ways of using language, of thinking, and of acting that can be used to identify oneself as a member of a socially meaningful group or "social network." Being trained as a teacher means one learned to speak, think, and act like a teacher, and to recognize other members of the same group when they behave in similar ways. Each larger discourse has subdiscourses as well with different socially accepted ways of being. For example, being a teacher is the larger discourse from which specifically trained content teachers are

members. However, they are also members of a subdiscourse of their specific domain; social studies teachers are identified by a particular discourse as are science teachers and the like. The math, social studies and science teachers participating in this study follow a set of values and viewpoints that identify them as members of a particular subdiscourse.

In terms of this study, secondary uses of language are evident in conversation between participating teachers and their students, teachers and their colleagues and more specifically teachers representing particular domain areas. Further, if we believe, as Gee (1987) does, that literacy is control of secondary uses of language, then teaching about and learning content is language driven with the language being unique in each specific subject area.

Barton and Hamilton (2000) provide a theory of literacy as a series of propositions which map onto this study as well. Literacy is best understood as a set of social practices and observable in events which are mediated by written texts. There are different literacies associated with different domains of life (discourse communities like those in subject area classrooms). Literacy is historically situated. A person's practices can be historically rooted in their history of literacy. They are culturally constructed. Literacy practices change and others are frequently acquired through processes of informal learning and sense-making. This gives credence to the different literacies that adolescents rely on to construct meaning and adds to the complexity of thinking about why traditional content literacy instruction did not and does not meet the needs of content area

teachers or their students and why content teachers resisted incorporating literacy instruction into their lessons. In

Defining Concepts for this Study

Literacy. I integrate the National Literacy Act of 1991, the IRA/NCTE (1996) standards, and the sociocultural views of literacy (Barton & Hamilton, 2000; Gee, 2000) for a working definition of literacy. I believe that literacy is defined by one's ability to read, write, speak, and compute and solve problems at proficiently enough to function in society, to achieve one's goals, and to develop one's knowledge and potential (NLA, 1991). However, this definition of literacy is broadened to include visual literacies including film and television, commercial and political advertising, political advertising, photography. The IRA/NCTE (1996) defines literacy more broadly to include the six English language arts of reading, writing, speaking, listening, viewing, and visual representing. Each represents a language medium, for example, reading and writing involve written language, listening and speaking involve spoken language, and viewing and visual representing involve visual language. Further, considering the sociocultural view this definition of literacy honors the differences in language and thinking specific to subject area domain (Barton & Hamilton, 2000; Gee, 2000).

Engagement and Motivation. First, I believe that it is difficult to separate engagement from motivation in relation to school contexts. Engagement and motivation are interrelated in that they share similar characteristics and are likely to improve learning. Second, there are several factors that influence my belief about engagement and motivation.

Raphael Bogaert, Pressley, & Mohan Hawkins (2006) define engagement as on-task behaviors that require thought. They identified highly effective teachers who motivate students to learn everyday; they use a selection of instructional strategies to produce better student engagement than other teachers (Raphael Bogaert, Pressley, & Mohan Hawkins, 2006). Such instructional strategies include cooperative learning with opportunities for student discussion, student autonomy with participation in decision-making about their own learning which encourages risk taking and independent thinking, and student participation in authentic learning activities (Certo, Cauley, Moxley, & Chafin, 2008; Raphael Bogaert et al., 2006). Further, higher academic engagement is likely when students perceive their environment as one of mutual respect among peers and teachers and where interaction with others is encouraged and valued (Certo et al., 2008; Raphael Bogaert et al., 2006). Students who consider their classroom a safe, responsive, and emotionally supportive place will likely have higher social and academic achievement. These are also factors that increase motivation among students (Certo et al., 2008; Cothran & Ennis, 2000; Raphael Bogaert et al., 2006).

Authentic Literacy. Duke, Purcell-Gates, Hall, &Tower (2006) categorize the authenticity of a literacy activity in two dimensions: purpose or function and text. Both dimensions focus on serving a communicative purpose outside of a learning-to-read-or-write context. Purcell-Gates (2002) describes reading a newspaper to learn the news as an authentic purpose. Conversely, reading a newspaper to identify main ideas in articles signifies a school-only purpose.

Examples of authentic texts are those found in everyday life including letters, fliers, magazines, novels, and mortgages (Purcell-Gates, 2002). On the other hand, school-only texts are described as worksheets, flashcards and stories written for learners and the like. Further, Purcell-Gates (2002) describes an authentic literacy class as one where the teacher often considers the students' real neighborhood issues when creating lessons. Thus, teachers contextualize their instruction within the students' lives and provide literacy instruction their students will engage with as they live those lives (Jacobson, Degener, & Purcell-Gates, 2003). Purcell-Gates (2002) suggests "the key was they embedded this teaching within authentic literacy activities." Most salient, however, was the finding that students' engagement in authentic reading and writing in class increased their reading and writing outside of class (Purcell-Gates, 2002).

Rationale for this Study

Content teachers are still seen in a negative light in terms of incorporating literacy instruction into their subject area lessons. Calling them resisters is not productive and announcing that all teachers should be teachers of reading is not working. Efforts to improve literacy learning for secondary students in the content area must move forward. In order for that to happen we must understand and validate the challenges that stand in the way of teaching literacy in specific domains. We also need to recognize and study what teachers *are* doing in terms of the seldom noticed new or multiple literacies. We need to elevate content teachers' voices; they need to be heard. The literacy community needs to collaborate with teachers, and subject specific researchers to find ways to extend

what is already happening and collaborate on content literacy instruction appropriate for the adolescent learner and that matches the unique demands of specific domain instruction.

CHAPTER 3
RESEARCH METHODOLOGY

This study will follow a qualitative approach using an interview and observation design to explore secondary content teachers' views about literacy in relation to the domains of science and social studies. Semi-structured interviews will constitute the primary data source and classroom observations will clarify the interviews and the researcher's description of teachers' practices. Examples of student tasks will be collected to further an understanding about how content teachers carry out literacy practices. Guiding questions for the study include:

1) What literacy practices do high school teachers use to accomplish their science and social studies instructional goals?
2) What are the purposes for using these practices?
3) How do these literacy practices involve reading and writing?

These questions are significant because they direct teachers' thinking about their goals for their students, how they teach their subject area, and the purposes for the practices they use. Important to this investigation are teachers' knowledge and beliefs about how reading and writing are involved in their teaching.

The Researcher's Role

The researcher is a doctoral candidate at a large Midwestern university completing her dissertation. From 1973 to 1986 I was a Title 1 reading teacher in a rural middle school. My chief job responsibility was teaching reading to low readers who were scheduled to come to my reading class one hour a day. The way reading was generally taught during those years was by the test and fix

method. As reading teachers we tested students and then tried to fix their reading problems. Much of the teaching of reading happened in isolation outside of the subject area classroom and not in conjunction with the content specific to the classes students were taking. I would assign a lot of skills practice from commercial packages such as Barnell Loft's Specific Skills Series and Scholastic's Reading for Understanding Series; both series delivered practice in isolated skills and were leveled by reading ability. I was not involved with staff development during these years. Teachers sent their students to others to fix the reading problem, usually the special education teacher or the reading teacher.

From 1986 to 2000 my job title changed from reading teacher to reading/learning consultant in a suburban high school. My responsibilities included teaching and modeling reading, writing, and study strategies to all ninth graders, professional development of reading strategies to staff, state assessment preparation for all students, chairing the English department, coordinating the high school's gifted and talented program, coordinating the district's writing assessment, and district curriculum development. I primarily taught reading strategies through novel study in ninth grade English classes. Students who needed one-on-one help arranged appointments primarily to get help with other content assignments. Most of the time professional development occurred at staff meetings where I presented and modeled reading strategies in a large group format. Sometimes I met with specific departments to help develop curriculum or plan lessons. I also met with individual teachers to talk about students needing reading help. Many content teachers were not open to

including reading and writing in their lessons. The English teachers were very supportive of me teaching literacy strategies in their classrooms. There were times, though, when a teacher left the classroom while I was teaching. The teachers counted on me to do the actual teaching of the literacy strategy even when they had witnessed the same lesson several times a day for years.

Finally, my last four years as a literacy consultant took place in a suburban preK-4 elementary building where my primary duties consisted of modeling reading and writing strategies to 3rd and 4th graders in their regular classrooms using math, science, social studies, and English content as well as reading and writing professional development for the larger staff. Here, I was primarily in charge of teaching reading and math strategies in preparation for the state assessment.

My perceptions of a resistance paradigm have been shaped by my personal teaching experiences. For almost twenty years persuading elementary and secondary content teachers of the advantages of including reading and writing in their lessons represented the fundamental description of my job. Oftentimes, teachers resisted my suggestions about infiltrating their lessons with reading strategies, especially at the secondary level.

Further, from 1986 to 1998 I was involved with the state department of education in developing reading modules, using social studies content, for inservicing teachers about reading strategies in terms of preparing students for the state reading assessment. My involvement included writing practice lessons and inservicing teachers within the state. Those of us involved in developing

these lessons and modules did not include social studies teachers in the process; we did not consult social studies teachers about the strategies we were promoting or about how well they mapped onto the content we were using to teach reading strategies.

I never consulted content teachers about their views about reading or literacy in relation to their subject areas. My focus was on persuading them to infuse literacy strategies within their content areas rather than finding out their perceptions about how compatible the strategies might be with their lessons. I wondered why some of my colleagues resisted using them, but I did not draw them into conversations about their views on literacy. It is only now that I realize I overlooked the reasons for their resistance to incorporating literacy into their content; I needed to make an effort to understand their perspectives. I believe my experiences enhance my awareness, knowledge, and sensitivity to any challenges, decisions and issues I have encountered in this investigation.

Data Collection Procedures

The following sections describe the sites, participants, sources of data, and procedures for collecting and analyzing data. To address my research questions, I interviewed and observed seven high school teachers representing the areas of science and social studies. I conducted and recorded semi-structured pre-interviews with these content teachers about their literacy perceptions and practices as related to their subject areas. Further, I observed three or four lessons to provide corroborating data for the interviews. Lastly, I

conducted post interviews to give the teachers an opportunity to reflect on their lessons and practices and to help triangulate the data.

Sites

This study was conducted at two Midwestern high schools. One of the chosen high schools is from a large Midwestern urban district; the other high school is from a smaller suburban school district in the same general location. My objective in choosing these socio-economically different sites was to capture a variety of backgrounds and beliefs about literacy. My intent was to draw on sites with enough diversity in school, student, and teacher background that I could see similarities and differences with respect to literacy views within and across subject area, upper and lower track classes, and schools.

School Descriptions and Demographics

Urban. The urban district's classroom profile depicts a breakdown of ethnicity as roughly 22% white, 41% black, 26% Hispanic, 1% Asian/Pacific Islander, 1% American Indian/Alaska Native, and 8% multi-racial. This is a school district where a majority of students qualify for free and reduced lunch. The majority of schools in this district are considered high poverty schools where high poverty is defined as above 40% free and reduced lunch for elementary schools and 50% for high schools.

South Hill High School's demographics roughly match the district's profile. The high school has 86% free and reduced lunch, 19.5% white, 59% black, 19% Hispanic, 1% Asian/Pacific Islander, and 1% Indian/Alaska Native. South Hill meets the earlier stated definition of a high poverty school. All of the regular

comprehensive high schools in the district failed AYP. South Hill did not meet AYP in any subject area and is at Alert Phase-4 of AYP. Total enrollment at South Hill High School is approximately 900 students in grades nine thru twelve.

Suburban. The suburban school district is also located in a Midwestern community on the fringe of the urban district in this study. This suburban community supports one high school. The district profile includes roughly 91% white, 5% black, 3% Hispanic, 1%, Asian/Pacific Islander, .5% American Indian/Alaska Native. West Park High School's total enrollment for grades nine thru twelve is nearly 1200 students. West Park's demographics closely matched that of the district. West Park's profile included 11.5% free and reduced lunch, 95% white, 2% black, 1% Hispanic, 1% Asian/Pacific Islander, and 1 student who was American Indian/Alaska native (see table 1).

School Literacy Initiatives

Urban. Even though South Hill struggles to meet its goals in reading, math, social studies, and science, the district's high schools have been involved in a comprehensive school reform and restructuring plan for several years. This is a progressive school district offering many different learning environments and opportunities from comprehensive high schools to magnate schools with emphases in many areas including the arts, sciences, and technology. South Hill, located in the historic part of the city, is one of the oldest high schools in the state. The school also houses the district's Montessori High School and the School of Health Sciences and Technology.

Table 1
School Demographics

High School Demographics	Urban	Suburban
Free & reduced lunch	11.5%	86%
White	95%	19.5%
Black	2%	59%
Asian/Pacific Islander	1%	1%
Hispanic	1%	19%
American Indian/Alaskan	1 Student	1%

A literacy initiative specific to South Hill came from an English department request that teachers use one reading strategy a week with their students to try to improve reading in the building.

Another district mandate comes in the form of Roger Bybee's 5E inquiry lesson plan instructional model. Teachers across subject area at South Hill incorporate the five steps of *engagement, exploration, explain, elaborate,* and *evaluate* into their lesson planning. As Russ described

> We're supposed to have the 5E lesson plan model in every class. What we have done is we started it, I think maybe three years ago and what they had basically wanted us to do is ... one 5E lesson per nine weeks. And then each year that you teach that same subject again, maybe add one 5E lesson. So that they didn't expect you to come up with it right away, like all of a sudden, boom, we're gonna do this all at once, but they wanted you to get used to that format. So the 5E lessons are one of the things that we do, yes.

The urban district has year-end common assessments in place. All teachers must use common textbooks adopted by the district and must follow the texts closely to ensure that all students have been taught the content needed to pass the assessment at the end of the year. For example all high school U.S. history teachers use the History Alive program and all biology teachers use the Biology Human Approach textbook by the Biological Science Curriculum Study who's principle investigator is Roger Bybee.

Suburban. This high school is very progressive in terms of literacy instruction. They have adopted a literacy initiative to improve reading and writing across all subject areas and levels. They hired a literacy consultant to guide this literacy initiative. She recommended a national literacy consultant, Dr. Doug Fisher from San Diego State University, to provide two professional development

days at West Park High School focused on reading and writing in the content areas.

Also, a literacy leadership team was formed where teachers in the building come together in subcommittees to plan and lead future literacy professional development or inservice for the entire staff. This leadership team is ongoing and meets once a month. The reading consultant was chair of the leadership team and worked closely with the literacy consultant to plan the team meetings. The principal was an instrumental member of this leadership team in terms of support. He listened and offered support for what teachers want to accomplish. For instance, when a team member reported other teachers feeling overloaded or saying "too much..." the principal asked "... what can we move off .." their plate? The subcommittees met to discuss how things were going; they talked about successes and ways to improve. Subcommittee groups included Sustained Silent Reading, Writing, Words of the Week, Academic Vocabulary (content area vocabulary).

Before beginning the data collection process for this study I attended two of West Park's literacy leadership meetings held just before their winter break. At the first session I witnessed teachers evaluating the progress of the literacy initiative thus far in terms of what worked and what needs improvement. The next morning teachers returned to discuss plans and needs for future inservice days based on their previous day's discussion. West Park teachers are working on other initiatives including writing common assessments and common syllabi.

Participants

The participants in this study are social studies and science teachers who regularly teach in either Central Hill or West Park. My criteria for selecting participants included two science, one upper track class and one lower track class, and two social studies teachers, one upper and one lower track class, at each building. My participant profile is based on my interests and purposes for this study.

The key contact at West Park High School was the principal, a personal acquaintance. He had previously been an assistant principal in the same school in which I worked. I called him and explained my study; he was enthused about the prospect of participating in a study that looked at teacher practices in social studies and science. He communicated with his staff and suggested certain teachers that fit my participant profile.

To gain access to South Hill, the urban high school, I petitioned the director of research and development who was in charge of all research proposed or being conducted in the district. I completed the requested district paperwork and submitted it along with a description and copy of the IRB for this study. He was very helpful and the process was quick and smooth. I received permission to conduct my research and he contacted the South Hill's principal for me. When South Hill's principal agreed to support my project I begin communications with him. South Hill's principal communicated with his staff to identify teachers who fit my profile.

After obtaining approval for conducting this research at both schools I contacted the principals at each building for their suggestions about teachers who would match my criteria and might be interested in participating in my study. Both principals offered names of teachers whom I could contact. Also, both principals made the initial contact with the teachers giving them a heads-up and paving the way for me to communicate with them about participating in my study.

Experience mattered in terms of how long teachers had been teaching. I was looking for teachers who had had between five and twenty years of experience. I wanted teachers who had had time to acclimate themselves to the teaching profession, but I also wanted teachers who were still excited about teaching and were not close to retirement or jaded by the length of their stay in education (see table 2).

Cate. Cate is in her sixth year of teaching. She has a major in chemistry and a minor in general science. Cate is presently working on her master's degree at a local college in a master of science education program. Her preference is teaching chemistry, but she was one of the only teachers at West Park certified to teach physics. Her general science degree qualifies her to teach physics. She teaches regular and AP Physics classes at West Park High School. I observed her AP Physics class.

Hal. Hall teaches at West Park High School. This is Hal's ninth year in teaching. He previously taught AP and regular physics classes, but two years ago he transitioned into a part time position as dean of students and as science department head relinquished his physics classes to Cate. He now teaches the

Table 2
Participants

TEACHER	EXPERIENCE	SUBJECT	TRACK	SCHOOL
Cate	6 yrs.	AP Physics	Upper Track	Suburban
Hal	9 yrs.	Chemistry	Lower Track	Suburban
Dan	14 yrs.	Humanities	Upper Track	Suburban
Spence	8 yrs.	U.S. History/SE	Lower Track	Suburban
Seth	5 yrs.	Honors Biology	Upper Track	Urban
Seth	5 yrs.	Biology/SE	Lower Track	Urban
Russ	17 yrs.	Honors U.S. History	Upper Track	Urban
Cam	9 yrs.	U.S. History/SE	Lower Track	Urban

lower track chemistry classes for part of his day. Hal is very interested in the "how to" of teaching and is experimenting with teaching the lower track chemistry students the same curriculum as the regular chemistry classes. He has seen improvement in his lower track students' learning when they are held to higher standards. I observed his Integrated Chemistry (with regular curriculum) class.

Dave. Dave has been teaching for 14 years. Just as his colleague, Hal, Dave has shifted to a part time position as dean of students at West Park High School. He has a political science major and a general social studies minor. He teaches humanities, an upper level, social studies class which has no district mandated curriculum. I observed this humanities class. The curriculum for this class has been in place at West Park High School for thirty plus years, but it does not necessarily tie directly to the state assessment or the ACT. So, there is a lot of teacher discretion as to curriculum decisions for this class. Dave also teaches U.S. history.

Spence. Spence teaches at West Park High School. He is a former marine. His travels piqued his interest in history and led him to a history degree. He remarked was rare because many teachers now obtain group or general degrees in social studies. He teaches Lower track U.S. history with special education and is a co-taught class with the special education teacher. Spence also teaches economics and civics. I observed Spence's U.S. history special education combined class.

Seth. Seth teaches both the lower track and upper track biology classes at South Hill High School. He served a dual purpose for this study and participated

in both capacities. Because Seth teaches Honors biology and regular biology classes combined with special education I could interview seven teachers instead of eight. I observed both of these classes. Seth also teaches anatomy/physiology. Seth was also in charge of an upcoming dance for the high school.

Russ. Russ teaches Honors U.S. history, regular U.S. history, and psychology classes at South Hill High School. He has been teaching for seventeen years and is the social studies department chair. Russ has always been interested in history and is an avid reader of biographies and several newspapers and news magazines. Russ had a student teacher for most of the year, but reclaimed his class following spring break and one week before I observed one of his Honors U.S. history classes. Russ is very involved with extra curricular activities and is senior class advisor. I observed Russ' Honors U.S. history class.

Cam. Cam has been teaching for 9 years. He teaches U.S. history combined with special education. Cam had a student teacher for most of the year, but the student teacher did not teach this class. Cam is interested in meteorology and history and recently modern American history. He is certified in geography and has studied maps since he was young. He taught geography in a middle school. The district had Cam teaching earth science, but after NCLB he was not highly qualified. Cam needed to acquire a broader social studies certification taking political science which is not necessarily his main interest. I observed his combination U.S. history and special education class.

Researcher's Suppositions and Explanations

To answer my research questions it was essential to uncover teachers' thoughts and ideas about how they teach their subject areas, how reading and writing are involved in their teaching and how they conceptualize literacy and text. This type of research does not produce answers which are evident or cast in stone; rather, conclusions are based upon one's actions and reactions, which can be multifaceted and complex. Thoughts and feelings are difficult to measure and, thus, become dependent upon the interests and perspectives of the researcher (Merriman, 1998). As previously stated, my perspectives and beliefs regarding this study derive from my earlier experiences as a teacher, literacy consultant, and professional developer; my prior experiences shaped my present interest and perspectives, and now, draw me to this particular investigation. Through my earlier experiences, I witnessed content teachers' resistance to incorporating reading and writing into their teaching, though, at the time, I did not understand why, nor did I try to find out. The voices heard in this study are the teacher participants and to some extent their students. The teachers' stories, their thoughtful descriptions built around their experiences, goals, and beliefs about teaching their content become this study's narrative. And to answer my research questions I become a crucial player, the key interpreter of the data.

A qualitative approach matches my research questions. I chose a qualitative approach because of my intent to draw on direct quotations from teachers in the trenches, from their thoughts, feelings and memories of their lives as teachers of content. Since my objective included describing teachers'

classrooms and lessons, listening to their talk while teaching, listening to students' talk and observing their actions during lessons, and examining student tasks to uncover and understand possible connections to the lessons, a qualitative approach seemed to fit my purposes.

A qualitative approach allowed me, the researcher, to make claims based on constructivist viewpoints, such as the complexities of numerous meanings of individual experiences or meanings that are socially and historically constructed (Creswell, 2003). An objective of this approach is to look for patterns that tell a story; this story is full of complexities, tensions, and rich descriptions of teacher practice in relation to their goals, teacher practice in connection to reading and writing, and teacher practice in relation to student tasks.

Pilot Study. The recipe for obtaining good interview data is asking good questions (Merriman, 1998). In order to make sure that I had written good interview questions, I conducted a pilot study in the spring of 2008. The pilot study served as practice for me in writing questions and interviewing to make sure I learning what I had intended. To try out my interview protocol, I interviewed four middle school science, math, and social studies teachers about their teaching practices and about how reading and writing were involved in their teaching. I refined my interview protocol by rewording confusing questions. I also added questions about respondent demographic information to get the interview started (Merriman, 1998) and questions to learn about what students need to know to be successful in their classes.

Also, I observed one lesson per teacher to try out my observation protocol. Both instruments were altered as I discovered certain questions that needed to be tweaked and other questions I needed to add. Also, I refined my observation protocol to include not only what teachers said and did, what students said and did, and the topic of the lesson to include how text was represented.

Instruments

Narrative is one qualitative approach that uses the strategy of inquiry (Creswell, 2003). As the purpose of the present study is to develop a narrative, I drew on techniques of inquiry such as collecting semi-structured, emerging data from interviews, observations and students' written artifacts. The primary goal was that of developing themes and looking for patterns or concepts to describe teachers' instructional goals and drawing conclusions about how well they map on to their teaching practices. In selecting my data collecting techniques interviewing, observations, and mining data from documents seemed to fit my purposes.

Interviews

Interviewing in one-on-one encounters is one of the most frequently used forms of data collection in educational studies. The most common way to record interview data is to tape record the information (Merriam, 1998).

Semi-structured interviews constitute the primary data source for this study (see Appendix A). I determined that I did not want a highly structured interview format so rigid that I could not keep a conversational tone or be open to participants' line of thinking or unique perspectives. I wanted to be able to probe

further on topics if I needed to adjust, if I needed more details, clarification, or examples. Therefore, I chose a semi-structured type of interview because I wanted to steer the conversation with the teachers toward certain areas such as their goals and practices, and to stimulate responses about their beliefs about teaching and learning, but I also wanted to build conversation around those topics.

I also determined that I did not want an open-ended type of interview format because I needed a format that provided for a certain skeletal order of the types of questions I planned to ask. The questions needed a basic order, but needed flexibility within that order based on my background as a literacy consultant. I did not want to wear my literacy hat up front and center in the interview situation by asking questions about whether teachers involved reading and writing in their lessons. To immediately inquire about reading and writing in relation to their lessons would have been leading the teachers to a preset stance. My plan was to ask questions about how they teach their subject areas without mentioning reading and writing so that if reading and writing happened to be mentioned it would not be due to prompting by me. There needed to be some structure, for example, I developed four sections of questions. In the first section the questions pertained to demographic information such as the grade and subjects they taught and how long they have been teaching. The second section pertained to their practices in terms of how they teach their subject areas. The third section is where I infused questions about how reading and writing were involved in their teaching. The questions in the second section, therefore, were

clean, devoid of any interjections by me that might lead them to think that if they did not mention practices involving reading and writing they would be wrong answers. The fourth section of questions asked teachers to delve into their texts and describe how they asked students to read or use the text. I did not need to determine the exact wording of the questions. I needed to determine the order of sections, not necessarily the order of questions within the sections.

Within each section of interview questions there was ample room for probing and allowing teachers to talk about their perspectives on their practice without projecting a preconceived notion that I was looking specifically for answers having to do with reading and writing.

I negotiated each teacher interview individually based upon each teacher's schedule and availability. I wanted each teacher to be in control of when the interview happened. My hope was to be able to observe three or four lessons as close as possible in time to the interview and I determined that the observations should be consecutive if possible and within the same unit to help me understand the reasons for making certain decisions about practice.

A couple of deviations from this process did occur. Russ, the honors U.S. history teacher, had had a student teacher all year. He allowed me to interview him before spring break, but requested that the observations take place after his student teacher completed her assignment at South Hill. He also wanted to have the students without me there for a week to allow everyone to become acclimated again before I arrived on the scene. Further, Spence, who teaches the U.S. history combined special education class, also teaches economics. The

economics class was not a class I had chosen to observe, but he was doing an interesting lesson involving simulation of stock ownership called Stock Quest where students were applying their knowledge to the real world by buying and selling stocks. I wanted to witness this interesting task so I made the decision to observe the class.

Observations

My interview and observation data are interwoven to provide a more accurate and complete picture from the data. Observations are research tools to gather data in a natural setting and represents firsthand encounters in the real world rather than the secondhand account of the participants (Merriman, 1998). Observations tend to be highly subjective and therefore can be unreliable so I used it as one of my research tools. Therefore, using observations to corroborate interviews adds strength to my findings. I used the observation data to help make sense of the interview data.

I observed the everyday behaviors of teachers and students. I structured the observation protocol to serve a specific purpose for recording certain types of information (see Appendix B). I used the observation data to help make sense of the interview data.

One lesson following each interview will be observed to increase integrity of the interview instrument. I wanted a better understanding of the context of the classes I observed. As much as possible consecutive observations were scheduled within units of study to keep the observations consistent with the unit. The observations and fieldnotes provided important support for the interpretation

of the interview data collected. Also, each teacher was informally interviewed after observing their lessons for clarification purposes and to retrospectively uncover teacher perceptions of the lesson. During these observations the researcher tracked what was going on in the classroom in terms of teacher talk, student talk, subject matter major ideas discussed and text representations. Sketches of each classroom observed depicted room organization, for example, arrangement of desks and/or tables, utilization of counter space, representations of content literacy around the room, such as posters, charts, and graphs used to facilitate learning. This was done to enhance the researcher's interpretation of teacher knowledge and beliefs.

An observation protocol was developed to track observations regarding the physical setting of each classroom, participants, activities, interactions, conversations, and other subtle factors (Merriman, 1998). I noticed what the classrooms looked like in terms of what was hanging on the walls or sitting on counters, and how desks organized. I tracked what teachers were doing and saying and what students were doing and saying. Further, I identified the topic, big ideas, and pertinent concepts of the lesson. Finally, I identified representations of text throughout the lessons. The observation protocol data collection tool organizes the data and holds it interpretation and triangulation of all data.

Post Interviews

Post interviews allow the researcher to ask participants what they were thinking with regard for certain behaviors witnessed during observations

(Merriam, 1998). In this study post interviews were conducted following the observation of the teachers' lessons for clarification purposes (see Appendix A). Also, teachers were asked to reflect on how well they thought the lesson worked. In order to understand reasons for the teacher practices I observed I asked teachers to explain their purposes for certain practices and the student tasks that were assigned.

Student Tasks

The collection of student tasks, in addition to interviews and observations, adds to the triangulation of data. Since one of my research questions asks about how reading and writing are involved in teacher practice the analysis of these documents shed light on this issue.

Data Recording Procedures

I began collecting data toward the end of January 2008 following exams at West Park High School. I conduct seven semi-structured interviews. Interviews were audio-taped and transcribed and held on my computer for further analysis. I gathered observational fieldnotes using an observational protocol tool for recording information on my computer (see Appendix B). The protocol tool was set up in columns representing *Time, Teacher doing/saying, Student doing/saying, Ideas/Concepts, How text is represented*. The post interviews were also recorded and transcribed and held on my computer for further analysis.

I collected clean copies of all assignments, quizzes, and tests during the observation data collecting window. At least three students from each class volunteered to participate in the study. Clean copies of each of the student tasks

were collected from each teacher. Completed artifacts were also collected from the participating students according to assignments given by the teacher and assignments turned in by the participating students. In some cases students who participated did not turn in all of their assignments.

Data Analysis and Interpretation

Initially, all transcripts were read carefully to get an overall sense of the data. Transcripts were read to allow for some preliminary thinking about emerging categories. The method of constant comparison (Glaser & Strauss, 1999) was used throughout the data analysis process as I was continually looking for similar and different ideas, relationships, and perspectives that comprehensively described teacher understandings (knowledge and beliefs) about teaching and learning, how they teach their subjects, purposes for their practices and how reading and writing are involved.

I used HyperRESEARCH® software to analyze content by coding for categories and representative examples of each category (see Appendix C). The preliminary thinking I had done during my initial reading of the transcripts helped to formulate my codes for data analysis through HyperRESEARCH®. I determined categories that represent the major ideas voiced by teachers by constantly comparing codes and grouping like codes within categories (see Appendix D). I narrowed my list of categories for this paper by selecting only those major categories that represented my research questions, for example, codes clarifying teacher talk about their goals, teaching practices that involve

reading and writing, and purposes for the practices. Files including the code list and specific reports are stored in HyperRESEARCH® on my computer.

I created a table for each major category and its representative codes to capture a broader and clearer picture of how one category fit in relation to another. I use at the category of teacher goals as the window through which to examine teacher practices and the involvement of reading and writing. I also examined each teacher goal in relation to the participant, subject, upper and lower class track, and school profiles.

Transcripts were read again several times as I made notes in the margins, highlighted, underlined and tracked interesting trends and patterns comparing my notes to the coded data and tables. Reading and noting similarities and differences allowed me to keep track of thoughts and ideas constantly comparing to the codes and categories that that emerged through HyperRESEARCH®. It allowed me to compare the coded data and tables to the narrative. Using the HyperRESEARCH® software, I had buried myself in the analysis of transcripts for emerging patterns of teacher knowledge and beliefs, goals, practices, and evidence of reading and writing involvement in teacher practices and student tasks. I did not want to lose the larger scope of the story; I did not want to lose the story that teachers were telling behind the data. Rereading the transcripts after using HyperRESEARCH® helped me to see the data within the story.

CHAPTER 4
RELATING GOALS TO PRACTICE

In this chapter, I respond to my research questions by organization my findings around teachers' instructional goals. I explore and describe the teachers' goals derived from the teacher interviews, classroom observations, and post interviews and connect each goal to teacher practices and purposes. The following research questions steer and underpin this study:

1) What literacy practices do high school teachers use to accomplish their science and social studies instructional goals?
2) What are the purposes for using these literacy practices?
3) How do these literacy practices involve reading and writing?

It is essential to understand the goals teachers hold for their students before portraying a relationship between teacher practices and teacher goals. The instructional goals teachers hold for their students help to determine their practices and the tasks they ask of their students. In this study teachers' described their goals in terms of three distinct, but interrelated categories. Goal one focuses on meeting requirements and directives set by others who have power, for instance, various federal, state, district, and school initiatives or mandates. Goal two aims at connecting learning to real world situations; situations that relate in the present to students' daily lives and circumstances or conditions projected to impact students in the future. Goal three targets student engagement in learning of skills and content and emphasizes the learning of skills above learning content.

This chapter is divided into three sections. I have structured this chapter around teachers' goals. I tell the stories of teachers' goals as they were described to me through the interviews and observations. In each section I describe the common goal shared by teachers across school, subject, and student ability level. I describe the pattern that emerges as I examine the data. I identify the reading and writing practices used by teachers to accomplish each goal. Also, I incorporate the observations, post interviews and student tasks to triangulate the initial interview data. I examine the tensions put forth by teachers as they describe their instructional goals. Finally, I share my impressions about the literacy practices of these teachers as connected to their school lives.

Goal #1 – Federal/State/District/School Mandates

The teachers in this study paint an interesting picture when identifying their instructional goals in terms of federal, state, district, or school mandates. Their story seems to be tied specifically to the school where they teach and their students' reading and writing abilities. Teachers from the urban school identify their students as having generally lower reading abilities then their counterparts at other schools in the suburbs. Cam reiterates this when he talks about his U.S. History students taking the state tests "... the reading part I think is ... I say it all the time ... I think reading is what holds these kids up ... on the standardized tests and learning in the classroom." The urban teachers seem to be more concerned with meeting the federal and state mandates and, therefore, their own district's mandates.

I determined each individual teacher's level of concern about meeting mandates by pinpointing the emphases teachers placed on mandates at the point in their interview at which they first talked about them. I rated teachers' responses about their instructional goals as *very high focus, high focus, low focus, and no focus*. To clarify the emphasis on mandates, *very high focus* describes a response where meeting mandates was the only goal stated. *High focus* depicts instances where meeting mandates was the first goal mentioned. *Low focus* labels teachers who talked about meeting mandates last among goals mentioned. *No focus* describes teachers who did not state meeting mandates as an instructional goal. Five of the seven teachers interviewed responded that meeting mandates was an instructional goal.

All of the teachers from the urban district mentioned meeting either federal, state, or district and school mandates very early on, if not first in their responses (see table 3). They feel highly pressured to improve their students' scores on required state assessments. They also feel a sense of urgency to get students graduated. Urban teachers talked most often about mandates as restrictions to their teaching. The types of students they service, for instance, have more reading difficulties than other surrounding suburban schools. Restrictions are felt more by teachers from the urban high school, South Hill, rather than the suburban high school West Park, no matter the subject or reading and writing abilities of their students.

High focus – South Hill. For example, Cam teaches lower track U.S. History in the urban high school, South Hill. When asked about his goals for his

Table 3
Meeting Mandates

Goals/Tension	**Suburban**		**Urban**	
Meeting Federal, State District, School Mandates	*Social Studies*	*Science*	*Social Studies*	*Science*
Very High Focus (only goal stated)				
High Focus (stated first)			Cam Russ	Seth
Low Focus (stated last)	Spence	Hal		
No Focus (not stated)	Dave	Cate		

UT=Upper Track
LT=Lower Track

students Cam's primary goal was meeting mandates "obviously, you've gotta cover ... the content." Cam feels restricted by mandates; he views his day-to-day teaching job as limited by the requirements of others "... it's all mapped out. It's like every day, it's gotta get to this, gotta get to this, gotta get to this." Almost in the same breath, though, Cam talked about the push in his district to teach literacy strategies, ...you've gotta do literacy strategies ... at least here you do ... maybe outside ... not so much, but that's probably my number one goal ... is to ... phase in literacy stuff every single day." Because of the typical high poverty, lower readers at South Hill, it is difficult for Cam to separate covering the content from teaching literacy strategies. Both are mandates or initiatives and many students at South Hill cannot be successful passing the mandated tests if they cannot read. For Cam, teaching literacy strategies was key to his students' success in U. S. History and school in general.

High focus – South Hill. Urban teachers stressed the importance of passing state tests, of learning state standards and benchmarks. They think about their jobs in terms of delivering or covering the state curriculum. Seth teaches both Honors Biology and a regular biology class that is combined with special education students. He described more than one goal for his students, but the goal with the highest import, the first goal he talked about, was meeting mandates. For Seth, meeting state mandates was indicative of how well he was doing his job. For example, Seth reported, "I mean, basically, it's to learn the content expectations for the State of Michigan ... that's the primary goal. That's

the goal mandated by the state. I wouldn't be doing my job if they didn't learn those."

In addition, urban teachers talked about other goals similarly bounded by requirements or mandates. Urban teachers are deeply focused on graduating their students. They are concerned about their students having enough credits to graduate from high school as well as getting students ready for college. Russ teaches Honors U.S. History at South Hill. He states his primary instructional goal as helping his students attain enough credits to graduate. Russ' Honors U.S. History class is a required course

> ... so obviously my initial goal is to get them their five credits. I want them to be successful towards graduation ... it didn't really used to be my goal, but now, of course ... you must graduate 100% of your kids by 2013, if they don't get my 10th grade U.S. history 10 credits, they aren't walking two years later ... so we really ... focus on .... making sure that they graduate (46).

Low focus – West Park. A different story is told by the teachers from West Park, the suburban high school in this study. They are not as overtly focused on meeting the federal, state, district or school mandates as the urban teachers. While meeting mandates for two of the teachers at West Park is on their radar, they talked about other goals ahead of mandates. None of the four West Park teachers mentioned mandates as their primary goal for their students. Two of the suburban teachers included mandates among their stated goals while the other two teachers did not state meeting mandates as a goal at all. Further, both of the teachers who did include mandates within their stated goals are the lower track teachers in science and social studies.

Hal's chemistry class is integrated with special education students. He has taken it upon himself to challenge his students by teaching the same curriculum to his lower track chemistry as his regular classes. He included the meeting of state mandates in his stated instructional goals, but he mentioned them last among those goals. For Hal, accomplishing his primary goals of creating good citizens and teaching students how to be good learners will, as a by-product, help his students to meet federal and state mandates. For example, Hal commented "you want them to do well on the state exams and the ACT and you're working towards those things."

Another West Park teacher, Spence, teaches a lower track U.S. History class which is also combined with special education students and is co-taught by a special education teacher. For Spence, meeting federal and state mandates is secondary to getting his students "... to see the big picture, that events are related to one another ..." Meeting federal and state mandates is not his main goal or objective for his students ... obviously, I want them ... to learn what the state .... standards and benchmarks say they have to learn, but I think you can teach that within ... the context of the bigger picture." For Spence, focusing mainly on his curriculum by connecting historical events he can accomplish both tasks through his subject matter.

No focus – West Park. Neither of the upper track suburban teachers cited federal, state, district, or school mandates as instructional goals for their students. Dave teaches humanities, a class which is co-taught by a social studies teacher (Dave) and an English teacher. This class has no curriculum that is tied

to state standards and benchmarks. Humanities is a liberal arts course with curriculum that is purely teacher developed and is based on twelve novels or historical books, which are chosen by the teachers and revised yearly. Fifty honors' students take this class and receive two credits, one social studies and one English credit. Dave teaches the social studies content around each novel in terms of the history, politics, and economics of the era; the English teacher teaches the Language Arts component.

Cate teaches AP Physics at West Park. Since she teaches a class with a preset curriculum, she follows a set of guidelines. Cate follows the College Board Advanced Placement curriculum to ensure that her students who intend to take the AP Physics exam are prepared for this endeavor ...

> ... it is the one class where I really do teach to the test because at the end of the year, they take the AP test. So I do teach that class differently than I would other classes. And their tests, I structure it just like the AP test so that the multiple choice questions are similar, the written part is similar. Like the restrictions they have on the AP test, whether they can use the calculator or not, I do all that when I test them in AP.

However, Cate does veer away from these guidelines, occasionally, because she understands that not all of her students intend to take the AP exam. One of the times I observed this class Cate was preparing her students for a quiz. She informed the students, and this is on a regular basis, that the quiz would be open-note because she understands not all of her students will eventually become "...I do realize that some of you are taking this class because you want to know more about physics, but are not going to take the AP exam so ... do not worry about memorizing the equations and doing the math in your head."

Practices and Purposes

Five teachers across both high schools in this study use certain practices to accomplish their goal of meeting federal, state, district, and school mandates. Teachers described how they teach their subjects in terms of their *use of text* and *assessment preparation*. Use of text and assessment preparation for most teachers is interrelated. For teachers from South Hill using questions from the biology and *History Alive* texts as practice for the state tests makes sense because the questions are similarly constructed and they must use their mandated texts anyway. Teachers at West Park also gave their students practice questions that mirror the state tests. Teachers in both schools found opportunities in their lessons to give students practice writing persuasive essays.

Use of text in practice. Previously, I discussed the use of common texts, specifically within the urban district, in the school literacy Initiatives section of chapter three. It warrants more discussion. I have included comments about the use of text in this section because district/school initiatives are directly related to teacher practice, especially if they are mandated, as in the case of South Hill.

At South Hill, in most instances, teacher practice is dictated and controlled by the text they use. In this urban district, especially, both the social studies and science curricula are taught through specific texts that all teachers in that subject area are required to use. All biology teachers at South Hill, for instance, are required to use the *Biology Human Approach* textbook by the Biological Science Curriculum Study who's principle investigator is Roger Bybee, the developer of the 5E lesson planning approach which these teachers are required to infuse

within their lessons. Seth explains how the use of this text takes charge of his teaching practice and is ultimately constrained by its use.

> ... this year, they're saying we have to teach out of this book. Every lesson that's in there has to be done ... exactly as it's spelled out in that book. And, they're having the kids take these common assessments this year that every biology student across the district takes ... and the questions come from the publisher of that textbook.

A similar situation holds true for all South Hill High School U.S. history teachers. They must use the district adopted *History Alive* program to teach their lessons. According to Cam, the "*History Alive* program ... was purchased by the district this past summer ... and then when the new content expectations came out in October, they made an effort to align all the activities that are in the *History Alive* with the content expectations." The purpose of common texts and expectations for both science and social studies teachers is understandable; they are accountable for preparing their students for the districts' common assessments. Russ explains that even in his Honors U.S. History class "... we do have a district wide adoption policy, meaning that no matter what the subject is, everybody in the district should be using the same book."

West Park High School engages in a different scenario. Even though most of the teachers at West Park use texts and textbooks with their students, they are not bound by them in terms of using the lessons and activities exactly as they are prescribed in the texts. Cate uses AP Physics problems from the textbook. However, Cate also creates some of the practice problems "... on my own ... some of them I got from the internet." Although Cate is preparing her students for

the AP exam at the end of the year, she has the flexibility to borrow problems from other sources.

West Park's regular chemistry students use the new state science standards "... they just came out with a companion document and so I took all of this from the companion document because it is the exact thing that they expect the kids to know for this unit ..." The science department decided that since students were going to be taking the state assessment "... you might as well go with exactly what they want you to teach and then just add to it or what you can fit in." Hal was concerned about preparing his lower track students according to the state chemistry standards so we [department] "... need to switch by next year to make sure all students are able to do chemistry ..." Hal decided to use the new state curriculum with his lower track students, as well, and was able to veer from his textbook and make decisions based on the needs of his students. He started the year using the lower track chemistry curriculum, but ended up "... switching the curriculum on them. They don't even know. And so the kids are doing remarkably well "... there's kids that didn't think they were capable of the next class are doing it and so I think if you raise the expectation, you raise what they're able to do. "

Since there is no preset or required curriculum in Humanities at West Park, Dave is also able to make choices about his texts and practices. This class is considered a liberal arts class so is not bound by a mandated curriculum. Dave and his teacher partner, Meg, "... pay attention to make sure that we could align with state standards, but we aren't required to." Dave and Meg developed their

curriculum around six major themes (political systems, identity, individual, environment, spirituality, and culture). They teach the themes through their texts. Each year they tweak and shape the curriculum and make choices about novels to keep and novels to replace for the following year.

Spence also uses other kinds of text with his lower track U.S. History/special education class. He is not bounded by his text. Spence shared that he "... does not usually read out of the textbook." Rather, Spence uses supplemental readings that he collects from a variety of places. He browses the internet, for example, "I might be browsing CNN.com and there's an article about the inflation versus recession thing. I'll print that off, give it to my kids and ... hey, this is what we're studying. It's in the news. Like from ... books and things ... from U.S. history."

Teaching Practice as Assessment Preparation. Six teachers across subject, school, and track talked about their teaching practices in terms of preparing students for state and district assessments. In order to accomplish their goal of meeting mandates teachers from both schools prepared their students for state assessments by giving them practice in answering similar kinds of questions to those represented on tests mandated by the state. Teachers from South Hill were most focused on preparing their students for the state tests as evidenced by the emphasis placed on this goal. However, both lower track teachers from West Park participated in this practice. At West Park the lower track teachers talked about writing persuasive essays on a regular basis. Even the upper track Humanities teacher, Dave, takes into account the state test when

planning for Humanities. He uses persuasive essay as the format for every unit test. "They have approximately ... maybe 75, 80 minutes to answer these essay questions. They are timed. We specifically design them that they will take the entire time ... which is also, in my opinion, preparation for college and/or ACT, state test, because they are timed."

Hal finds that his lower track chemistry students have difficulty reading for information. Hal practices ACT questions once a month with his lower track chemistry students. This is a practice that is supported throughout the science department. The ACT practice questions that Hal uses with his students come "... right off the website." Hal reports that the best way to teach his lower readers is to read to them. At West Park, teachers have been inserviced in the practice of gradually releasing responsibility of learning to their students. Hal practices this technique even with the ACT questions, "... the very first one, we read ... I read aloud ... they did it, or I did it with them ... basically showed them. The second one, I read it, but they ... worked on the questions in groups. The next time, I'm gonna read it and they're gonna do it on their own. The next time, they're gonna read it and do it on their own." One example of an ACT practice question follows:

> According to Study 1 and Study 2, the crater floor of the volcano Pele has reflectances most similar to which of the following S allotropes?
>
> A. White S
> B. Orange S
> C. Red S
> D. Brown S

For the South Hill teachers the textbook contained and directed the mandated curriculum their students needed to learn to pass the district

developed common assessments. For this reason, teachers' lessons were dictated by the text they were expected to use. However, students needed to pass the state assessments, too.

For example, Cam uses wrap-up lessons with his students at the end of the class to engage his students in writing about the lesson, "... the way I would wrap up a lesson would be ... we've been doing persuasive essays all the time cuz that's on the state test ..." Further, Cam explains that the urban district has incorporated a district writing assessment geared toward preparing students for the state tests. Every marking period teachers engage their students in writing persuasive essays to district prompts. He supports this practice and sees an opportunity to sustain that effort in his own classes "... so I figure, hey, let's hit it in social studies, too. You know, for example, we just got done with World War I and I had them write a persuasive essay on which technology, new technology that was utilized in World War I ... do you think was the most destructive and why. You know, just take a stance on it and argue it out." Further, Cam reports that he uses the multiple choice questions from *History Alive* "... they're well written multiple choice. They're more state-style assessments. There is a writing component to every test, either an essay or short answer sort of responses."

Teachers at both schools use text in a variety of ways, as authentic text and as school-only text. If teachers at South Hill use text in their instruction exactly as determined or mandated by the district without

Reading and Writing Support

Every teacher in this study talks about how reading and writing is involved in their teaching. In terms of initiatives or mandates, teachers' stories center on the reading and writing abilities of their students and their overall commitment to literacy. As previously discussed, both schools are involved in literacy initiatives. Five of the teachers in this study point to the lower reading and writing abilities of their students as an issue, one that drives their decision-making in regard to literacy practices. For South Hill the overall lower reading and writing abilities of their students also steer the literacy initiatives and mandates put forth by the district.

It has been established by teachers' comments and by district state assessment scores that South Hill has more students with lower reading and writing abilities than other schools in nearby suburbs. They did not meet their school reading, writing, science, or social studies objectives. Additionally, they did not meet state AYP (Adequate Yearly Progress) and are in AYP Phase 4. A major academic goal for teachers at South Hill is to improve their students' reading and writing and they have set specific school objectives to try to accomplish that goal. Russ recognizes the ability of students at South Hill and notices even of his Honors U.S. History students "... their writing skills are not obviously what they could be in an honors class ... I don't even know in 10th grade ... how good of a paper any 10th grader could write ... demand in an honors type class. But you know, a lot of times our kids expressing themselves, they have trouble." Russ describes his practice in terms of getting his students to

write, especially in terms of preparing them for the state test. He frequently uses a newspaper with his students to get them to reflect on current events. His students collaborate in small groups while looking through a newspaper to find an article. The article must be "... a real article ... this is a state assessment skill, obviously ... give me the who, what, where, when and why of what's going on in the article and then what's your opinion about it ... I try to do that once a month."

Russ' use of the newspaper is an example of authentic text and if, as he suggests, he allows students autonomy in the choice of article they read and if the article is about something happening in their community or something that might affect their lives somehow this would be an example of an authentic reading task. However, the purpose of the task of getting his students to write, answering the *who, what, where, when, and why* questions for a grade, and preparing them for the state test renders it a school-only task (Purcell-Gates, 2002). At times, teachers use authentic texts for school-only purposes.

Cam reported one of the biggest problems that students at South Hill experience when taking state tests; they often do not provide a counter argument in their written responses. Cam's lower track U.S. History students are no exception. He sees evidence of this not only on the state tests, but on written answers to similar types of questions in his own class. If students do not provide "... a counter argument to their opponent ... if you don't do that on the state test or even in the district writing prompts, you only get like half credit. You have to ... address your opponent. And students just don't get that. They can build an

argument. They can use supporting evidence, but they just always forget that piece and I'm always on them. Don't forget to address your opponent."

Because West Park meets state AYP every year, the issue becomes the challenge of continually trying to push to the next state AYP level which means moving all students forward in reading and writing. West Park is focused on reading right now through their vocabulary and reading initiative. Teachers are not required to participate in the initiative, but it is suggested that they infuse the practices into their daily lessons. Even though West Park is highly involved in school-wide literacy initiatives, Hal explains that teachers there have choices about the literacy practices they use.

> How we go about it in our classroom is a little bit up to our choice ... except for SSR. SSR, everybody does it at the same time every single day. We also have words of the week that we're posting and working on in our classroom. But we have different review strategies, different vocabulary building strategies that we're working on and we can choose how we use them. But we have professional development where they offer some of those ideas to all of us.

When asked about how reading is involved in his teaching, Hal recounted a story about how he came to use read-alouds with his students. Hal's students represent a wide range of reading abilities, but since his lower track chemistry class is combined with special education students, many of his students have reading difficulties. Hal was first introduced to the practice of reading aloud to his students by Doug Fisher, who came to West Park to kick-off their literacy initiatives a couple of years ago. He provided reading professional development for the entire staff. Doug modeled read-alouds and encouraged teachers to read

to their students on a daily basis. After experimenting with this technique he explains his reaction to the idea of reading to his chemistry students.

> ... and it was unbelievable. My first hour class, I said I'm gonna read to them ... and my last hour class, I said I'm not reading to them. It was a total difference in behavior. Then I switched it the other day, I didn't read to 1st hour class ... disaster. Read to the last hour class, better ...it's like a pin drop comparison, night and day. It's unbelievable.

Teachers who talked about doing read-alouds with their students described reading out loud as a way to deliver content. Instances where reading aloud was mentioned or described tended to be indicative of reading activities instead of instruction of cognitive strategies. Most often teachers read aloud to their students because their students did not read or had difficulty reading the text independently. I did not observe instances of teachers thinking aloud for their students as they read. Students need mental models of the cognitive processes one uses to understand text so they understand how and when to use a cognitive process and the purpose for using it. They need to develop a reader's tool box of cognitive strategies that they can learn and use independently, strategies they can select and implement as needed to understand text. For these teachers to change their instruction to incorporate cognitive strategy instruction they will likely need support (Pressley, 2002).

Further, following transactional theory (Rosenblatt, 1978), when teachers read aloud to their students exclusively, they remove the opportunity for their students to experience the event of reading. They prevent students from interacting with text, from involving their prior knowledge in ways that allow them to independently reach an understanding (Rosenblatt, 1978).

Teachers were asked about how writing is involved in their teaching, Spence reported that he has his student write for two reasons. First, he acknowledges the poor writing abilities of his U.S. History special education class. His students write at least once a week to answer questions and to review subject matter in short essays. He attributes his students' poor writing to their habit of "... typing everything ... any time we do a report or they type something up, I always make them have a hand written rough draft ... it cuts down on the cut and paste plagiarizing ..." Second, Spence's objective is to give his students practice in writing "... obviously because of the standardized test that they have to take where there's a writing portion involved. And at least this way when they're writing, I'll be able to help them out and give some suggestions ..."

Tensions – Mandates

Tensions exist among teachers, particularly at the urban school where teachers see themselves as restricted by the demands of the federal, state, district, or school mandates. For these teachers there seems to be a mismatch between the mandates they must uphold and the types of students they teach. This mismatch does not exist in the suburban schools in the same intensity. The urban teachers seemingly fight an uphill battle to improve their reading and writing and because of this struggle they teach under tighter restrictions than their counterparts at West Park. Teachers at South Hill painted a picture of frustration within a set of interwoven factors. Teachers at the urban school are caught in a catch-22 situation where mandates even constrain other mandates.

Tensions derive from seemingly impossible situations for teachers who must navigate through a vicious circle of mandates. In the chain of mandates from federal to state to district, teachers are caught between the demand and the actual classroom situation. Tensions stemming from textbook and curricular mandates are often pitted against struggling reader issues and time issues. What is most salable, however, is that the urban teachers still find ways to honor their beliefs about teaching and learning even in the face of these tensions.

At South Hill Seth talks about how he copes with these tensions by trusting his own judgment about teaching his Honors and lower track biology students regarding the activities in which he involves them.

> I told you at the beginning that we're supposed to teach everything in this book and not deviate ... part of the problem is we have this limited timeframe to get through these ... chapters. I can spend two months talking about genetics, mitosis, meiosis, DNA. We have two and a half weeks ... then there's this common assessment. And if I don't get through it, if I don't rush through it, the kids are screwed on that common assessment. So ... I substitute wherever I can for the activities that are in here. If I know of a better one, I'm gonna do that. The engagement activity that was in this chapter, I did something different because I thought I had a better activity that was engaging. So ... I would say I do a lot of stuff outside of this book.

Textbook Mandate. Teachers are constrained by their textbooks at South Hill. Teachers are told to teach the lessons as they are prescribed in the textbook. The purpose of this mandate is to meet another mandate, the common assessments. The district wants every student to be prepared for the common assessments. For example, Seth reports having to teach every biology lesson exactly as designed by the text. Since the students at South Hill must take common assessments at the end of every year, Seth worries "... if I deviate even

a little bit, I could be causing them ... to have lower test scores." The tension for Seth is obvious; he is conflicted about what to do, teach the text exactly as the district espouses or follow his own beliefs about teaching and learning. He seems to have found a middle ground of sorts by substituting his own activities in place of the text's whenever possible.

The mismatch between this mandate and what happens in the classroom is an issue in terms of struggling readers. The text is mandated, but the struggling readers cannot read the book. This affects how teachers teach. If teachers must teach the curriculum exactly from the textbook, but students cannot read the text, teachers are caught in the quagmire of having to make decisions about using the lessons and practices dictated by the text or switching to practices they know will help students grasp the content, even if these teaching practices may not follow the lessons or practices from the book. Teachers choose to do other things that will move them to the same place of covering the content for the common assessment or covering the state curriculum.

Time Issue. In many instances certain mandates cause tensions around the issue of time. Not only is covering the mandated curriculum a worry for teachers at South Hill, but preparing students for the state assessment adds to the pressure. Cam recounts his time until the "...middle of October reviewing stuff, trying to get them ready for the state tests." However, Cam predicts the problem lies in the students understanding of the types of questions on the state test. His *History Alive* textbook has similar types of questions that the students

practice, but "... a lot of kids don't do well on the state test ... not that they don't know the material ... it's that they don't understand the doggone questions. But we don't have enough time to address that. We've got all this content we gotta cover. You know, how am I supposed to practice multiple choice questions all the time?" And Cam says that's a real problem because his students struggle with reading and ...

> ... this year ... the district is requiring us to use the *History Alive* tests ... a lot of the questions are worded using big words. I don't know how else to say it ... big, big words ... and you know, vocabulary is one thing if it's something we've covered, but if it's something that's not necessarily vocabulary ...For instance, this last unit on World War I, we did review, we had a game that we did and we were so confident the kids were gonna do really good on this test. Horrible. High score, 72. And I know why ... I went back ... and I started looking at the questions that came off *History Alive* and I'm like, well, no wonder they got that wrong. It's worded horribly. Of course, they're not gonna understand what the question's ask ...

Because he consumes so much time prepping students for the state tests Cam has less time to cover his mandated curriculum which is preparing his students for the district's common assessments. In that sense meeting one mandate interferes with meeting another mandate. Teachers are involved in a catch-22 situation in terms of covering all of the content that will be on the district common assessment, in the time leftover, after they prep for and administer the state assessments.

Struggling readers. As typical for high poverty urban schools many of the students at South Hill read below grade level. This creates tension among teachers who must teach from a textbook that many of their students cannot read. The teachers are involved in literacy initiatives that ask them to use certain reading and writing strategies with their students. The mandate of covering the

curriculum does not match with the literacy initiatives asked of teachers. For example, in his Honors U.S. History class, Russ has compensated for the fact that "... we don't have enough time to stop and teach the kids really how to read because ... we're being told to cover more and more ... I only use this [textbook] ... as the foundation ... and then I fill in everything else because I can't count on the fact that the kids know how to read, but I cannot stop and teach them to read because I just need to make sure that I covered the statewide benchmarks ... "

Russ finds his own way to meet the mandates of the district and state by veering from the text. He does not have his students bring their texts everyday because "... some of them don't have their books, won't bring their books, don't know how to read. The book is not always good for every student." Russ still needs to teach history, though, and teaches it according to his beliefs and experience about how to teach his struggling readers.

> I still have to talk about the Great Society. So that's how I handle it. Whether or not that is ... right or not by federal guidelines, I don't know, but in my 17 years' experience, that's what helps the kids the most is to get beyond their limitations and say, okay, yup, you're limited by this. You don't speak a lot of English and you don't have this, you know, and you don't have your book today, but you know what? We're still gonna learn about the Great Society. Even though we have these limitations ...

When faced with this problem teachers tended to follow their beliefs about teaching and learning. The strength of their beliefs is not squashed by these mandates as teachers find ways to honor their beliefs about teaching and learning by making choices, decisions, and doing what they believe is right within these boundaries.

Impressions about Literacy

When you consider student populations at both schools it is easy to understand why high poverty urban area teachers suffer significant tensions matching mandates to practice. In fact, the urban teachers in this study must deal with multiple mandates, all intended to help improve the level of literacy of their students. In an attempt to raise the literacy levels of the students at South Hill they are under multiple mandates that get in the way of each other and make it difficult for teachers to meet each one. West Park consistently meets their objectives. So, the same level of tension does not exist for both schools.

Tensions exist at some level at both schools, but every urban teacher, including the Honors teachers, talked about multiple mandates in terms of the reading and writing difficulties of their students. Even though the lower track teachers at West Park talked about meeting the state mandates by preparing their students for the these tests, it was not with the same sense of urgency as the teachers at South Hill.

Teachers at South Hill are handling the mandated textbook issue by substituting activities and adding content to lessons when the mandated text is deemed by them to be insufficient or inaccurate. However, the larger issue here is that students at the urban school are not meeting state, district, or school objectives. Due to the generally lower reading scores and low achievement on state tests at South Hill, teachers work under stricter state guidelines. Therefore, there is a perceived lack of time to teach content and prepare students for tests. Priorities might be altered to better allocate time.

If improving students' reading and writing scores is a primary objective, as it is in this district, more time should be allocated on teaching teachers how to teach cognitive strategies while covering their curriculum. Less time might be needed for prepping for state tests. Few teachers teach their students to be strategic readers of their content (Pressley, 2002).

Little cognitive strategy instruction was observed in either school among teachers of the lower readers. Most often teachers read to their students when text was difficult or led round robin type reading where students were selected randomly or by other students (popcorn reading) to read a section of text. I did not observe teachers explaining the purpose or use of a strategy, modeling the strategy or guided the students' use of the strategy over time (Conley, 2008). Teachers need support to learn how to teach their students to be strategic readers and writers (Pressley, 2002).

Goal #2 – Applying or Connecting Learning to the World

A second goal voiced by teachers in this study emphasizes a connection between learning and the world. Teachers talked about this goal on two levels. First, they want students to see how their knowledge and understanding connect to the real world. Second, beyond simply acquiring knowledge and then comprehending it, teachers talked about their students doing something with their learning by applying it somewhere, in other classes and outside of school. Each goal level demands a different level of thinking. On one level, teachers who want students to see how their learning and understanding connect to the world might use scenarios and hypothetical situations to get students to think about their

learning. Other teachers might actually involve students in the application of their learning students participate in real world tasks and situations at school.

Further, teachers describe making connections or applying to the world as something students would do in the future, outside of school, by participating in real world situations on their own. Teachers describe future goals for students where students may draw upon the knowledge, understanding, and skills they learned in school to solve a problem, hold, a conversation, or negotiate perspectives, or relate past world events to decisions about their current lives.

When teachers voiced this goal, they emphasized application of knowledge as something they wanted their students to be able to do. However, teachers described levels of thinking that go beyond knowledge application in their interviews. For this reason, I refer to the Bloom's Taxonomy (1956) of cognitive categories of thinking as a guide to teacher descriptions. I wanted to be able to determine what categories teachers' talk actually referred to when using certain words to describe the level of thinking they wanted for their students. Knowledge application is an accepted higher cognitive process using certain higher-level literacy skills to operationalize learning (Bloom, 1956). Students, however, need to learn the terminology, facts, how to organize the facts, and the specific theories and principles of subject area domains in order to comprehend the content they are learning and then apply that knowledge elsewhere. Using Bloom's Taxonomy as a guide helps me to separate this goal into two categories of thinking, using knowledge and understanding to see the connections to the world and the application of that knowledge and understanding.

For example, some teachers who talked about applying knowledge want their students to be able to compare and contrast which requires going beyond acquiring knowledge and understanding it to applying it in a concrete situation, and then analyze it against a similar situation. Further, some teachers want their students to communicate with others in collaborative situations. In order to reach that level of literacy one would need to carry the previous analysis or prior knowledge to a higher level to create a synthesis of new thinking. Finally, some teachers talked about their students defending their viewpoints or opinions. In order for students to carry out that cognitive process, they need to be able to judge the value of their new creation. In terms of this study, I take this to mean that when teachers talk about wanting their students to apply their learning they are generally talking about levels of thinking beyond basic knowledge and understanding.

Teachers describe this goal around five distinct, but interrelated categories of thinking including learning *to be productive members of society, to understand the world from different perspectives, to hold real world conversations with others, to see the big picture of how real events are related, and to problem solve*. I originally did not include problem solving in the discussion about this goal because it seemed to be more about acquiring knowledge, which matched the third goal better. However, I altered my thinking as I reread teachers' responses about what it means to be literate in science. Two science teachers who talked about problem-solving as a goal described it in more detail, later in their

interviews. They described being literate in science as someone who could problem-solve and apply that learning somewhere in the real world.

All four West Park teachers talked about connecting to the world in some way as either their only goal or primary goal for students. Conversely, the three South Hill teachers had low or no focus on connecting to real world issues. I organize teachers' stories according to the point at which they mentioned the goal in the interview (see Table 4). Again, I took into account whether teachers talked about connecting to the world as their only goal to mean *very high focus*, primary goal to mean *high focus*, mentioned last as *low focus*, and not talked about as *no focus*. Also, I use responses from other questions in the interview to help determine and corroborate teachers' goals, for example, I asked teachers what it means to be literate in science and social studies. In addition, I asked them to describe a good science or social studies teacher.

Understand the world from different perspectives. Only one of the seven participants in this study mentioned understanding the world from different perspectives as an instructional goal. However, I included two other teachers, who did not mention perspective taking within their instructional goal responses, but who described a lesson at a later point in their interviews where their students' were involved in taking perspectives.

Being able to understand that different world-views exist requires knowledge and comprehension. To be able to exercise an opinion about different world views and defend that position in conversation or in writing demands one to

draw on personal values and opinions, defend, or judge the value of something. Understanding world-views demands one to be able to draw on personal values

Table 4
Real World Connections or Application

Goals/Tension **Suburban** **Urban**

Real World Connections	*Social Studies*	*Science*	*Social Studies*	*Science*
Very High Focus (only goal stated)	Dave – UT			
High Focus (stated first)	Spence – LT	Cate – UT Hal – LT		
Low Focus (stated last)			Russ – UT	Seth - LT
No Focus (not stated)			Cam – LT Russ – UT	

UT=Upper Track
LT=Lower Track

and opinions, or judge the value of or defend something. The following teachers ask students to engage in perspective taking in distinctive ways.

Very high focus – West Park. Dave talks about only one instructional goal for his Humanities students, understanding the world from different perspectives. This goal fits the format and content of the Humanities class since the students' curriculum is delivered through novels and historical books rather than a traditional textbook. The format of the class is lecture and discussion with some persuasive writing involved.

There is a high demand on reading comprehension and amount of reading in this class and since students are expected to be critical thinkers, they must apply for admission. Admission to Humanities depends on two teacher recommendations, U.S. History grade, English 10 Grade, and comprehension and vocabulary scores on the Gates-MacGinitie Reading Test. The Humanities class is a "... high intensity reading class" with a huge reading demand "... you're talking 60, 70 pages a day." Students in this class are required to "... communicate and speak out loud and ...defend your opinion ... looking at another perspective ... and then defending what you say ..."

Students read about different periods in history around six interdependent themes; one is culture. Dave's objective is to "get these students to see the world from a different perspective ... and we constantly, constantly reinforce that. We're not telling them that they have to change their opinion ... but we are saying we want you to understand there are 2, 3, 10 sides to everything." The students in Humanities read a book called *Things Fall Apart,* which is about colonialism in

Africa and "it's from the African's perspective on what the colonists did to their culture ... and you know ... powerful." *Things Fall Apart* is the final book taught in the year because "our kids would not be ready to understand at the beginning of the year what that's really truly like ... especially in this community which is predominantly Christian-right, you know... middle class community." This teacher pushes his students to understand perspectives beyond their own existence. Dave wants his students to understand the viewpoints of others, but then pushes them further, to form opinions and defend them. This requires students to draw on a much higher level of thinking skills than accumulating knowledge and understanding it.

> ... not that there's anything wrong with religion or anything like that, but they [students] come from a background where ... you spread Christianity and that's a good thing to do and I wouldn't say that it's not a good thing to do, but there is another side to spreading Christianity. That's their perspective ... we just want you to realize what it might be like to those people ... and the bad guys are sometimes us ... or the missionaries. And I'm not saying that they're bad people. And we make sure that we understand that concept. There's just another side. We want you to realize both sides. All sides, if you can.

Dave's selection of text for his students is thoughtful and purposeful in terms of the historical periods and themes taught. He described another book his students read called *Oliver Wizwell*, which is based on the American Revolution, "but it's told from a Loyalist perspective ... not a rebel perspective." He explains that in our history books, "... George Washington, Adams and Hancock are wonderful, wonderful people who've done great things ... in this book, they're the bad guys." Students must reframe their thinking about history to grasp this new

view of these American historical icons; reframing thinking demands much higher levels of thinking.

In addition, two teachers from South Hill told stories about their teaching practice around perspective taking with their students. Even though it was not one of their spoken goals, it warrants inclusion here.

Cam talked about making connections to the world, not as a specific instructional goal, but as something he would like to do, if he had time, after covering the content and teaching reading and writing. However, he described an activity he carried out with his lower track U.S. History students from the *History Alive* textbook that he especially likes called *Visual Discoveries*. This particular Visual Discovery activity asked student to think about different perspectives.

To begin class, Cam usually has a warm-up activity on an overhead transparency to foreshadow a lesson and push students to access their prior knowledge or to review previous lessons. To prepare students for new learning Cam uses Visual Discoveries where students might look at a picture on the transparency or from the text and be directed to think about and explain "... how, your emotions, how it makes you feel or whatever ... how you would feel being put in that position. Or ... put yourself in this position, hypothetical situation or something. Have them write."

Cam is asking his students to make sense of the picture and then explain it, which requires students to think at the knowledge and comprehension cognitive levels. When he asks them how they would feel if they were in the same position students he is asking them to apply their knowledge.

Russ turns perspective taking around a bit by frequently asking his Honors U.S. History students to think about ideas or historical events in terms of what they might have done in the same or similar situation. He was teaching a lesson about James Buchanan "... and the kids are like I have no idea who James Buchanan is. Why should I care who James Buchanan is? And ... okay ... now, let's talk about if you had been president in 1860, the year before the Civil War started ... would you have done anything until Lincoln took office ... It doesn't work with every kid, but if you can ... say how would you have done this ..."

Although Russ did not specifically mention perspective taking as a goal in our interview, the implication is clear in his response to the question about what makes someone literate in social studies. Russ described a very high level of thinking for his students. Russ would like his students to move from knowledge and understanding to higher types of thinking that involve having an opinion and defending it.

> Most of them [students] will never be in a position to be part of a movement like the Civil Rights movement ... now I can ask them ... would you have marched in the ... Selma march with Dr. King with rocks being thrown at you and would you have been able to just march straight forward and not get out of line and punch the crap out of somebody? ... but most of them will never get to experience that ... what I can have them do is be literate in terms of their knowledge base, be able to say, you know what? I have an opinion about this. And be able to back it up. So, that, to me, is what I try to get them to do.

Problem solving. I included this category as a representation of connecting to the real world based on further explanation later in the interview where teachers defined problem solving in terms of applying a problem to the real world. Two teachers talked about problem solving in this way. Problem

solving encompasses more than one higher-level cognitive process, for example, taking apart or analyzing an issue or problem, hypothesizing about it, rearranging or reconstructing, or recreating or reframing it in a new way. So, even problem solving is a more complex thinking skill than simply acquiring knowledge, comprehending it, or even applying it to other situations.

High focus – West Park. Cate's primary instructional goal is for her AP Physics students to be successful learners; she equates successful learning with being able to solve problems. Cate understands that not all of her students will "... walk out of here and become ... junior scientists and all wanta go into medicine or engineering, but I try to teach them skills that they can apply to other classes ... problem solving is something that I really try for them ... to work on." Cate's goal statement implies a connection between problem solving and the real world, but I looked further for corroboration that Cate meant something beyond just figuring the physics math problems in class.

When I asked Cate, later in the interview, what it means to be literate in science, she offered another glimpse of her interpretation of problem solving. She explained that "... if you're literate in science, I kind of think of it as ... being proficient in science and being able to think about things scientifically, not just like a science problem you're given in physics class, but to go into the real world and to approach a problem and no matter where you, kind of think through it in a scientific way." Cate spends much of her time thinking through problems in scientific ways for and with her students.

Low focus – South Hill. Seth implies connecting to the world as a goal, but its import follows that of meeting mandates. Seth wants his biology (Honors and lower track) students to be able to understand and figure out things "and want to use the knowledge that they learned in here to build on that knowledge." I take this statement to mean building on knowledge outside of Seth's class, but I looked further in Seth's interview to find corroborating data.

He defined science literacy as someone who "... can take knowledge that they know and use that to synthesize new knowledge ... or they can use that new knowledge to apply ... they can apply that knowledge somewhere ... the problem solving is a big thing. I think if they can use what they know about solving one problem to solve another problem and then build information from that ... I think they would be science literate. His definition of science literacy provides more clarity in terms of his goal of applying science knowledge to solve problems somewhere in the world. He is describing a much higher-level cognitive process beyond simply acquiring learning that includes synthesizing new knowledge as well as building on previously held knowledge.

Productive members of society. Functioning as productive members of society is the primary goal for one teacher. For two other teachers this goal is implied in their comments about being literate in social studies. Further, one additional teacher who did not mention being productive in society in his instructional goals talked about the possibility of it, but he feels too constrained by time to implement it. Teachers in this study talk about being productive in

society in multiple ways as voters, informed citizens, literate citizens, critical thinkers in real-life situations, and being prepared to vote.

High focus – West Park. For example, Hal's primary instructional goal for his lower track chemistry students is to be literate citizens with enough good scientific information to be critical thinkers in real life situations and be able to

> ... look at science in terms of when they're voters because the majority of my kids will not be scientists ... less than 10% of the kids that take science in high school will actually have a career related to science when they graduate ... so why do we teach it? Well, I think for them to be informed citizens and informed voters ... when you talk about stem cell research, is it good or bad, who do you vote for ...what is your belief system? And even just simple things ... I mean, we've talked about putting nitrogen in your tires. The air is 78% nitrogen. You're gonna pay $30 when you could pay 50 cents ... to put air in your tires? It's ridiculous.

Hal also talked about world connections as he described what it means to be literate in science. He describes how connected science knowledge and science application is to literacy. Hal refers back to his original goal in describing science literacy.

> I think it goes back to my original goal ... to be an informed citizen, to be able to read the newspaper, vote, watch TV and understand ... what's real and what's not. To be informed about stem cell research. What do you believe about stem cell research? Is that a moral issue or is it not a moral issue? Do you do stem cell research with embryos or do you do it from the blood in an umbilical cord or are there different ways that we can go about this? That gets around what your belief system is.

Hal wants his students to operationalize previously learned knowledge by applying it to other situations. In the scenario of putting nitrogen in your tires, for example, students would be applying their knowledge because this cognitive level indicates a reasonable conclusion ... to put air in your tires is reasonable; it will save you money. On the other hand, the scenario of being an informed voter

thinking about stem cell research indicates a decision based on personal values. This would move the level of thinking higher because Hal also wants his students to use that knowledge in ways that require them to have opinions and make personal decisions like when voting.

Low focus – Central Hill. Russ talked about the district's mission statement to "... produce productive members of our society." So, beyond preparing for tests and making sure students graduate, Russ views his job as one of creating an interest in real world issues among his Honors U. S. History students. He goal for them is to hold real world conversations with others.

> ... as an educator ... what I try to do in history class ... certainly my goal is to spark the kids' interest in something. I do not expect them all to become ... practicing historians down at the ... Grand Rapids Museum. But if I can at least get them so that they can have a conversation about something ... I think then I've done my job ...

Russ aims for his students to engage in and maintain conversations, a higher cognitive process that requires one to apply prior knowledge to new learning to create new thinking.

Seeing the big picture / how events are related. Two teachers talked about this instructional goal. They want their students to have some understanding about how events in history connect to current events today. To understand relationships one must application of knowledge and understanding are required from one issue or circumstance to another.

High focus – West Park. Spence views his primary job as helping his lower track U. S. History students to see the big picture, that events are related to one another. Spence would like his students to see that "things happen for a

reason ... and a lot of times with history ... kids get bogged down with ... dates and numbers and ... for them to see the big picture and ... to see the effects." For example, "... right now we're talking about ... how prohibition actually probably hurt the United States even though it was ... a noble experiment to try to help the United States ... why did that happen?"

Answering the whys in history is significant to this teacher's goals for his students. His goals are generic to all of the social studies classes he teaches, for instance, "with economics and civics classes, really try to tie it in to what's going on today in the world. Like, we're doing this stock thing right now and ... this semester, stocks haven't been real good ... why is that ... is that leading to a recession in the United States? Or is inflation the cause? So ... that's my overall main goal and objective."

Further, when I asked Spence what it means to be literate in social studies, he corroborated his primary goal of relating events in history. According to Spence, being literate in social studies means "... you have to have an understanding ... of the past ... be able to read a current news article and know what's going on, you know, in the world today."

Through questioning, Spence sets the stage for his students to answer the whys in history and relate passed events to current news. Spence pushes his students to use the knowledge and understanding of past events when applying their learning to the world and their current situations.

No focus – South Hill. Russ also wants his students to connect the past to their lives today. He sees his job as helping students to make those connections.

Later in our interview, Russ described how a good social studies teacher "... somehow relates it from the dull old textbook to something that's going on today ..."

> ... if you can't tell me about the Detroit Tigers, then I'm not so sure how smart you are ... if all you can talk about is the sports page and you cannot tell me ... why it was important or not important that Hillary Clinton won the Ohio primary last night, then I don't necessarily think you're very smart either. And so to me, it's that well roundedness. It's ... not only current events, but can you tell me today how the 5th amendment still impacts people today. And so to me ... that's the goal. The goal is not to teach them the dates and ... the people ... because they are dead ...

Russ sees his job as stimulating his students to go beyond the knowledge level to be able to use their knowledge at higher levels of thinking including relating the knowledge to events that affect them today.

Practices and Purposes

Teachers in this study use a variety of practices to meet their instructional goals of connecting to the real world. However, teachers rarely talked about or described practices that helped students apply their learning in the world. More often, teachers described practices where students accumulated knowledge and understanding to see connections, but did not actually describe applying their learning.

I identified practices from observations I made in the classroom, from interview conversations I had with teachers, and from task examples collected from the teachers and students. I included all practices where I could see evidence of connections being made to the real world or where students were applying there learning somewhere. I discuss the practices in terms of *hands on activities, discussing and storytelling, questioning, problem-solving, responding to*

statements, media, and reading and writing. I also identify the literacy skill involved to connect or apply to the world. For each of these categories I tell the stories of the teachers who used these practices.

Hands on activities. I define hands on activities as those where students are physically engaged in the learning process. Students participated in hands on activities to connect to the real world in two classrooms. I observed Seth involve his lower and upper track biology students in active physical involvement in their learning. In the case of Hal I report Hal's description of activities he uses with his students on a regular basis.

First, at South Hill, Seth describes how he teaches his upper and lower track biology classes. When asked how he teaches his subject, he described it is "... heavy on the inquiry ... because it makes the learning more meaningful ... if the kids are engaged in it and they can ... take ownership over it ... it makes it so that they're motivated to learn. They're not just learning it because they're sitting in this class and they have to."

On this particular day, Seth taught a lesson on genotype and phenotype to. The overarching lesson topic was genetics and on this particular day the students were working on dominant and recessive traits. The students in this class always read a section from the textbook before participating in the activities.

I recount parts of a lesson I observed in his lower track class. Seth explained to the students that "... we're going to be working on today is genetic mutation." This activity is extending or elaborating on their knowledge as one of

the 5E lesson planning stages. Seth announces "... we're going to work on this histogram." He passes out colored 3x4 index cards, pink for girls and blue for boys, and tape for the back of each card. Students help by passing around tape. Seth pulls out yardsticks so that pairs of students can measure their height and round it to the nearest centimeter.

On the blackboard there are two columns, one for the girls' pink cards and the other for the boys' blue cards. Students are directed to write their heights on the cards and come up to the board and tape them on the histogram. The pink cards were taped in the XX column and the boys cards were taped in the XY column. Then Seth directs the students to page 441 of their textbook and a student begins to read aloud. Seth stops and talks about the "... two different histograms ... two types of gender ... many different heights ..." The students begin answering questions A through G from their textbook about the histograms. Seth wants students to "... take a few minutes to do D through G and then we're going to stop and talk about them." As Seth is circulating the room students are reading and writing, answering questions from the textbook.

Seth brings the class back together and begins questioning "... what determines your gender ... you're either this (pointing to the histogram on the board) or this ... what is responsible for the shape of this (histogram) ... what gives this graph it's shape ... how many possibilities are there for height?" Seth continues "... so there's this huge variation for height ... so this tells us that there's more than one gene that codes for height ..." Seth connects this learning to students' prior knowledge about their school lives "... when you look around

the school do you see a lot of people who are seven foot ... no you guys are lying ... I don't think there are a lot of people who are four foot or seven foot." Seth explains that average height is in the middle of the graph "... we get what we call a bell curve."

He also connects to other things the students know by asking "... what else would give us a histogram like this (with two distinct columns)?" Students answer "... ear lobes, roll your tongue or can't, butt chin, thumb bent, smell asparagus pea or don't." Seth acknowledges their correct answers, "...ya, these are controlled by one gene." As Seth wraps-up the lesson he assigns the students to read two essays in their textbook. Since his primary goal is to meet the district and state mandates, he also cues the students to the district common assessments in connection to this lesson "... you need to know these [essays] to answer questions on the district achievement test."

Here Seth connects students to the real world by connecting to their prior knowledge. He builds more knowledge by using examples that connect to his students. I observed Seth's students involved in higher-level cognitive processes. They applied previously learned knowledge from their reading to the histogram activity. Students categorized their 3x5 cards into columns, compared the two columns and solved a problem for height.

At West Park, Hal also regularly involves his lower track chemistry students in hands on activities. When he teaches his subject area, Hal includes "... an active learning component ... with labs." He includes some inquiry "... that we do, but there's also some practice ... they have notes and practice ... a lot of

group work." Hal described several of these lessons in our interview session. Since Hal's students are lower track and have a wide range of reading abilities and attitudes, he motivates his students by involving them in activities that connect to their lives. Hal's primary goal for his students is real world connections.

Hal describes how he tries to bring real life into the classroom and in a way that gets his students to question science, to make sure they are using good science to interpret the world, make decisions, and function as informed consumers.

> ... people sell magnets to go in your shoes; they say they'll increase circulation. And I have them [students] bend over and stretch once and then I rub the magnet on their back. They can bend over and stretch more the second time. They're all amazed. Well, it's just a piece of metal I have. It's not even a magnet ... could've rubbed a potholder on their back because they stretch once, they'll stretch farther the second time. There's all these gimmicks out there ... weight loss diet plans. They have to be informed citizens to know ... some things are true and some things are not true. And all these ads have some science, but it's not good science ... and so I guess that would be my major goal for this class.

Hal involves his students in activities to connect their thinking to real life decisions they [students] might make in the future and where a certain level of science knowledge will be needed. His goal is to provide correct science knowledge to his students so they can be literate consumers in the real world "... they have to have an understanding of science, number one. They have to also be informed in terms of just consumer products and what they're gonna buy, what they're gonna use, and those things. So I think that's important."

Hal involves his students in tasks that support his instructional goal. I observed Hal's students working on the culminating assignment for the unit on

the periodic table in the media center computer lab. Hal handed his students a template of a tri-fold brochure. The directions for the task were printed on the brochure. He also talked to the students about the task and answered questions. The task involved selecting an element from the periodic table and researching this element to find out specific information. Students were to create an element brochure to advertise their chosen element. Included in the information that students needed to search for was its common name and real world uses of this element.

I observed two classes that met in the media center computer lab. Students met in the lab to complete this task of preparing a tri-fold brochure on an element of their choice. Students were highly engaged searching the web for information about their elements. They were given a template that described this task. Students were asked to create a shell diagram, information about their element including mass, number, who discovered it, when it was discovered, how it was named, melting point, and boiling point. The title page should include the element's name and symbol. To connect to the real world students were required to include uses of the element and a picture. This task included research on the part of the student and creativity. These elements became more familiar and real to the students as they connect to the element's real world uses.

To complete this task, students rely on their learning from class demonstrations, lectures, and read-alouds. Students work in unit packets where they take notes, work practice problems, and define concepts. Students take notes, practice solving problems, and write summaries of their thinking. After

practicing, Hal asks individual students to come to the board to figure out electron configurations and orbital diagrams on the whiteboard. So, students draw on their knowledge and understanding, apply this knowledge to practice solving problems, break down the components in diagrams and compose or create a brochure to connect to real life uses of their element.

Also, Hal connected to the real world on the knowledge and understanding level by including a section in the periodic table unit packet entitled *Real World Context*. Hal listed several interesting uses of elements, for example:

1. Plastic and glass are used as electrical insulators for power lines.
2. Photochronic glasses (transition lenses in eyeglasses) are made by adding silver ions to the glass. The darkening is the result of the silver ions (Ag+) converting to metallic silver (Ag) by picking up an electron. This color is lost again in the dark.
3. Today's sport drinks are packed with electrolytes (ions), potassium (K+), calcium ($Ca^{2}+$), and sodium (Na+).

Discussion/Storytelling. Teachers connect to real world through discussion. Some of the teachers in this study use lecture and discussion within their teaching practices. They tell stories to share experiences, to illustrate a concept, to relate an event in history, to embellish historical biographies, to connect to their students' lives, and most often to motivate or engage their students in learning. For the purpose of this paper I recount the times I observed or heard stories or snippets of information where a teacher stopped to insert an anecdote about a person, personal story, or account of an event into their lecture that connected students to the real world. One teacher even draws pictures on

the board to illustrate his stories. Three of the teachers in this study told stories in some fashion to connect their students with the real world.

Russ is adamant about how he teaches his subject area; he "... never did the same thing two days in a row ...I try to do a variety of things." Russ begins every unit teaching "... terms, concepts, people, and vocabulary." His students do not bring their textbooks on a regular basis. He shows video clips to provide background knowledge and "... if I can get you to connect to anything, it's what would you have experienced if you were at that spot." Further, Russ does a lot of "... group work with current events because to me, current events is all about discussion ... so many things in our world lend itself beautifully ... certainly right now we have the election so that will be a big thing now and in the fall."

At South Hill, Russ tells stories to his Honors U.S. History class about historical events during his lectures and discussions. I observed one such lecture where Russ' students were involved in copying notes as Russ wrote an outline of his lecture on the blackboard. Russ believes that his students are too young to really understand the scope of some of the topics he covers because they don't have the experiences ...

> ... or their ability to think about things in 8th grade in terms of the Bill of Rights or ... life, liberty and the pursuit of happiness. And I'm not even saying in 10th grade, they're really adept at that ... there are some things you can do to sort of bring that home to them a little bit, but it is so difficult when you're 12 or 13 or 14 to say I really believe in that 2nd amendment. Or I really understand what the rights of search and seizure on the 6th amendment. That just doesn't make sense to them.

Russ provides his students the background knowledge they need to make understand and make connections to their lives and the world. As previously

stated, Russ uses the textbook as the skeletal foundation of his teaching, even though it is mandated. For Russ, teaching history in a way that makes sense to his students is important. Also important is covering the material to meet the district mandate of common assessments. So, Russ becomes a storyteller when he lectures. On the day that I observed Russ, he was lecturing and writing notes on the board about John F. Kennedy's assassination. Russ stops writing notes on the board periodically and elaborates on the notes by telling the story of Kennedy's assassination. He talks about the police fanning out to talk to people about what they saw and heard. Russ paints a picture of the scene "... as they were coming down the parade route, they passed the Texas school book depository, where Lee Harvey Oswald was looking out the 6th floor window ... Kennedy is shot and rushed to the hospital where he dies about an hour later ..." Russ draws an elaborate picture on the board that illustrates the position of the depository in relation to the car in which President and Mrs. Kennedy were riding. As Russ continues telling the story, he connects to the real world controversies that people still talk about today around this event in history. Russ accesses his students' knowledge about the controversies. One student raised the issue of the grassy knoll. Russ pushes his students to think about the "... shots that could have come from behind the grassy knoll ... could be the echo of the shots ..."

Russ then connects to the rifle team at South Hill, "... are any of you on the rifle team ...?" He goes on to explain "... the kind of rifle that Oswald had was ... you had to aim and shoot and then pull the rifle back and do it again ... it would be impossible to aim at a moving target and fire three shots ... some military said

it was impossible ... could one person with the kind of rifle he had in 1963 get off three shots ... there was a Warren Commission who decided yes Oswald was the only shooter ... I leave that with you to see how you figure that ..."

It was funny at one point when Russ was talking about how people remember exactly where they were in times like this. Students could relate to exactly where they were on 911. Russ turned to me and asked if I was old enough to remember where I was when Kennedy was shot ..." (I was in 9th grade sitting in typing class when the announcement came over the intercom that President Kennedy had been shot, and students were immediately sent home). Russ pointed out that it was the first time for many to be glued to their TV sets watching history unfold and compared it to our connection to events like that today on TV like the war in Iraq, 911, and the Tsunami.

In this instance, students were writing notes. Students had already read a section in their books about Kennedy and had completed a task two days earlier that required students to read a selection about Kennedy and complete a crossword puzzle. Both reading tasks provided students with basic knowledge about John F. Kennedy. Russ told stories to his students to provide additional knowledge and make connections to passed events. His students were not applying knowledge in the real world; Russ was making connections for his students in this case.

On another visit to his classroom I observed Seth's Honors Biology class. On this particular day Seth was teaching a lesson on meiosis and mitosis. He wants to know if his students understand the difference between phenotype and

genotype. Seth asks his students "... what about genotype ..." A student offers "... isn't that the inside ..." Seth paints a picture for students that relates to something they know "... okay, if I'm building a house ... is it the way the house looks or the plan that represents the genotype?" Students respond "... the plan." "Right." Seth connected learning to his students' prior knowledge to help his students make meaning.

West Park teacher, Spence, teaches his subject area by incorporating technology "... because obviously that's what the kids nowadays are geared towards." He uses some of the "... traditional methods ... we'll do notes and I'll do a lecture and question and answer ... and we'll do a group reading ... work stations ... just kind of a variety of methods."

During Spence's lectures, he shares snippets about his personal life and connects to what is going on in the world today to make ideas clearer for his lower track U.S. History students. On one of the days that I observed in his classroom, Spence was teaching The New Deal. He put two columns on the whiteboard, one column for examples of capitalism and the other for socialism. Students were offering examples of each concept as Spence wrote them in the appropriate columns. Spence lectured about the 1920s when people needed help, but the government had never helped people before so Herbert Hoover created The New Deal. Spence likened it to No Child Left Behind as an "... example of when the government gets involved to play a bigger role." One student asked "Isn't socialism when everyone is equal and you can't have private ownerships?" Spence drew on how Sweden presently runs their government "No,

in Sweden ... you pay high taxes to support higher education, medical care ... major things are run and funded by the government ... for the most part you are free to pick your own occupation ... it's not like communism ... a little blend of the two."

As students complete there search for descriptions and definitions that explain the government programs of The New Deal Spence talks a lot, giving examples and scenarios, connecting to real life situations. On another day that I visited, Spence showed the movie Cinderella Man to illustrate what the depression was really like for people. Students were able to pick out examples from the movie that showed family life in the depression like three kids to one bed, late on bills, steeling food, lack of toys, ran out of credit, feeding kids first. Spence shared a snippet of his life "... how many of you guys sit down as a family and eat dinner ... I make sure my kids are done and full before I take more ..." He also connects to real life today "... one half of all mortgages were in default ..."

This activity required students think at a higher level in order to categorize their learning, but they did not apply their learning to the real world. Rather, Spence connected student learning to the real world by explaining, answering questions, and telling stories.

Questioning, problem-solving, responding to statements. All seven teachers used questioning and/or problem-solving to connect to the real world in their lessons. They used questioning in different ways, for instance, teachers formed questions orally during a discussion, as an essay question that students needed to respond to, and as part of worksheets or think sheets. I highlight six

teacher examples in this section. I combined questioning and problem-solving in this section because in many instances the questions lead to the act of solving problems. Also, study guides require students to answer questions and respond to statements.

Dave uses questioning with his Humanities students at West Park to connect to the real world as part of the reading of each novel or historical book. He expects his students to constantly be comparing what they are reading to their own lives. He asks them to understand the different perspectives of the characters or real life people who are subjects of the texts they read. Dave described a unit on world religion where he invites ...

> five or six different speakers who come in and one's a Buddhist, one's a Muslim, one's a Hindu. A Jewish rabbi comes in, a Christian perspective speaker and we talk about what it's like to be a Jew. What is it not? ... we can go into a textbook and say oh, here's the fundamental beliefs of Jews. What is it like to be a Jewish person? What is it like to be a Hindu? Especially living in West Michigan or living in this culture ... basically a Christian culture. And it's fascinating to see their eyes kinda just open up. See the world, this big ... it's huge. It's not just what West Michigan has to offer. Not that West Michigan's a bad place. We constantly do reinforce that. We're not anti West Michigan ... we're not anti-establishment. We just want you to realize there are other sides to the world.

In this instance, Dave provided his students the opportunity to apply their learning to real life within their own classroom. They were able to connect and interact with representatives of different religions, to make comparisons to their own life, to think about and form opinions and defend them.

Also at West Park, Cate, uses questioning and problem-solving to connect her AP students learning to the real world. Since her curriculum is based on math she is constantly giving her students math problems to solve or scientific text to

figure out based on real life situations. When I observed her class the topic of her lessons was Work and Force. Typical questions she uses with her students set up real life scenarios. These were questions that were used as an exam review activity. Cate has her students participate in an activity she calls Quiz, Quiz, Trade. " ... students are given a question to individually solve and then they find a partner ... and they quiz the partner ... and then the partner quizzes them on the questions ... once they quiz each other ... they have a new question and go find another partner." Cate explains, "The whole point of the activity is ... you let the person solve it ... if they need guidance along the way ... that is important because they see it another time ... they learn it and they teach it." For example,

1. During a softball game a batter hits a pop fly. If the ball remains in the air for 6 seconds, if air resistance is neglected, its maximum height is most nearly: (answer = 44.1 m)
2. A person who weighs 800 N steps onto a scale that is on the floor of an elevator car. If the elevator accelerates upward at a rate of 4.9 m/s^2, what does the scale read? (answer = 1,200 N)
3. A truck is stopped at a stoplight. When the light turns green, it accelerates at 2.5 m/s^2. At the same instant, a car drives past the truck going a constant 15m/s. How long does it take for the truck to catch up with the car? (answer = 12 seconds)

Cate's students do not apply their learning to real life, but Cate connects their knowledge to real life through the scenarios that the problems describe.

Russ, at South Hill, uses questioning to connect to the real world with his Honors U.S. History students, not only orally in his class lectures (remember the rifle question), but as an essay question on his tests. His recent test covering President Kennedy included this essay question,

> President Kennedy challenged Americans to put a man on the moon by the end of the 1960s. Although we met that goal, space travel was dangerous, as evidenced by the Apollo I fire. A later mission to the moon,

> Apollo XIII, almost became a tragedy. Describe what happened on the mission. Why were the astronauts in danger? How did they make it to safely back to earth? Would you travel in space? Why or why not?

At South Hill, Cam gives his lower track U.S. History students study guides that follow his *History Alive* text. Cam explains that the *History Alive* textbook does not have end of chapter questions as other textbooks do.

> This has thrown a lot of traditional teachers a huge curve. A lot of teachers can't stand using this program because they wanta say read the chapter and do questions 1-10 at the end and they can't do it. The supplementary materials that come with it aren't like that either. There's no ... worksheet per se to ask questions ... there's lots of different graphic organizers and stuff, but there's not ... ten questions at the end of the chapter they have to do."

When I observed Cam's class students were working on The Great Depression. Students had been given a study guide for Chapter 30 – The Cause of the Great Depression. Study guide directions to the students follow:

> Read the section in your textbook. Then write the definition of speculative bubble in the circle below. Then list at least four examples of speculative bubbles from the past and at least one way a speculative bubble might affect your life today in the squares provided below.

Computers and media. Teachers connected to real world issues through media and technology. Both Spence and Hal at West Park mention connecting to real world as their primary instructional goal. Russ also connects to real world issues even though he did not mention it as a goal.

Previously in this paper I discussed an activity where Russ gave his South Hill Honors U.S. History students current newspapers. Their task was to search for articles, read the articles, and write good questions for discussion. The content that these students worked with in this task connected to present-day real life issues.

For Spence meeting his goal of making connections to real life is evidenced in both his economics and lower track U.S. History classes. I specifically interviewed Spence about his U.S. History class, but I was intrigued with a task his economics students were completing, so I observed one of his economics classes to see what the students were doing. Students were involved in Stocks Quest an online simulation game. On the day I observed Spence's economics class, students were completing a stock analysis due that day. Students were working in West Park's media center computer lab on their final semester project.

For their project students were required to create a mini portfolio that compares and contrasts "... two good stock investment opportunities (companies you would invest in) with two bad stocks (companies you would not invest in or would shy away from at this time) ..." Students' projects must include "... a visual to back up student rationale and a written paper covering a brief history of the company, background of the company, and rationale for choosing this company."

Spence also connected the real life in his lower track U.S. History class. He used movies and videos to show students what life was like in certain periods of history. On one of the days that I observed they were studying The Great Depression. Spence referred to the movie Far and Away that he had shown earlier "... remember the movie we watched, Far and Away, where the farmer never let the land recoup ..." Spence asked, "What was going on with farmers?" Students responded that "... the farmers ate berries while crops were growing ... dust bowl ... overproduction of land ..." Later on during this visit, while students

read aloud and discussed a shift in the depression era to the political left. Spence referred to a video "... okay we saw in the video over 100,000 Americans moved to the Soviet Union because they thought the communists had the right idea ... everyone had a job, food, clothing ..."

Reading and Writing Support

Teachers used reading and writing to acquire knowledge usually as a prelude to lecture and discussion or prior to an activity requiring a certain knowledge base. They also used reading and writing to guide their students' understanding and encourage thinking at higher levels. However, reading and writing happened differently according to the needs of the students.

Some teachers of lower track classes and especially lower track urban teachers tended to read to their students as in the case of Hal using read-alouds. Some lower track students used a form of round robin reading with their students interspersed with discussion. Several teachers talked about engaging their students in reading section by section where they read small sections of text at a time.

Since South Hill is a high poverty urban school, the issue of reading ability determines the reading practice used. Teachers tend to involve their students in less reading because many of their students cannot read the textbook. Even Russ' Honors U.S. History students read sections of text at a time during class, because they typically do not read at home and generally do not bring their textbooks on a regular basis. Cam keeps his textbooks in the classroom to prevent this from happening. Cam keeps all of his students' assignments in

folders in class to eliminate the problem of students forgetting to bring them. Conversely, Seth does not keep student work in the classroom, but he emphasized the significant problem he has with students not turning in their completed work. A very low percentage of his lower track students return homework. Understandably, teachers of upper track classes at West Park expect their students to read text and make connections independently.

Several teachers across subject and school always assign reading before lecture and discussion to provide background knowledge needed for students to make sense of and participate in the discussion. For most teachers, teaching vocabulary, terminology, or concepts is the first lesson taught in a unit.

When teachers were storytelling or lecturing, students were generally taking notes or filling out study guides to make connections. Also, as students watched a movie or video they generally completed a study guide of some sort. All teachers and students participated in class discussions to help build connections. Students read a range of text to meet this goal. Writing tasks came in the form of responding to essay prompts, responding to questions or statements on study guides, and composing text for projects on the computer.

This whole idea of this goal suggests a wide range of opportunities for the inclusion of authentic types of text for authentic purposes in teaching practices. While some teachers use authentic text for authentic purposes most of the teaching practices for Goal #2 used school-only texts and were assigned for school-only purposes.

The teaching practices observed in Goal #2 attempted to draw students into the real world where authentic text prevails. Some teachers were able to infuse authentic texts into their projects, for example, Hal's project required students to create an element tri-fold brochure (authentic text) based on the Periodic Table. They searched the internet (authentic text) for information. Students had some autonomy in the decision about which element to research, so in that sense their purpose was authentic. Their task was to search for information about the real world uses for an element of their choice (authentic); however, students were creating the brochure and composing the text on it for a grade so the purpose was less authentic. Spence's project for his Economics class required students to use the internet (authentic text) and an internet site, Stock Quest, which allows people to simulate buying and selling stocks (authentic). Students were allowed autonomy in the stocks they chose for their portfolios. Students followed their portfolio as if they actually owned the stocks and wrote a paper on their experience for a grade. Working with Purcell-Gates thinking on authentic texts and purposes, both of these teachers were successful incorporating authentic text into their lessons, but the purpose for doing so were less than authentic, more in the realm of school-only.

For Dave, the Humanities teacher, the entire purpose of his class is to open students' minds to other perspectives of the world in which his students live. This class is not a required class; students must elect this class by applying (authentic purpose). Students read novels (authentic text) exclusively to bridge the perspective gap. Dave described an authentic literacy activity where he

invites people from the community into the class to speak about their diverse backgrounds and cultures. Students participate in discussion, initiating questions they want to know more about.

Teachers also infused authentic texts and purposes in other ways. Seth engaged students in discussion about a lunar eclipse that happened the night before. The science teachers were particularly good at engaging students in solving problems or participating procedural activities prior to reading and writing about science. Seth, for instance involved his students in completing punnett squares in a lesson on genotype and phenotype in biology. Hal involved his students in completing orbital diagrams in chemistry. Cate involved her students in solving for work and force in AP Physics. All of this was done either to clarify reading or to prepare for reading and writing. All three teachers use hands-on demonstration as part of their practice. For example, Seth's students participated in a demonstration where they used yardsticks to measure their heights, wrote their heights on blue and pink cards an attached them to two histograms on the board.

Social studies teachers used other authentic texts such as film and video clips to clarify students' reading or to prepare for reading or writing tasks. Spence showed the film Cinderella Man to clarify the programs of The New Deal. Storytelling is also an example of authentic text as it happens in everyday life. Russ is an especially good storyteller, but all of the social studies teachers told stories to clarify and expand upon what students' reading.

Teachers used a variety of teaching practices to help their students connect or apply their knowledge to the real world. Their goal is to connect knowledge and understanding to the real world and to prepare students to be able to apply their learning in some higher order way to the real world in the future. Some of these practices and purposes can be considered authentic, some less authentic, and some school-only. Duke, Purcell-Gates, Hall, & Tower (2006) explain that authentic literacy activity in the classroom is always in conjunction with school-only purposes simply because the focus of schools is teaching and learning.

Tensions – Real World

Since teachers at West Park cited making real world connections as either their only or primary instructional goal I was unable to ascertain any real tensions voiced by these teachers in terms of accomplishing this goal. Conversely, teachers at South Hill were more consumed with covering content and meeting mandates; they had little time leftover to think about making connections to real life. Making connections to the world was not their primary goal. To Cam

> "... there is so much of an emphasis on getting ready for tests ... so much of an emphasis on the literacy strategies and stuff that it seems ... goes back to the question you asked me at the beginning about what goals do you ultimately want, and you almost had to pull them out of me because I guess I don't think of myself as teaching kids to be prepared to vote. I don't think of myself ... I think of all the other stuff."

Cam described more tension when asked what a good social studies teacher does "... a good social studies teacher should be able to get students excited and enthused about the world around them and voting and politics and I don't feel like I have an opportunity to do that."

Seth talks about a lack of money, especially at South Hill. He does some hands on activities, but there is very little extra money in the urban schools for materials to use in activities

> "... in this school district ... I'm not sure how it is in others, but I'm sure it's probably pretty similar. You know, money's hard to come by now. Hands on stuff is usually ... the stuff that costs a lot of money so a lot of ... group work and thinking ... sometimes it's a paper and pencil activity, but it's not necessarily a worksheet. You know, they're not just filling in spaces on the worksheet.

Again, the tensions voiced by the South Hill teachers seem to center on the issue of time when mandates seem to take precedence. I observed all of the teachers at South Hill, however, making connections to real life on several occasions. Even though making connections to the world was not on their radar when I asked them about their goals they described instances when higher-level thinking was happening in their classes.

Impressions about Literacy

Making connections to the real world requires a broader definition of literacy than simply reading or writing. To make connections to the real world students are required to think and make meaning at higher levels than to basic knowledge. It requires interpretation, comparing and contrasting ideas, thinking about what they would have done in similar situations, understand other perspectives, solving problems and apply learning to other situations, understand how events in the world are related, and be able to hold intelligent conversations with others. These are lofty goals which require people to go beyond simply acquiring knowledge and application of knowledge or learning.

All of the teachers in this study want to help their students apply their learning to the real world; however, some of them do not see it as their primary job. However, some of them talked about this goal in outside of school terms. In a sense this goal would happen sometime in the future in students' lives outside of school. Teachers would in effect be preparing them to be able to apply somewhere in the future. Even those who mentioned it as their primary goal provided few opportunities for applying knowledge in real world situations simply because the nature of school is all about teaching and learning specific stuff in the present to meet mandates and pass tests. The real world is more often than not kept at a distance.

Goal #3 – Engagement in Learning

Engagement in learning, an overarching goal shared by all of the participants in this study, encompasses each of the previously reported goals. For example, teachers engage students in learning by connecting learning to the real world. They also believe engaged students will do better on state and district tests and will reach high school graduation.

Engagement in learning is an instructional goal for the teachers in this study, but for most teachers it is implied rather than explicitly stated. Teachers view their job as guiding successful learners by teaching them skills and motivating them to learn.

Only three teachers talked explicitly about engaging students in learning. However, every teacher in this study implied engaging students in learning as a goal. They talked about engagement in learning as something that good science

and social studies teachers do. More importantly, I observed several teachers using a variety of engaging practices in their classrooms even though they had not overtly mentioned engagement as a goal in their interviews. Two teachers talked about engagement in terms of wanting their students to be engaged enough in learning to be successful learners. One teacher talked about engagement in terms of teaching his students to be motivated to want to learn.

Since these three teachers talked specifically about engagement in learning as instructional goals and all of the teachers in this study implied this goal through their actions and their responses to other questions I take this to mean that engaging students in learning is valued to some degree by all of these teachers.

Supporting data for this section on engagement in learning comes from interview responses about goals, descriptions of good teachers, class observations of practice and student tasks. Teachers who specifically stated engaging students in learning as an instructional goal described them in terms of *engaging students in learning*. For example, varying teaching practices and sparking an interest matches engaging in learning (Raphael Bogaert et al., 2006).

In both instances of stated or implied goals four teachers' want their students to become critical thinkers and problem-solvers who can apply knowledge anywhere. In order to get their students to that point they view their jobs as engaging their students in learning in order to be successful learners.

Finally, I see indications that this goal is difficult to distinguish from goal one and two in this study; engaging students in learning permeates what teachers do to meet mandates and it paves the way toward helping students make connections between their learning and the real world. For some teachers meeting mandates and connecting to the world seem to be purposes for engaging their students in learning. For example, two teachers described engaging students in the world and preparing students for state tests when asked what good science and social studies teachers do.

I created additional categories of medium high and medium teacher focus for the engagement goal to reflect the difficulty of determining its distinction from meeting mandates and connecting to the world (see Table 5). Engagement in learning seems to influence how well teachers meet the mandates and students' success connecting their learning elsewhere. Each goal overlaps and feeds into the other.

Engaging students in learning. Teachers view their job as engaging their students in learning so they can be successful learners overall. If teachers can engage their students in learning they can affect student learning beyond high school, as their students would possess the tools to continue their learning independently.

Both Cate (West Park) and Cam (South Hill) talked explicitly about engaging their students in the literacy skills they need to become successful

Table 5
Engagement in Learning

Goals/Tension **Suburban** **Urban**

Engagement in Learning	*Social Studies*	*Science*	*Social Studies*	*Science*
Very High Focus (only goal stated)		**Cate**		
High Focus (stated first)				
Mid Focus (permeates/in between)			**Cam Russ**	
Low Focus (stated last)				**Seth**
No Focus (not stated)	**Spence Dave**	**Hal**		
Implied *(All low or no focus teachers)*	**Dave Spence**	**Hal**		**Seth**

UT=Upper Track
LT=Lower Track

learners. However, I noticed each teacher referred to or described a different set of skills. Cate's focus is geared toward high level literacy skills such as critical thinking and problem-solving. Cam's focus is on basic literacy skills such as reading and writing.

High focus – West Park. Above all other goals, Cate wants her AP Physics students to engage in higher order thinking and "... to become successful learners. I try to teach them skills that they can apply to other classes and just good learning skills." Learning physics is all about deciphering scientific text which takes critical thinking and problem-solving skills. For Cate, "... critical thinking is something big ... problem solving is something that I really try for them to ... work on." Her focus is on teaching higher order thinking skills to her students.

I looked to Cate's description of a good science teacher for supporting evidence of the importance she gives her goal of teaching her students the *how to* of learning, especially of problem-solving and critical thinking. Cate reports that a good science teacher would engage students in some way that helps them learn the material "... instead of just standing up at the front, teaching all hour." In her opinion they would teach in a way that has the students "... think critically and problem solve and take what they learn and be able to apply it to other classes and other problems." Engagement in learning was evident as Cate used teaching practices that kept her students on-task and required higher order thinking (Raphael Bogaert et al., 2006).

Medium high focus – South Hill. Cam's primary goal is to cover the content to meet the mandates of his own district and the state. A roadblock to meeting this goal is the low reading abilities of his students which are typical of high poverty urban schools. Also, as Cam teaches a lower track U.S. History class the urgency for teaching students reading and writing skills and strategies is high. In order for him to prepare his students for the common assessments of his district and the state tests he needed to engage his students "... every day, every single day to write and read ... use different strategies ... use Collins writing ... use SQ3R ... use different strategies that I try to phase in with the History Alive." He articulates the purpose and the urgency of his goal ...

> ... Cuz kids read at 3rd and 4th grade level and I can give them the History Alive text and they can stare at it all day and not get anything out of it. So, you know, you've gotta, you've gotta do literacy strategies, at least here you do. You know, maybe outside ... not so much, but that's probably my number one goal is to, to phase in literacy stuff every single day.

Motivating Students. Most teachers voiced motivating students to want to learn as a priority for engaging their students in learning. Teachers indicated motivation more often than teaching students content. This emphasis was also revealed through their descriptions of good science and social studies teachers. Teachers reported that good teachers motivate students toward learning through a variety of teaching practices. Their purpose is to keep students focused on learning (Raphael Bogaert et al., 2006).

Medium focus – South Hill. Russ mirrors the thinking of the science teachers who acknowledged that not all of their students will become scientists. Along those same lines of thinking Russ explains, "... certainly my goal is to

spark the kids' interest in something. I do not expect them all to become practicing psychologists or practicing historians down at the ... museum. If his students have "... a passion about something, I think then I've done my job..."

Russ acknowledges that most of his Honors U.S. History students do not come to class with an innate interest in history or a huge drive to be in a history class. When asked about what good history teachers do Russ reiterates his goal and even forefronts the murkiness between the two goals of connecting to the world and engagement in learning. "... you have to start out with the acknowledgement that most kids aren't interested in history. I mean, at least initially ... and you have to start out with that idea ... and then for me ... the good history teacher creates that spark ... and somehow relates it from the dull old textbook to something that's going on today ... I mean ... make it interesting.

A few teachers, including Russ, talked about the value of varying their teaching practices in terms of keeping students interested in their learning. They avoid doing the same activities and the same routine for every unit "...I mean, make it interesting. Don't do the same thing every day."

***Implied* Engagement in Learning.** Four teachers implied engagement in learning as a goal through their descriptions of good teachers. On several occasions I observed evidence of their descriptions of good teachers in their practice. These four teachers' implications of engagement in learning represent the category of motivating students to want to learn in interesting ways.

Dave – West Park. Dave has an interesting view of a good social studies teacher. His view matches the class he teaches and the goal he describes for his

students. Previously, Dave described his goal in terms of developing his Humanities' students' awareness and understanding of different world views. He wants his students to understand that perspectives other than their own exist. Therefore, it makes sense that Dave's definition of a good teacher includes "... the words compassionate and understanding and they'd be able to develop a relationship with the students." Understanding and honoring another person's viewpoint is humane and compassionate and makes sense coming from a humanities teacher who strives toward understanding others' perspectives.

In terms of the goal of engagement in learning, Dave believes that a compassionate understanding teacher will achieve better results with students.

> I think that ... I don't care if that's an advanced class or ... a special education class. Those students need to feel as if the teacher cares. First and foremost ... you take two teachers, one who's caring, connected, who likes the kids, who wants to know about the kids versus one who just wants to deliver information ... the person who's caring and connected will get much better results in my opinion ... and that ability to relate and just to talk to kids. I think the first and foremost ... is being a caring, connected teacher ... most important thing. I really believe that ... but I think it's having that caring attitude, being approachable. It's so incredibly important ... our whole model is based upon relationships. Our behavior model ... everything ... how we do business in this school ... is based on relationships and I strongly believe that. That's the most important thing ...

Other research on engagement in learning matches Dave's thinking. Students who consider their classroom a safe, responsive, emotionally supportive place will likely attain higher academic achievement and higher motivation toward learning (Certo et al., 2008; Cothran & Ennis, 2000; Raphael Bogaert et al., 2006).

Hal – West Park. Hal believes that varying his teaching practice will create excitement and interest on the part of his lower track chemistry students. He

describes a good science teacher as someone who can "... catch their [students] attention, build enthusiasm ... someone that's good at delivering information through demonstrations, labs, inquiry and teaching." Most importantly, as a result of engaging students in learning, a good teacher "... would be someone who gets results with their students ... I guess would be the bottom line."

Seth – South Hill. Seth talks about developing curiosity as the primary job of a science teacher. According to Seth, using inquiry with his honors and lower track biology students is most important because "... inquiry is a big thing ... I mean, science is inquiry ... to figure something out, you gotta be curious about it first. You gotta wanta know about it first. I think that definitely needs to be modeled. And just getting the kids motivated I think is a huge part of it."

Seth also believes that engaging students in learning is key to remembering what they learn "... a good teacher ... will get the kids invested in what they wanta learn so that the kids will hold onto that information."

Spence – West Park. The murkiness that exists at the dividing lines of the three goals expressed by the teachers in this study is accentuated by Spence's depiction of a good social studies teacher. Spence talks about getting his students engaged in learning by getting them engaged in the world around them. His thinking overlaps both making connections to the world and engagement in learning "... getting the kids engaged into ... what's going on in the world today and how we got here ... that's the simplest way I can put it."

Practices and purposes

For the goal of engaging students in learning I narrow the scope of teacher practices to those that stand out to me in terms of number of teachers who described using them and number of teachers I observed using them specifically to engage students by teaching them how to learn and motivating them to want to learn. I included those practices used to engage students that interested me and contributed to the sense I make of this study. I took into account both the interview and the observation data in making this selection.

For example, two teachers specifically talked about modeling instruction in their interviews. It is important to note that I observed three other teachers model instruction in the classroom even though they did not specifically talk about it in their interviews. So, I counted five teachers who valued modeling in the classroom as a way to engage students in their learning. Teachers used modeling for both purposes of engagement, teaching students how to learn and motivating students to learn. Teachers also used modeling in two interrelated, but distinctive ways, to make their own cognitive processes visible as in how to think about something and to show the steps of a process as in how to do something. Teachers also provided picture cues for students to clarify learning.

In addition, one practice that all seven teachers talked about in this study was summarizing. I chose to exclude summarizing from the practices I talk about in this section because in the interview I specifically asked teachers if they ever asked their students to summarize. It is not particularly interesting to me that they

all affirmed they do ask students to summarize because the issue was not raised without prompting.

The practices are discussed in this paper in the order of those most talked about and observed. These practices *include cooperative group work, questioning and predicting, notetaking, modeling thinking, drawing, and varying teaching practices*. I combined modeling thinking and drawing in one section titled *making learning visible* because I noticed how important it was for teachers to think out loud about content, skills, and strategies and draw illustrations of ideas and concepts to engage students in understanding the lesson. During many observations, I witnessed a combination of thinking aloud and illustrating on the whiteboard, blackboard, or an overhead transparency to make learning visible for students. I also included in this section, a practice specifically related to reading. Several teachers described a reading practice where students read their texts section by section rather than an entire chapter at a time. Reading section by section was common across subject, school, teacher, and track.

Cooperative group work. All seven teachers explicitly talked about using cooperative or collaborative groups to teach literacy skills like critical thinking, problem solving, vocabulary development, communication, and discussion. In addition, teachers used groups to review for tests. Further, teachers assisted weaker students by providing a knowledgeable other in their group. Teachers also used cooperative groups as a way to motivate or engage students in learning. I observed group work being done in most of these classrooms.

Cate – West Park. For Cate, group work happens frequently with her AP Physics students to practice problem-solving and critical thinking skills. Whether it is working in their pods solving physics problems together, participating in the review game *Quiz, Quiz, Trade* (previously discussed) or learning a new law, Cate sees value in students working in groups evidenced by the physical arrangement of her classroom. All students sit in pods so they can help each other when needed. She believes that "... cooperative group work, working through the problems together is something they'll see often." For one unit, Cate's regular physics students had to learn about Newton's three laws.

> ... there's a group of say four students ... they were assigned to be the experts on Newton's first law, then Newton's second, Newton's third. And there were specific requirements I had for what they had to learn about it. And then they go into ... their learning group, I call it and then they get into their teaching group. They have a representative from each of the three groups, one for Newton's first, second and third and they teach each other about it ... and then they broke up and ... formed a group where there were representatives for each of the laws and they taught each other.

Hal – West Park. Hal's lower track chemistry students have "... notes and practice, a lot of group work." His students have trouble staying focused in class. They need to be motivated and sometimes taught in smaller group settings. "A lot of times "... they miss the connection or miss something, when something's going on, the whole group setting. So if you have cooperative groups, you have groups that are kind of helping each other, but then the groups that are not, you can go over and teach to them in a smaller setting, which is how these kids work the best."

Hal does a lot of review with his students in "... round robin reviews." In groups, his students are involved in a compare/contrast task using thinking skills to compare the ideas of the different scientists they are studying.

> I'll place ... eight different questions around the room and they rotate through the questions ... for example, on the last ... we talked a lot about early atomic theory and what some of the scientists thought ... we were comparing Democritus and Aristotle ... we were comparing Ernest Rutherford and Robert Milliken. They all had ideas about what the atom looked like inside. Compare and contrast their ideas. Can you differentiate between what Robert Milliken thought and Ernest Rutherford thought? Those kinds of questions and I put them around the room and they work in a group. What do you think? They can look at the notes. They have the information right there, but they have to compare. What's similar, what's different? Why did the previous person's information add to what this guy thought? What did he take and what did he improve on?"

For Hal, the round robin group collaboration works to keep his students motivated and on-task; "... the students like the round robin thing ... number one, they're out of their seats ... they're moving around." The students can answer the questions and then reassemble as a whole-group where Hal can ask further questions and lead discussion, for example,

> "... what did your group think about number three ... and I'll say did you think of anything different for your group ... let them tell me the right answer. I don't like to tell the right answer. They already know it. They can figure it out ..."

Spence –West Park. Spence also talks about how he varies his teaching practices to keep his lower track U.S. History students interested. He combines traditional teaching practices with group work "... we'll do notes and I'll do a lecture and question and answer and we'll do kind of group reading. " He does a lot of writing with his students and occasionally, he sets up work stations for his students "... I try to switch things up like I might have a packet for chapter 12 ...

we might work in groups of four and go though six different stations ... just try to not make it so monotonous ... at least it keeps them doing different things, and they can't complain." Spence likes to assign his cooperative groups hands-on tasks. His lower track students enjoy working together making things that help them understand or connect to the content.

> ... we might do ... the Road to War and ... so they get in their groups and I pass out all the propaganda posters and we talk about what are the goals of propaganda ... what are the tools used ... then they have to make their own propaganda poster. Now, before we read section two, what are some of the things from section one ... why do you think we're gonna declare war ... the British cut the cable and they used all that propaganda for us to hate the Germans ... so then we can get into ... what are U boats ... and then we'll do a read. So it's never, it's never just book, book, book, book ...

Dave – West Park. Dave teaches critical thinking skills to his Humanities students on a regular basis. I observed Dave's fifty students working in small groups. Students were beginning to read *Rumor of War* on one day that I visited. Dave lectured to provide background knowledge on the Vietnam War. Students were then allowed time in class to read. On the next day that I visited students were given a study guide of discussion questions. In small groups they searched their books to find evidence to support their thoughts and recorded the page numbers coordinating to their evidence. After working in small groups the class reassembled for a whole class discussion. When students contributed to class discussion they were able to pinpoint their evidence so the other students in the class could follow along. Dave uses small group collaboration not only to develop good critical thinking skills, but to motivate students toward better communication skills as well.

> On your own, go at it, bounce it off each other and then we'll come back together in the large group. The reason we go in a small group is ... 50 kids still can be intimidating to some. Even the brightest aren't always comfortable speaking in front of 50, but if ... had a chance to talk about something in a group of four or five, maybe their thought has been reinforced so they have a little more confidence in talking to the large group. And then we come back together in the large group and I say, hey, what'd you find out? What do you think? And that's designed to help foster that ability to communicate and speak out loud and to defend your opinion. Cuz often there's an opinion. What would, what would the author do in this situation? You know, and it might be a completely opinion based question. So it's an opportunity for them to defend that.

Examples of questions from the discussion guide:

1. What impact does Sullivan's death have on Caputo? What is the real vs. illusion?
2. What impact does Levy's death have on Caputo?

Seth – South Hill. Seth uses cooperative groups to teach vocabulary skills. Students are introduced to new terms while reading an essay. Seth wants to make sure they understand the new concepts beyond the definition so students "... got in groups of three and ... I had them talk about it in their group and then report back to the large group ...I had them try to relate words to each other ... say what is ... they learned what phenotype is, they learned what genotype is. I said, okay, what is the relationship between genotype and phenotype? What is the relationship between a gene and a ... so that's sort of one way of summarizing it ..." Instead of regurgitating the definition Seth wants his students to understand what it means and be able to talk about how terms and concepts are related. He wants his students to be able participate in talk about biology. First, though, his students need to translate and understand biological terminology.

Cam – South Hill. Rather than using the textbook exclusively, Cam uses primary source documents that go along with the *History Alive* textbook with his lower track U.S. History students. History Alive provides excerpts from actual books or journal entries from that time period. Cam organizes small groups and "... we'll rotate the readings around and have the students ... in groups of three or four, read the documents ... what the main idea was or whatever, present it to the class." There is a lot of reading associated with *History Alive* usually with some sort of group activity "... a lot of times they'll [textbook directions] ask them to read a section of a chapter and then sit down with a group and do some sort of activity. If they ... couldn't understand the reading, how are they supposed to do the group activity?"

Cam also uses cooperative groups to support weaker readers. He pairs his students' up...

> "... where there's somebody strong in a group, somebody weak in a group, but the reading is very daunting. It's an enormous amount of reading in the *History Alive* program because they're trying to push literacy. But if they don't get that, it's hard for them to get the rest of the program.

Further, Seth uses cooperative groups as one way to vary his teaching practice "... we change it up all the time." Sometimes we'll have them ... popcorn read around the room ... sometimes we'll put them in groups and have them read with each other ... sometimes we'll do paired ... reading where they ... bounce back and forth ..."

Russ – South Hill. Russ does group work with his Honors U.S. History students around current events to practice thinking skills and discussion skills. One of Russ' goals for his students is to be able to enter into and maintain

conversations about current happenings in the world in terms of connecting to their own lives.

> ... because to me, current events is all about discussion and obviously, so many things in our world lend itself beautifully... certainly right now we have the election so that will be a big thing now and then again next fall ... if there's not a political thing going on ... there's always something we can talk about—environmental things. We just burned these homes out in Seattle so if I was talking about environment right now, boy, I'd latch onto that and we'd have a discussion of ... where does it cross the line ... being the person who likes to look at newspaper and television ... I try to do that for the kids. So group work is ... once a week thing ...

Questioning. All of the teachers in this study used questioning as part of their practice to teach higher-level literacy skills. Some of the purposes for questioning include engaging students in prediction, anticipation, and accessing prior knowledge. Science teachers, especially, talked about inquiry in terms of how they teach their subject. In addition, teachers agreed that teaching students through inquiry motivates them to learn.

Thinking skills – Cate. Cate uses questioning to engage her AP Physics students in predicting before she introduces a concept. She engages her students in thinking about what might happen '... before I do a demonstration in class, like what do you think will happen if I do this or with a lab? Or with ... a problem ... which do you think would exert more work and they have to predict and then we get to the answer after we solve the problem. So I think prediction is a big part of science."

Thinking skills – Cate. Cate's teaching style is one of questioning to get her students to thinking through a physics problem. I observed her in action as she easily jumped from one question to another moving her students along

through the problem solving process. Cate questions and probes students throughout her think-alouds. Through inquiry Cate engages her students in learning. This is glimpse into her thinking.

So we have to solve for d ...

How many of you found ...

Okay, now do we know the net force yet?

Cate draws out the problem while thinking out loud ...

How would you solve for ...

What did you guys get for the force?

So, your net force really equals ...

If you had to draw a vector to describe the net force ...

Notice that this theta is different than this theta ...

So, if we plug everything in ...

What did you get?

Thinking skills – Dave. The foundation of Dave's class is lecture and discussion. In Humanities students' thinking is constantly challenged with "... questions throughout the course of the unit ..." about the ideas and perspectives of the books they are reading. Dave also asks students to use their thinking skills to anticipate essay questions that could be asked on a test.

> We ... encourage them to get into groups on their own, I'll say ... anticipate what we might ask ... what could potentially be a good essay question? Knowing the themes we've discussed, knowing the discussions that have taken place in class, what potentially might we ask? Sometimes kids nail it and they say you know what? We knew you were gonna ask that and we nailed it.

Further, Dave questions his students frequently probing them to get them to access their thinking about an issue, for example simply asking "... what do you think ... " about something forces them to look inward for answers. With fifty students in his class there are usually ten different groups of students working, exercising their thinking skills collaboratively. He uses this specifically to open a window to all students in his class to other perspectives "... look at, that group over there had something completely different. Make sure you're paying attention to, wow, that's another way of thinking."

For these honors students, the hardest problem is supporting their opinions. In terms of critical thinking skills "... that's probably the thing that the kids struggle ... " with most, critical problem solving, "...and that's a tough skill to teach."

Prior knowledge – Spence. Spence motivates his lower track U.S. History students to want to learn by accessing their prior knowledge about the 1920s. He is indirectly teaching them thinking skills.

> You know, the other day, we started the 1920s, we spent 25 minutes, I just asked them, I put down 1920s on the board. I said what do we, what do we know about the 20s? What do we wanta know? What are we leaving out? You know, just kind of spurred a class discussion. Actually, it went pretty well. But we just, we went through and listed things ...

As Spence continues to talk about the 1920s they are about to start another section of the text. He asks them questions to access prior knowledge before they even open their textbooks.

> ... don't even open your books ... we just talked about Prohibition. You know what Prohibition is ... write it down on your paper ... we went through and answered as much as could without even opening up the book ... in there, it says Harlem Renaissance. Does anyone know what the Harlem

> Renaissance is? Kids are like jazz music? Well, that's part of it ... okay, open your books here, all right. Then we'll read it and ... then we'll talk about it.

Prior knowledge – Cam. Cam uses questioning to access prior knowledge and connect to "... something that we learned about the day before." Also as a way to engage students "... in what's coming up ..." Cam does an activity from *History Alive* called *Visual Discoveries*. Cam engages his students in thinking about concepts and ideas that are connected to the next unit in history. He access' his students' prior knowledge by asking questions around the picture. He also uses *Visual Discoveries* to move students in to notetaking, writing, and discussion.

> They come in, there's usually a warm up on the overhead ... either look at a picture or ... look at a picture in the book and explain how, your emotions, how it makes you feel or whatever. How you would feel being put in that position ... what do you see? Or sometimes they have these placards and I'll put them in groups and I'll pass the placards around. Usually I try to come up with some sort of graphic organizer or something that they can fill in when they're doing something like that. Because if they're just asked ... to look at it ... gotta force them to document something. And then we ... will ... do the activity and then we'll report out ... what did you learn? What ... themes did you see ...

Prior Knowledge – Dave. Dave's practice is based on a lecture and discussion format. Dave lectures about the history, politics, and economics of the era on which the particular novel or book is based. Dave prepares his students for the discussion about the book by accessing his students' prior knowledge about the Vietnam War. Students were asked to take out a piece of paper and list everything they knew about the Vietnam War. I observed Dave's introduction to the novel *The Rumor of War* where he drew out and built his students' background knowledge about the concepts having to do with the Vietnam War.

Discussion ensued about their lists of prior knowledge as Dave track the students' ideas on the board. Dave used the ideas listed on the board as stems for his lecture and discussion. When Dave transitioned to his lecture students took copious notes. During one of my observations Dave used study guides as a tool to direct students to various themes in the novel. In cooperative groups students collaborated to answer questions in anticipation of more discussion later.

Notetaking. Six teachers talked about or were observed in the practice of notetaking with their students. These notetaking strategies were used to engage students in thinking, to organize and learn content or terminology, and for retention of their learning. Some of the notetaking happened in a traditional format where the teacher lectures and records notes in outline form on the blackboard and students copy them into notebooks.

Interestingly, several teachers across school, subject, and track talked about a notetaking technique called *foldables*. Teachers at both schools reported being introduced to foldables at inservices or they had read a book about the process. At West Park foldables was one of the notetaking techniques that teachers learned at an in-school literacy workshop. I found this to be an interesting phenomenon as I had never heard of foldables, yet the teachers at both schools used them widely.

Foldables – Cate (West Park). Cate uses foldables with her regular physics classes, "It's just honestly a more creative way ... of taking notes ... with a partner ... for the Newton's laws ...they take the paper and they fold it so they

have these three flaps. And so if they wanta learn about Newton's first law, they just unfold it. And then I had these specific things that they had to find about each law."

Foldables – Spence (West Park). Spence also uses foldables to teach terminology and concepts. He has been doing "... more foldable type things. You know, maybe with a definition on the front, you open it up, okay, there's the main idea, the summary, the topic ..." Spence uses a lot of hands-on activities to engage his students in their learning both for learning skills and for motivating them to write.

During one of my observations in Spence's class he directed his students to make a foldable (previously explained) as method of learning and keeping track of the programs established by The New Deal. For example, the three categories of programs identified as Relief, Recovery, and Reform became an organizing tool for students as they match these types of programs with the specific program that reflected its purpose. Spence not only wanted students to include the acronym of the programs, but the definition as well. T.V.A. (Tennessee Valley Authority), for instance is a relief program so would go next to the Relief foldover tab and W.P.A. (Works Progress Administration) would go next to the Recovery tab. Spence prompted his students, "Here's a hint ... if the word recovery is in the title or definition ... that is the type of program it is ."

Foldables – Cam (South Hill). Cam uses foldables when he lectures. Rather than a traditional lecture and notetaking format Cam engages his students or motivates them by using something different. "It's not just stand up

with an overhead and notes. I'll use something like foldables ... that's a little twist on lecture." Cam talked about other notetaking techniques he has tried. "...the district has trained us in Cornell notes. I like foldables a little bit better ... up until this year, I used to use SQ3R on a weekly basis. I don't have time to do it anymore ..."

Cam's students use their foldables as tools for writing persuasive essays. "... I'll say to them, okay, you're gonna write about this ... pull out that foldable that we did this week and use that stuff for your supporting evidence ... that's what it is ... that's supporting evidence ... it's in that foldable ... use it."

Foldables – Hal (West Park). One of the big things West Park has been working on is foldables. Hal has been using foldables frequently in past two years. This year is when "... they're just kinda bringing it on board, but I was fortunate enough to go to the professional development when they were in the talking stages a couple years ago." Hal shared a success story about using foldables.

> Last year, when we did vocabulary, we didn't do as much of the foldable type things. On the test when we talked about vocabulary, they would do terrible. This year they're at ... I would say the average would be 80% for the class in terms of knowing the vocabulary. So that strategy has worked for them. And so that's good to see because just writing the definitions down before, when you have to organize it in a different way then they can practice and use that. It's been better.

Another notetaking strategy that I observed was the use of sticky tabs to mark interesting and important information and concepts within novels and books as a way to mark and evaluate thinking.

Sticky tabs – Dave (West Park). One strategy Dave has taught the students is the use of sticky tabs as they read to track their thinking about the major themes. Students are taught to mark examples and evidence of the themes in preparation of whole and small group discussion. At the beginning of every unit, Dave cues his students to the "... five major themes of the book that you need to take notes on."

> ... this is a specific reading strategy that we use in class and we tell them to read about 20 pages. They take a sticky note ... little sticky tabs and if there's something important on that page, sticky tab it. You think it's important, sticky tab it. There might be three sticky tabs on each page. You read 20 pages, then, after you read 20, 25 pages ... go back and determine if those were truly important. Don't write down three quotes per page. That becomes redundant. And maybe something you thought was really important on page 302 ends up not being that big a deal as you go down to page 315. So you just take your little sticky tab, put it there, and that's a great reading strategy. Our kids' books are colorful with their tabs. And some of them color coordinate to go with what we say are the five things you should take notes on.

Two column notes – Spence (West Park). During one of my visits to Spence's lower track U.S. History class he showed the movie *Cinderella Man*. The class was talking about the relief, recovery, and reform programs of The New Deal. Spence engages his students in notetaking by asking them to take notes on examples of each of the types of programs on the 2-column study guide they had already prepared. Spence wrote the headings for the 2-column notetaking guide on the board. Students were to record evidence or representations of *Signs/Effects of New Deal* and *Signs of New Deal Programs/Government Involvement* in the two columns. Students' findings became the content of discussion following the movie.

Making learning visible – Modeling thinking. Two teachers talked about modeling their thinking. I observed one in the process of thinking aloud to engage students in learning. Teachers think aloud to open windows into certain cognitive processes that students do not automatically come to school knowing how to execute. They show their students how to think in certain ways using critical thinking skills. They need models and practice to achieve a certain level of thinking including problem solving and supporting opinions with examples from texts.

Cate – West Park. Cates mode of operation in AP Physics is that of modeling her thinking out loud. She constantly questions students to keep them thinking and cued into the step-by-step problem solving process. For Cate, thinking out loud allows her students to see and hear the thinking process as it happens. "... so let's see if we can simplify this. I'm going to cross this out ... so, I plugged my mass in ... I just plugged my speed in ..." Cate typically cues her students to difficulties they might encounter "... be careful you use the variable they give you ... notice also ...what else did I leave out of my diagram here ..."

By modeling the problem solving process on the board and speaking her thoughts, students get a front row seat into an experts' thought processes as they do something students need to learn how to do. They get to hear and watch an expert figuring out the problem.

Making learning visible – Drawing pictures / acting out. I observed several teachers making learning more visible for their students in terms of sketching maps, routes, and interpreting math problems in picture form, drawing

tables like punnet squares and electron configurations and orbital diagrams. Also, teachers made learning more visible by involving students physically in their learning.

Cate – West Park. Cate draws "... a diagram to help you get started to find out what forces are acting on that crate. " I observed Cate as she drew a picture of a spring uncompressed and compressed beyond its equilibrium point so her students had another way to understand the problem they are solving.

Dave – West Park. Dave is teaching *The Rumor of War* on the Vietnam War. He explains that "... at the beginning of the war the US had a hard time defending the 38th parallel. Dave draws a picture of Korea divided by the 38th parallel and shows how the army pushes toward the south and "... MacArthur launches a surprise attack at Pusa ... moves into Seoul ... captures a large part of the North Korean troops ... allows MacArthur to push back the front to the 38th parallel ... MacArthur continues northward and gets all the way to the Yalu River which happens to be the border between China and Korea ...China [Chinese communitsts] now helps North Korea ... push back down at the 38th parallel ..."

Hal – West Park. Hal taught from the Periodic Table over the three days that I observed his class. He draws on the whiteboard to explain concepts and to help his students understand as he thinks out loud. Hal asks his students "... what energy level are these in ... 1st energy level or 2nd energy level?" He draws pictures of energy levels on the whiteboard "... let's look at the inside of an atom." Hal draws the inner shell of electrons " ... next energy level ... next energy level ... how many electrons would be in the next energy level ..."

Seth – South Hill. Not only does Seth use tables on the blackboard to make learning visible for his biology students, but he gets his students physically involved in their learning. On one occasion, I observed Seth in the middle of a unit on genes; he was explaining the difference between heterozygous and homozygous. He asks, "what are the chances that offspring has black hair ... how would you know?" He sets up a scenario and supplies four students with cards that represent, B=black hair, b=blonde hair, C=curly hair, and c=straight hair. Four students came to the front of the room holding up the different genotype of this parent (the dad=BbCc), two students on one side of the room (B,b) and two students on the other side of the room (C,c). As students matched up with each other the letter combos are entered into the punnett square using the foiling process for the top row across and for the left column down. Students were motivated to learn how to learn.

Russ – South Hill. As Russ lectured and outlined his notes on the blackboard during one of my observations, he clarified ideas and concepts by drawing on the board. Russ' lesson was on John Kennedy's assassination. Russ drew a picture describing the motorcade route and the book depository and pinpointed the car carrying Kennedy. Later in the lecture students were discussing the controversies surrounding the death of Kennedy. Russ sketched the grassy knoll and described how shots could have come from behind them.

Varying teaching practices. Teachers in this study varied their literacy practices across school, subject, and track. They talked in terms of "switch things up", "variety of methods", "try to break that up", "cannot do the same things

everyday", "keep it moving, try to keep it active", "change things up", "keep things fresh, new, and exciting", "try to not make it so monotonous" when asked how they teach their subject. Teachers talked about varying their literacy practice to keep students motivated to learn (Raphael Bogaert et al., 2006).

Reading and Writing Support

Both schools presently support literacy initiatives ongoing in their buildings. Teachers are encouraged to participate in these initiatives to improve reading and writing. Thus, infusing literacy into their teaching stood out as a goal for some of these teachers. Hal describes two of the literacy initiatives the suburban teachers have adopted, for example, a Sustained Silent Reading program that happens regularly ... "everybody does it at the same time every single day." This follows the thinking that instructional strategies that engage students in learning tend to promote autonomy with respect to decision-making and tend to be authentic learning activities Certo et al., 2008; Raphael Bogaert et al., 2006). Participating in SSR allows students choice in what they read while providing authentic reading opportunities. Many students choose magazines and novels to read during this time.

Another goal shared by all of the teachers in the suburban school is teaching "words of the week that we're posting and working on in our classrooms ... vocabulary that they can use across the curriculum."

Cam uses literacy strategies everyday to engage his students in learning. Because his students are lower readers he teaches a variety of strategies to engage his students with text "... I try every day, every single day to write and

read. This teacher talked about using different strategies ... "use Collins writing ... use SQ3R ... that I try to phase in with the History Alive. His goal of infusing literacy strategies is based on the reading levels of the students he teaches "cuz kids read at 3rd and 4th grade level and I can give them the History Alive text and they can stare at it all day and not get anything out of it ... so, you've gotta do literacy strategies, at least here you do ... maybe outside [urban school] not so much, but that's probably my number one goal is to ... phase in literacy stuff every single day."

The English teachers at South Hill have engaged the rest of the school in trying to use reading and writing strategies within their lessons. Russ admits he does not use the strategies on a regular basis, but kind of mixes them in sometimes. He talked about being uncomfortable with strategies like KWL where he is constrained to a particular way of accessing prior knowledge and predicting. He does use predicting with his students at the start of his units to get his students thinking about the topic or person being introduced, but he does it in a way that works well for him and his students.

> ... every nine weeks we're supposed to work on a new literacy strategy ... something that comes out of our English Department, trying to raise our reading scores ... you can pick different ones that you want the kids to work on. And so I have done that ... like one nine weeks, I may say you know what? We're gonna maybe have one KWL every other week, just to ... try to get you guys into that. I don't know that I use it consistently though. Certainly at the beginning of every unit, I will always ... go from their prior knowledge ... I'll say okay, we're getting ready to cover, you know, John F. Kennedy ... or we're getting ready to cover ... Richard Nixon. Does anybody know anything about that? And now ... I don't do it quite in the fashion ... write on the board ... the KWL.

All teachers use some sort of text with their students, however the use of the text happens in different ways. With the exception of Humanities where students read up to sixty or seventy pages at a time, reading happens in classes in a variety of ways. Teachers read to their students, with their students as in round robin situations, use silent reading, or paired reading. Teachers also tended to read the text in class because many students did not read at home.

Regardless of the reading practice selected what seems to transcend subject areas, teachers, tracks, and both schools is *reading section by section*. Teachers read a section at a time and intersperse a variety of other practices into the content to engage students of all reading abilities in their learning and to produce successful learners. Other reasons for reading section by section include using text as a resource where they pick and choose sections to teach. For example, some teachers use supplemental text, lecture and discussion, or film to deliver content.

Another reason teachers choose to use other means of delivering content is their dissatisfaction for their text; they believe they can do a better job teaching the content and carrying out the activities. Further, there is a limited amount of time to cover the material. They think they can engage their students and deliver content with their own activities. For example, Russ uses the textbook as the foundation of the content he teaches ".. I think the book is the skeleton ... the book is sort of the basic knowledge and then my job is to fill in the meat, so to speak." He lectures, tells stories, and fills in what he believes his students need

to learn to prepare for the mandates. According to Russ, there "... is no way to cover the whole book and so you have to break it down into sections."

Also, most teachers talked about reading the text before lecture and discussion in class. Teachers generally read with their students ahead of beginning a unit or lesson to provide some background knowledge and as a stem for discussion.

I observed teachers in this study using cooperative learning groups almost daily in order to engage students in learning. Another meaningful use of cooperative grouping is to promote collaboration within the group and with the instructor as a route to a shared understanding of ideas or text. Social grouping mediates learning where shared learning becomes new learning. Students learn concepts and ideas in much stronger ways when opinions and perspectives are shared in social contexts.

Duke et al., (2006) suggest that questioning can be considered an authentic learning activity if it serves a true communicative purpose. Here some teachers used questioning for multiple purposes including engaging students in learning, specifically in discussion or conversation about content. For example, Cate, Hal, and Seth involved their students in science discussions by asking questions during demonstrations or when solving problems on the board.

Further, teachers used notetaking as a teaching practice when they dictated notes or wrote notes on the board or on a transparency for the purpose of copying. When using notetaking in this way teachers kept students focused and engaged in the activity. Some teachers also taught notetaking in cognitive

ways as a tool that students could draw upon when needed. I only observed some of the process of teaching the varied notetaking strategies used by teachers in this study. Dave explained the purpose for using sticky tabs to me during our interview. His students understood that they were using the sticky tabs to track their thinking about the themes in the novels they read. They used different colors indicating different themes. As they read through the novel they were moving their tabs, eliminating those that became less important as other passages came to be more indicative of the themes in the novel. Dave modeled the strategy and guided their use of it.

Several teachers across both schools used foldables. I observed students using foldables to record notes from their reading or from a film they were watching. Cam and Spence used foldables to help students organize their thinking. Cam's students understood that a completed foldable was expected to be used to write a paper because it held the ideas students needed to use in their essays. Spence used foldables for his students to organize the many programs of The New Deal. I did not observe Cam or Spence in the act of teaching these strategies cognitively. However, I did observe students using them in cognitive ways.

Science teachers also made their teaching visible for students in terms of modeling their thinking out loud. Teachers modeled their thinking when solving problems on the board, for example, Cate modeled solving physics problems by talking through the steps associated with solving the problems. Hal modeled his thinking while figuring out an orbital diagram or a shell diagram using the periodic

table. Seth modeled his thinking while filling out punnett squares with genotype and phenotype information.

I observed no instances, however, of teachers thinking aloud about text. Teachers did not report using think-alouds as a way to teach students how transactions with text happen. Teachers involved students in reading, but not in the instruction of reading.

Tensions – Engagement

Tensions exist among teachers in terms of engaging students in learning toward becoming successful learners. Most of the tensions reside among teachers from South Hill. The underlying reason for voiced tensions by these teachers is the lower reading and writing abilities of their students as typical of high poverty urban schools. Tensions are exacerbated by the lower literacy achievement of these students. Specifically, teachers are constrained by mandates and initiatives so they are more concerned with developing reading and writing skills and learning the content.

For example, Cam (South Hill) struggles with the perceived mismatch "... there's so much of an emphasis on getting ready for tests ... so much of an emphasis on the literacy strategies and stuff that it seems a good social studies teacher should be able to get students excited and enthused about the world around them ... am I a good social studies teacher? I don't know. I'm doing what the district and what the state's asking me to do."

Russ (South Hill) struggles with the time it takes away from teaching his content to teach literacy strategies suggested by the district. He sees the value in

teaching reading and writing and is in favor of writing across the curriculum, "... but the problem is ... we're supposed to cover 100 things and if I felt like that someone would eliminate 40 of those things, and let me just cover the 60 really in-depth ... I think all of us could do a great job with things like ... helping them read or helping them study, or helping them write papers or whatever."

Hal (West Park) struggles with reading issues of some of his lower track chemistry students. He has solved this problem by doing read-alouds with his students.

> A lot, sometimes we'll have an article that we'll read, I read to them. I read to every single one of them. If you hand them the thing to read themselves, a lot of them will struggle and so behavior becomes an issue. And so what we do is we do read-alouds where I read and they follow along. We do a lot of that.

Teachers at both schools need help to transform their teaching. Teachers are frustrated with mandates and lower reading abilities at South Hill. The larger issue here is that students at South Hill are not progressing in reading and writing. Teachers at both schools struggle with how to teach cognitive reading and writing strategies to help students become self-regulated learners. Teachers also perceive they have little time to teach reading and writing, but there are ways to involve students in cognitive reading and writing tasks and at the same time teach their curriculum. However, teachers likely will need long term support in order to reach this level of cognitive instruction. At this point, the teachers at South Hill do not have this level of consistently focused support. The teachers at West Park do have this kind of support available.

Impressions about Literacy

All three goals are connected to literacy by the levels of reading and writing needed to accomplish them. Teachers define literacy in terms of these goals. For example, in terms of meeting mandates literacy is defined as *passing tests*. They define literacy in terms connecting or applying learning to the world as *using higher order thinking skills*. And they define literacy in terms of engagement as *focused and successful learners*.

The interrelation between these three goals stems from their interdependency. For example, in order for students to pass the tests demanded by mandates and initiatives, students need to possess a certain level of higher order thinking skills as the state tests require complex thinking and organization of ideas. In order to progress to higher order thinking students need to be focused and proficient readers and writers.

CHAPTER 5

CONCLUSIONS AND IMPLICATIONS

Summary and Discussion

The purpose of this study was to explore and describe the literacy practices that high school science and social studies teachers use to accomplish their instructional goals. I examined the purposes for using these literacy practices and specifically looked at how teachers involved reading and writing within their teaching. Seven teachers participated in this study representing both urban and suburban settings. Two teachers at each school represented social studies, one upper track and one lower track. Two science teachers at the suburban school (one upper track and one lower track) and one science teacher at the urban school participated in the study. Only one science teacher at the urban school participated in this study because he taught both upper and lower track classes. In order to determine and describe instructional goals and literacy practices teachers participated in pre and post interviews. In addition, I observed three to four class sessions per teacher following the initial interview. Each teacher participated in a post interview to determine the purposes for their practices and student tasks and to clarify or explain certain aspects of the observations. Student tasks were collected to provide further insight into teachers' practices and purposes and more importantly served as indicators of how reading and writing were involved in their teaching. The focal point of the interviews was teacher perceptions and beliefs about their instructional goals and

teaching practices and how they described reading and writing within these areas.

This chapter discusses the findings of this study in terms of teachers' instructional goals as determined through the interviews. Teachers articulated three goals in response to a specific question in the initial interview that asked them to explain their goals for their students. However, understanding these goals is more complex and takes thinking beyond a single answer to an interview question. Teachers also described their goals in implicit ways throughout their interviews. Other interview questions that helped provide clarification of teachers' goals included teachers' descriptions of good science and social studies teachers and teachers' descriptions about what makes someone literate in science or social studies. Teachers' explanations of their three goals underpin this study and draw attention to other complex issues that this study puts forth. There is an interrelation of goals expressed in this study that relates to and complicates making sense of literacy, teachers' beliefs about teaching and learning, underlying inequities and mismatches, and the relationship of goal emphasis to reading.

Goals

In order to make sense of the research questions in this study I needed to understand the goals teachers have for their students. Teacher practices, purposes for their practices, how these practices involve reading and writing, and the tasks students are asked to perform connect in some way to these goals. Teachers identified three distinct, but interrelated goals. They described each of

these goals in distinct ways: Goal #1 was described in terms of mandates set by others including state assessments and district mandates and initiatives. Goal #2 was portrayed as connections between learning and the world or applying knowledge and understanding to the world. This goal necessitates higher order thinking skills. Goal #3 was expressed as the engagement and motivation it takes to make learning happen.

Since South Hill High School and West Park High School encompass different demographic backgrounds and dissimilar student populations, teachers' emphases on these goals project quite distinctive pictures. South Hill is a typical high poverty urban high school where students have generally lower reading and writing levels than surrounding suburban schools. They struggle to meet their school reading and writing objectives. South Hill teachers place high to very high emphasis on Goal #1. All of their teachers are focused on preparing their students for the state test, covering the curriculum for the district's common assessments and getting their students graduated. Conversely, these teachers place low to no focus on Goal #2. Since most of their time is spent meeting the mandates of others, they are less focused on planning for activities and lessons geared toward making connections to the world. Their focus on Goal #3 is somewhere in the middle and certainly more related to meeting the mandates then connecting learning to the world. Since their students have generally lower reading and writing capabilities, some South Hill teachers try to include reading and writing in their teaching everyday.

The suburban background of the West Park teachers also influenced their responses. West Park High School students continually meet their reading and writing objectives. Students at West Park generally have much higher reading and writing abilities than South Hill. For West Park teachers Goal #2 ranks highest as a focus. They all placed high or very high focus on helping their students connect to or apply their learning to themselves or the world. Conversely, West Park teachers place low to no focus on meeting mandates. These teachers do however place, as the South Hill teachers do, a medium focus on engaging or motivating their students to learn. Goal #3 seems to weave throughout both of the other goals and seems to serve as a foundation or support for Goal #1 and Goal #2. In other words, achieving Goal #3 makes it possible to achieve Goal #1 and #2.

There seemed to be two categories of Goal #2. While some teachers talked about wanting their students to apply knowledge and understanding this seemed to be more of a future goal, one that students would need to meet beyond school with the learning acquired in school. There were very few instances of teacher practices devoted or specifically targeted to allow students to apply knowledge and understanding somewhere beyond school, to the real world. There were, however, more instances of teachers making connections to the world outside of school, for and with students through text, lecture and discussion at both high schools.

Teachers from both schools described certain literacy practices to meet their mandates (Goal #1). They described their practices around *use of text* and

assessment preparation. In terms of text, teachers at South Hill followed their texts closely. Their district mandates direct teachers to use their texts strictly as they are laid out. However, teachers do find ways to honor their beliefs about teaching and learning by infusing some of their own activities and lectures into their lessons if they are deemed better than those suggested by their texts. Teachers at West Park have more flexibility to use other activities or supplemental readings from other texts or the internet in place of or in conjunction with their textbooks.

Both sets of teachers use reading and writing to prepare their students for the state tests. They draw on practice questions from textbooks and other sources including the internet. Teachers include persuasive essays in their teaching whenever possible, often in connection to their own class tests and exams. They also use district writing assessments as practice.

Applying learning and making connections to the world draws on higher level literacy skills beyond knowledge and understanding. Teachers described several categories of applying learning and making connections to the world, for instance, to be productive members of society, to understand the world from different perspectives, to hold real world conversations with others, to see the big picture of how real events are related, and to problem solve. Teachers used a variety of literacy practices to help their students make connections between their learning and the world, but little actual application to the world outside of class was observed or talked about. More application was talked about than actually acted upon. Applying knowledge in and to the world seems to be a goal teachers

hold for their students in the future as a result of the knowledge and understanding gained in school.

The third goal described by teachers permeates the other two goals. Teachers described Goal #3 as engagement in learning and being successful learners. They want their students to be engaged in learning and motivated to want to learn. Being a successful learner implies a certain level of independence in learning. Teachers, for the most part, perceived they had little time to teach students how to learn in terms of strategy instruction where the strategy is explained, students are taught the steps of a strategy, teachers model the strategy, and students are guided toward self-regulation or independence in using a particular strategy. Some teachers, however, did guide their students through problem solving by providing mental models and thinking aloud through the steps, cuing students to the pitfalls of certain problems. Teachers also guided students reading through the use of graphic organizers and study guides. Further, teachers guided their students' writing by showing them how a certain type of writing should be organized, for example, specifically directed to state assessment writing like persuasive essay. Teachers generally described literacy practices according to the level of students they taught in terms of basic reading and writing skills or higher order literacy skills.

Making Sense of Literacy

Teachers seemed to make sense of or conceptualize literacy in terms of their three goals. While each subject area is unique in terms of content, terminology, structures, and processes, teachers in this study across subject,

school, and track made sense of literacy in three distinct, but interrelated ways. For example, in relation to Goal #1 literacy is defined by federal, state, and district mandates or initiatives where literacy is gauged or judged by passing tests. For Goal #2, the interpretation of literacy is articulated and supported by teachers' beliefs about what good teachers do and what makes someone literate in science or social studies. It is judged by how well one can connect learning or apply knowledge and understanding to the world. The interpretation of literacy in terms of Goal #3 seems to be the basic ingredient of achieving both Goal #1 and Goal #2. For Goal #3, literacy is gauged by whether someone is engaged in learning and motivated to put learning into action.

Do teaching practices match beliefs?

Teachers' beliefs about teaching and learning emerged from the interview data around expressed goals; they described what good science and social studies teachers do and what it means to be literate in science and social studies. In some instances teachers' beliefs do match their practices, however, there are several examples where practices are incompatible with beliefs.

Belief matches practice: varying teaching practice will engage students. Teachers believed that varying their practice would keep students engaged in learning and they carried out that belief. Teachers talked about switching things up, trying a variety of methods, and keeping things fresh by not doing the same thing everyday. At both schools teachers varied their literacy practice to keep students motivated toward learning (Raphael Bogaert et al., 2006). Teachers

integrated lecture, discussion, using technology, hands-on activities, and cooperative grouping to teach their content.

Belief matches practice: teachers' own knowledge and ideas are often better than the mandated text. Teachers uphold their belief that in many instances their own knowledge and activities work better than what is prescribed by the textbook. Even though teachers from South Hill voiced concerns about the mandates in terms of strictly following their textbooks and the activities prescribed by the textbooks, they found ways to honor their beliefs about what was best for their students. Seth and Cam found ways to substitute better activities and create reading guides or graphic organizers based on their students' needs. Russ and Seth interspersed their own content in place of or in addition to content from the textbook. Russ, for instance, used the *History Alive* textbook as a basic skeleton for his content, but filled in with content he had gathered from other sources. At South Hill teachers make choices about the textbook activities they use with their students. If they have a better idea they honor their beliefs and use their own activity.

Teachers from West Park were not as tied to their texts so were able to incorporate content from a variety of sources. Teachers from both schools used content from supplemental sources suggested by and included within their textbooks as well as other sources beyond their texts, including other books, newspapers, news magazines, or the internet, for instance, CNN or NASA websites.

Belief seldom matches practice: teaching reading and writing strategies is important. Teachers across both schools voiced agreement that teaching reading and writing strategies is something they should be doing. Across schools there is evidence of reading and writing happening within science and social studies classes. The purposes for the writing tasks were generally for class assessment or practice in preparation for state and district tests. Further, much of the reading at South Hill and the lower track classes at West Park happens as a result of teachers reading aloud to students, round robin reading situations and the like.

Teachers taught students how to do graphic organizers, multiple notetaking techniques, and different types of reading or study guides and walked students through the use of these techniques. However, I observed little cognitive strategy instruction where the teacher explains, models thought processes and reasoning, and guides students to independent use of a reading strategy. One of the school-wide literacy initiatives at West Park is the use of gradual release of responsibility. Teachers try to incorporate this process whenever they teach something new. I observed Hal gradually releasing the responsibility of figuring out orbital diagrams, but not of teaching a deeply cognitive reading or writing strategy.

Belief matches practice: content must be taught regardless of reading and writing level. Teachers across subject area and school believed that all of their students needed to learn their subjects' content. They believed they had a responsibility to teach the curriculum regardless of reading or writing abilities. In

order to ensure that their struggling readers can succeed in learning these content teachers choose other ways to deliver their content. For example, they use cooperative learning groups, hands-on activities, demonstrations, and make learning visible by modeling problem solving on the board. Russ described the complexities in his classroom "... you don't speak a lot of English and you don't have this, you know, and you don't have your book today, but you know what? We're still gonna learn about the Great Society. Even though we have these limitations ..." Teachers find other ways to accomplish their goals.

Belief does not always happen: applying or connecting learning to the real world should happen. Teachers believe that they should be able to help their students apply or connect to the real world. They tend to help their students connect to the real world in terms of the teacher pointing out or demonstrating a connection, but students have very little opportunity to actually apply their learning outside of school situations.

South Hill teachers focus so heavily on preparing for tests they perceive a lack of time to incorporate teaching practices that allow students to apply or connect their learning to real world contexts. However, as a result of normal practice I did observe teachers verbally connecting their content to the real world through lecture, storytelling, and physically through demonstrations and hands-on activities. Teachers at both schools try to use authentic texts like newspapers and articles, but ultimately the purpose is school-only.

What does the goal emphasis mean?

The emphasis or value teachers place on each goal seems to be determined by reading abilities of their students. School demographics seem to account for the emphasis given to goals. For example, South Hill is a typical urban city high school with a high poverty school population and lower reading scores (Balfanz & Letgers, 2004). South Hill teachers place high focus on meeting the federal, state, and district mandates. This higher focus on meeting mandates stems from the struggle they have improving their students' reading and writing scores on state tests. To meet their own school reading and writing objectives teachers are under considerable pressure from the state and the district to change these outcomes. South Hill teachers also have district common assessments; this adds to the stress of meeting mandates. Therefore, it makes sense that these teachers place such high value the goal of meeting mandates.

At West Park, teachers place very high to high focus on developing successful learners who can use higher order thinking skills to make connections between learning and the real world. Students at this school have generally higher reading abilities than at South Hill. While teachers at West Park are concerned about reading and writing improvement there is not the same urgency as at South Hill. So, teachers at West Park have more leeway in terms how they deliver their curriculum. They focus more on moving their students toward higher level thinking skills because they are not struggling to teach more basic reading and writing skills. This is not to say, though, that teachers at West Park are not concerned about reading and writing on a larger scale; they have a district wide literacy initiative in place to support all learners. Further, Hal and Spence, who

teach the lower track science and social studies classes, struggle in similar ways as their counterparts at South Hill in terms of the reading and writing abilities of their students.

Major Underlying Tensions

Some interesting mismatches became apparent as the narrative unfolded in this study. Such tensions have been expressed in terms of multiple mandates and lack of time.

Multiple mandates. The most visible mismatch exposed in this study is the struggle South Hill encounters when tying to meet multiple mandates. South Hill teachers juggle the requirements of distinct, but interrelated mandates. These mandates include moving their students toward graduation, passing the state assessments, and passing the district common assessments. District literacy initiatives are also thrown in the mix. These mandates produce tensions among teachers due to the generally lower reading and writing achievement of their students, hence the mandates. The mismatch exists in the overlap of these mandates. Teachers must cover their district curriculum in order to meet the requirements of the common assessment at the end of the year. However, they must spend until October of each school year preparing and practicing for the state assessments. This interference produces a time constraint for teachers; if they practice for state tests until October, they do not have enough time to cover the curriculum for the common assessments. Thus, one mandate is perceived to impede another mandate and produces tension among teachers.

Lack of time. Another tension exists in the seeming lack of time for teaching reading and writing strategies. Because teachers must practice for the state tests and make certain they cover the curriculum they perceive a lack of time to teach reading and writing. But, since their students struggle in reading and writing the district has set in motion a literacy initiative. Data depicts the South Hill teachers' high focus on meeting mandates which stems from the lower reading and writing abilities of their students. Their students' reading and writing abilities stand in the way of their success on the state and district assessments. But teachers spend more time on practicing for the tests and covering curriculum than teaching reading and writing to their students.

South Hill teachers understand their students' needs, but feel their hands tied for a perceived lack of time. Consequently, some teachers focus on covering curriculum while sporadically infusing reading strategies in inconsistent ways. Others introduce reading and writing everyday.

Struggling readers. In addition to the perceived lack of time as a roadblock to helping students make connections to the real world, struggling readers, especially at South Hill, make it more difficult for teachers to make connections to the real world. The lower readers in both schools have not developed the level of literacy in science and social studies to be ready for applying their limited knowledge and understanding to real world situations in terms of college, work, and citizenship (Heller & Greenleaf, 2007). Teachers at both schools do try to infuse more authentic types of activities into their lessons to make connections to out of school situations, but the activities are often peppered with evaluation such

as grades, so the purpose is not authentic even though the activity is more or less so.

Implications

This study provokes questions relating to content literacy and adolescent literacy and relates to how we prepare preservice teachers to teach literacy in secondary content areas. Issues are raised about literacy identity and whose literacy identity we adopt when making decisions about teaching adolescents or what literacy practice looks like in content areas. Questions arise about what literacy strategies we encourage teachers to use and how we teach teachers about content strategy instruction in a content area literacy course. Further this study brings about more thinking about what can be done to help teachers in both schools improve literacy instruction in their teaching.

Content Literacy

This study set out to discover and describe the literacy practices of high school science and social studies teachers at two high schools. The issue of resistance to teaching reading and writing in the content areas (O'Brien, D. G. *et al.*, 1995; O'Brien, D. G., 1988; Sturtevant & Linek, 2003) is rife with complexities and does not do justice or match the multiple contexts of content teachers. Other issues come into play when describing teachers as resistors. As researchers we must evaluate all of these issues when labeling content teachers resistors. Issues that complexify whether teachers involve reading and writing in their lessons, include teachers' goals for their students, teachers' beliefs about

teaching and learning, socioeconomic background of their students, preparedness to teach literacy strategies, and a time factor.

Cognitive strategy instruction. We need to clarify what it means to teach literacy in the content area. Do we mean that a teacher has some sort of reading or writing activity attached to their lesson where students read a section of a text and write a summary or fill out a graphic organizer, or respond in writing to short answer questions? Does it mean that students take notes in a two-column format? The complexity here is that teachers generally involve reading and writing in their lessons, but never talk to the students about how to carry out the task. Teachers spend little time explaining, modeling reasoning, and guiding practice to ensure independent use of the task.

To complexify this issue further, there is a distinct difference between urban and suburban school needs in terms of literacy. The urban teachers in this study face high odds from the start due to the high poverty, lower reading levels of their students. Even in an honors class the reading and writing levels of many of the honors students in the urban schools do not match the levels of the honors students in the suburban schools. However, the lower track teachers at West Park do share some of the same issues that plague the South Hill teachers around struggling readers. For instance, teachers of lower track students at West Park and teachers at South Hill generally do not expect their students to read independently to acquire content knowledge and understanding.

According to Heller and Greenleaf (2007) certain policy issues need attention in order for literacy reform to happen. Content teachers need clearly

defined roles and responsibilities especially in regard to who's job it is to teach basic reading and writing. Content experts need to define the specific literacy skills that align with a particular content area; they need to identify the literacy skills a teacher should teach. All policy makers (federal, state, and district) should come together to provide for consistent and ongoing professional development in teaching the identified literacy skills per content area. Lastly, these policy makers need to provide essential and adequate funding, accountability, and tools for teachers to be successful.

Adolescent Literacy

The motivation of adolescents who struggle to read books and chapters happens by pulling other literacies into the classroom, for example, the technology that adolescents are familiar with and use outside of school daily (Stevens, 2002).

Teachers in this study across subject, school, and track described their teaching in terms of varying their practices. This connects to the goal of engaging students in learn learning. Teachers described engagement in two ways. They wanted their students to learn how to learn or to be successful learners and they wanted them to be motivated to learn. Teachers were consistent in their efforts to motivate their students.

Teachers varied instructional practices to include multiple literacies and "new literacies", not only reading and writing in the traditional sense, but they included supplemental readings from internet sites like CNN and NASA and

news magazines and newspapers. Teachers also use hands on activities, inquiry and story telling, and video and film.

Some student tasks were carried out in the computer lab where students could connect to the real world through the projects they were doing. There was an effort by some teachers to include as much technology as possible to keep students motivated. So teachers are bringing the outside world of adolescent literacy into the classroom to connect to and motivate their students, to engage them in learning. Teachers also use hands on activities, inquiry and story telling, and video and film.

Teacher Education

I believe teachers of adolescents need to know how to teach reading and writing strategies in content areas. To facilitate this understanding I believe content teachers need to understand the relationship between instructional strategies (teaching practices) and cognitive strategies. Many teachers use instructional strategies to deliver content to their students; they need to understand that it is only when these strategies become metacognitive that students can internalize them and use them to learn in self-regulated ways. Content literacy instruction should include the teaching of cognitive strategies where students learn to evaluate and monitor their own comprehension and thinking. I believe that teachers of content need to understand the clear distinction between teaching practices and cognitive strategies to effect better readers and writers of content. However, as Heller and Greenleaf (2007) point out (2007) several policy issues need to be ironed out, specifically which

cognitive strategies should be taught in certain subject area domains, for this to happen effectively. The resolution of these policy issues certainly effects teacher education in terms of how and what teacher educators teach preservice teachers about literacy instruction.

Teaching teachers isolated strategies without considering their context does not work. This study impacts the education of future teachers in terms of subject matter literacy, what counts as text especially in terms of understanding the adolescent student, literacy needs across urban schools, suburban, and rural contexts, and reading and writing strategy instruction.

Content Literacy Course

There are several layers of complexity that should be taken into consideration when planning and delivering a content area literacy course. For example, content literacy and adolescent literacy project differing perspectives on literacy and how on might think about literacy. Other considerations when planning a content area literacy course include a broader view of text, literacy, traditional and transformational strategies, school context, and subject mater idiosyncrasies (See Appendix F).

Content Literacy vs. Adolescent Literacy. When we understand the adolescent student we understand a broader view of literacy. Adolescent literacy has been described as "new literacies", "multiple literacies", out-of-school literacy, and the like. These once out-of-school literacies are now being seen as in-school literacies as well as students and teachers bring them into the classroom (Stevens, 2002).

The IRA/NCTE (1996) standards also project a broader view of literacy. Where basic reading and writing were once considered the level of literacy one needed to be successful in life. Now, a broader view of literacy has been established to include speaking, listening, visual, and visual representations in terms of one's own values, job, and citizenship. Further, the "new literacies" concept includes digital literacies (Leu et al., 2004).

Within a *situated cognition* perspective (Brown, Collins, & Duguid, 1989), discussions about text can include learning about comprehension strategies. Recent research has delved into this broader view of text, specifically spoken text, to uncover how small group discussions can improve comprehension (Certo et al., 2008). Further, teaching of comprehension strategies within discussion can be effective ways to improve understanding of text (Certo et al., 2008).

Instructional Strategies vs. Cognitive Strategies. Another complex issue related to this study is understanding the relationship between teaching instructional strategies (teaching practices) and cognitive strategies. Many teachers use instructional strategies (teaching practices) to deliver content to their students; they need to understand that it is only when these strategies become metacognitive that students can internalize them and use them to learn in self-regulated ways. Content literacy instruction should include the teaching of cognitive strategies where students learn to evaluate and monitor their own comprehension and thinking (Conley, 2008). Teachers of content need to understand the clear distinction between teaching practices and cognitive strategies to effect better readers and writers of content. For instance, many

teachers use the practice of KWL to help their students access learning. However, many teachers use KWL to guide students through the reading of text. They do not teach students how to be strategic with its use. We need to make sure that preservice teachers understand that it is only when we teach the cognitive aspects of KWL, like predicting, by explaining its purpose, modeling the steps or process, and guiding its use that students actually become strategic in their use of the strategy. Then they understand what types of thinking they can do on their own when reading to access knowledge and understanding, to retain that learning, and take their thinking to the next level of application to somewhere outside of school. If we want teachers to teach literacy in the content areas we must prepare preservice teachers to teach cognitive strategies in conjunction with their content and provide ongoing consistent support for their efforts.

Traditional Strategies vs. Transformational Strategies. How one views text impacts strategy instruction and strategy use. In that sense, how we strategically read and write text depends on the text being used. For example, there is a different perspective on what counts as text under the labels content literacy and adolescent literacy. In a traditional content literacy course text is defined as linear or school-sanctioned like textbooks and other materials designed specifically for classroom use. The view of text certainly broadens under the adolescent perspective as text becomes more non-linear where searching the internet for information for a school research project predetermines a more transformational set of reading strategies. Preservice teachers need to understand the broader

views of text and the purpose for using them in order to make decisions in regard to particular literacy strategies that match the type of text used.

School Context. Another issue is addressing the unique qualities of teaching literacy in urban, suburban, and rural environments. Preparing teachers to teach literacy in urban schools could be quite different than teaching them to teach literacy in suburban schools or rural schools.

Differences in school context should be considered when teaching a content area literacy course. First and foremost, teaching in an urban context predicts certain struggles in teaching reading and writing. In a typical high poverty urban high school the reading and writing abilities of the students are significantly lower than their suburban counterparts. Teaching preservice students about the expectations and realities of urban contexts would better situate them as a teacher of content and literacy. We can teach preservice teachers how to integrate deep cognitive strategy instruction within their content even in the face of mandates, lack of time and struggling readers and writers or where there is a higher incidence of English as a second language learners

Subject matter idiosyncrasies. We know that reading practices can be different across domains where different types of literacy expertise are required (Alexander, 2000; Mayer, 2004; Moje, Dillon, & O'Brien., 2000; Vansledright, 2004). And we know that reading and writing in the disciplines is shaped by the distinctive conceptual, textual, and semantic demands of each area (Moje, Dillon, O'Brien, 2000). Preservice teachers generally take one content literacy course in their teacher education programs. The complication exists in preparing these

teachers to teach reading and writing appropriate for every subject's conceptual, textual, structural, and semantic demands in one course.

Even beyond all of these layers of complexity involved in preparing preservice teachers to teach literacy for all school contexts, all types of learners, all subject matter idiosyncrasies, old and new literacies, and all types of text, we are still faced with the problem of how best to conduct content area literacy courses. More important is the issue of how to help preservice teachers gain an understanding about the importance of teaching literary strategies within a subject matter course. Conley, Kerner, & Reynolds (2005) suggest tutoring as a way to motivate preservice teachers to learn how to assimilate literacy into their subject areas and increase self-awareness and self-efficacy as teachers.

Teachers

Teachers can improve their knowledge and use of cognitive strategy instruction through initial professional development and consistent, long term support (Heller & Greenleaf, 2007) from knowledgeable others. Teachers need to be taught how to combine their content with cognitive strategy instruction by first selecting a strategy that fits the content being taught.

Shared reading is an example of a cognitive reading strategy that fits well with subject matter. Shared reading also provides authentic experience in reading subject matter (Lapp, Fisher, & Grant, 2008). The teacher shares a think-aloud with students by explaining the strategy, modeling her own thinking, and gradually releasing the responsibility to students. During a shared reading the teacher actually performs a verbal protocol as she comments on her own

thinking. Shared reading fits the model of cognitive strategy instruction (Conley, 2008).

Teachers also need to explain the strategy's purpose, model the reasoning and thinking processes to make the process visible for students, and guide students' use of the process by gradually releasing the responsibility of its use to the students as they become more proficient. Students need to be guided toward metacognitive, self-regulated use of these cognitive strategies.

However, teachers will need long term support by knowledgeable others and will need to be appropriately funded through by federal, state, and district policies (Heller & Greenleaf, 2007). Implementing cognitive apprenticeships (Collins, Brown, & Newman, 1989) and literacy coaching are examples of appropriate support by knowledgeable others.

Significance, Limitations, and Future Research

This study contributes to content literacy, adolescent literacy, and teacher practice. It offers more clarity around the issue of resistance to involving reading and writing in subject area lessons. The teachers in this study do, indeed, involve reading and writing in their lessons in multiple ways across schools, subject, and track. Every teacher acknowledged and believed that reading and writing was important to include in their practice. However, many also acknowledged they do not do enough of it for a variety of reasons including strategy fit to subject area, comfort level in using or teaching strategies, and a perceived lack of time. And, involving reading and writing in significant and multiple ways does not mean teachers actually teach students how to be strategic readers and writers. Nor

does it mean they teach cognitive reading and writing strategies to the point of independent use of these strategies.

These issues are complex and offer questions for future research. First, this study raises questions about how we prepare teachers to teach cognitive literacy strategies toward the goal of metacognitive or independent use. Second, this study raises issues about how we prepare preservice teachers to teach content literacy in the urban school situation where reading levels are generally much lower and the complex demands are unique to high poverty schools. Third, this study raises questions about how we educate future content area teachers to implement more authentic activities with their students to connect or apply learning to the real world. Fourth, this study raises questions about how well traditional literacy strategies can transform to the broader view of literacy and text. Fifth, this study raises questions about identifying common set of literacy strategies that may fit across subject areas. Sixth, this study raises the issue of whether a content literacy course can do it all for all types of schools, students, and subject area concentrations. Further, it pushes us to think about and identify literacy strategies specific to certain subject area demands.

Although, this study provided in depth look at teacher's goals and how they correlate to practices in the classroom, a number of limitations exist including the following: limited number of participants, limited number of schools representing urban and suburban settings, and limited number of observations. First, this study only focused on seven teachers, three urban teachers, two who taught social studies and one science, and four suburban teachers, two who

taught science and two who taught social studies. While this study included two different subject areas and urban and suburban school settings the findings cannot be generalized to other urban and suburban schools. Neither can findings be generalized to other science and social studies teachers. Conducting a larger study with additional urban and suburban schools and teachers would provide more generalizability to these findings.

Second, although teachers' narratives are rich, they provide only a glimpse into the literacy practices of high school science and social studies teachers. In addition, other disciplines could be included in future research to provide more generalizability of findings. And although teacher participants represented a wide range of situations including different subjects, school settings, and tracks, the depth of representation was limited. Therefore, results cannot be generalized to other similar situations.

Third, three to four observations were conducted per teacher during a single teaching unit. While observations provided rich data about how teachers taught their subjects, how students carried out tasks, and how reading and writing were involved in the lessons observed the results cannot be generalized to other teachers.

In conclusion, I propose that additional studies be conducted at urban and suburban school settings to build deeper understandings about what is possible in terms of cognitive strategies instruction in these contexts.

1) We need more investigation specifically in urban contexts where teachers experience more rigorous demands and students struggle at

significantly higher levels with reading and writing; we need to determine the best way for cognitive strategies instruction to happen in this context.

2) We need to investigate whether "new literacies" and authentic activities and texts engage urban students better than traditional strategies and texts.
3) Additional studies are warranted to find ways to help teachers understand the how to use authentic activities to help students connect or apply learning to the real world.
4) Small group subject area discussion is another needed area of research where students are given opportunities read, write and have conversations like scientists, historians, mathematicians and the like about subject matter real world concerns to reach improved comprehension (Brown, Collins, & Duguid, 1989, Lave & Wenger, 1991).
5) We need more studies that examine the way content literacy courses teach preservice teachers to teach literacy strategies that specifically target context in terms of school settings and culture.
6) An intervention study is warranted where certain cognitive strategies are tested in content areas to determine fit and usefulness to certain content areas.

7) I would like to see further study of tutoring as a way to teach preservice teachers greater understanding and motivation for integrating literacy in their subject matter.
8) I would also suggest considering policy studies explicitly looking at how best to support certain literacy interventions for teaching adolescents.
9) We need to investigate how traditional literacy strategies might become transformational when used with "new literacies" and broader views of text.

For literacy instruction reform to happen existing and preservice teachers need initial, continued, and consistent long term support (Heller & Greenleaf, 2007). Studies are needed to determine effective professional development that matches these parameters, for example additional studies on literacy coaching with a variety of school contexts.

I argue that teaching cognitive literacy strategies in all school contexts is possible and to students in urban school settings, in particular, it is not only possible, but warranted. As a research community, we need to think about how combining subject matter with literacy strategies can be productive for teachers and students within complex contexts. More importantly, we need to develop common literacy strategies suitable across content in collaboration between literacy and subject matter researchers (Vansledright, 2004). However, we need to determine and understand literacy strategies specific to certain subject areas as well. I would also suggest that in the face of adversity among lower readers at both urban and suburban schools and in the absence of professional

development and support for teachers, teachers have no other choice than to find alternate ways to teach their subjects when students cannot read. However, we can prepare teachers how to teach cognitive literacy strategies within their content to support the literacy education of their students. Further, this study makes a point of acknowledging that content teachers do incorporate reading and writing within their practice. And in fact content teachers are incorporating reading and writing within their lessons even on a higher level of literacy in some classes.

APPENDICES

APPENDIX A
INTERVIEW PROMPTS

- **Part 1** ***Teacher background***
  - **How long have you been teaching?**
  - **What district initiatives or mandated activities, if any, are you required to implement?**
  - **Describe your sources of knowledge (How and where did you learn your subject area)?**

- **Part 2** ***Goals and practice***
  - **What goals do you have for your students?**
  - **How do you teach your subject area (teaching practices and purposes)?**
  - **What do you observe when students struggle?**
  - **How do you know they are struggling?**
  - **How do you help them?**
  - **How do you assess students?**

- **Part 3** ***Questions about reading and writing***
  - **How is reading involved in your teaching?**
  - **What do you do to help kids when they are reading?**
  - **How is reading involved when you see kids struggling?**
  - **How is writing involved in your teaching?**
  - **What do you do to help kids when they are writing?**
  - **How is writing involved in teaching struggling students?**
  - **How is reading involved when you assess kids?**
  - **How is writing involved when you assess kids?**
  - **Describe a good _____ teacher. (What does a good _____ teacher do)?**
  - **What does it mean to be literate in _____?**
  - **What do your students need to know or know how to do to be successful learners?**

- **Part 4** ***Questions about text***
  - **Do you expect your students to read this chapter/text? When and how?**
  - **What are the most important things you want your students to understand from this chapter/text?**
  - **What difficulties do your students encounter in making sense of this chapter/text? How do you help students when they experience those difficulties?**
  - **Are there other experiences or activities that you expect students to engage in to help them understand this content? Describe? How important are they relative to**

reading?
  - Do your students write anything while they are studying this text? What? How does the writing help them learn or help you teach?
  - Do you ever ask students to suggest questions that the chapter/text might answer?
  - Do you ever ask students to summarize what they have read

- Part 5 *Pre-observation conversation*
  - Walk me through the next week ...
  - What will you try to accomplish ...
  - What tasks will students be involved in (reading and writing)?

- Part 6 *Post-interview clarifying purposes*
  - How do you think the lesson went?
  - Why did you choose to use (particular teaching practice)?
  - Why did you assign (particular task)?
  - Why did you choose to use (particular text)?

APPENDIX B
OBSERVATION PROTOCOL

Time	What is teacher doing/saying?	What are students doing/saying?	Subject Matter (topic/ideas)	How is text represented?

APPENDIX C
MASTER CODE LIST

assessing
assessing - AP
assessing - checking for understanding
assessing - class discussion
assessing – class work
assessing - common assessments
assessing - essay questions
assessing - higher level questions
assessing - homework
assessing - informal
assessing - labs
assessing - multiple guess
assessing - notes
assessing - objective
assessing - open note
assessing - prepare
assessing - projects
assessing - reading
assessing - teach to AP
assessing - test and quizzes
assessing - wrap-up questions
assessing - wrap-up questions and activities
assessing - writing
describe good teacher
describe good teacher - apply to other classes
describe good teacher - compassion
describe good teacher - connected to students
describe good teacher - curiosity
describe good teacher - don't do the same thing every day
describe good teacher - engage students in world
describe good teacher - gets kids invested in learning
describe good teacher - help students learn material
describe good teacher - make it interesting
describe good teacher - models
describe good teacher - motivates
describe good teacher - problem solving
describe good teacher - students excited or enthused
describe good teacher - think critically
describing curriculum or content
describing students
describing subjects and grades taught
goals
goals - all mapped out for me
goals - apply to real world
goals - cover content
goals - create passion interest
goals - graduate

goals - how events are related
goals - informed citizens
goals - literacy strategies everyday
goals - reading and writing everyday
goals - see the world from a different perspective
goals - state tests
goals - successful learners
goals - to understand and figure things out
goals - to use and build on knowledge
goals - vocabulary across curriculum
helping struggling students
helping struggling students - creating interest
helping struggling students - curriculum needs
helping struggling students - not giving them the answer
helping struggling students - organization
helping struggling students - probing for answers
helping struggling students - process to figure out problem
helping struggling students - providing the correct answers
helping struggling students - reading
helping struggling students - study skills
helping struggling students - take notes at conferences
helping struggling students - writing
initiatives - how to deliver knowledge
initiatives - learning community
initiatives - literacy
initiatives - relationships with students
initiatives or mandates
literate in science
literate in science - apply knowledge somewhere
literate in science - can problem solve
literate in science - informed citizen
literate in science - interpret results
literate in science - real world
literate in science - set up experiments
literate in science - synthesize new knowledge
literate in science - understanding terminology or concepts
literate in science - understanding the process
literate in social studies
literate in social studies - able to communicate
literate in social studies - able to read and write
literate in social studies - be able to read historical document
literate in social studies - core democratic values
literate in social studies - current in what's going on in world today
literate in social studies - have an opinion
literate in social studies - how current events impact people
literate in social studies - interpret document
literate in social studies - knowledge of past
literate in social studies - productive members of society
literate in social studies - real world connections
literate in social studies - summarize historical document
literate in social studies - understanding economic principles

literate in social studies - understanding human behavior
reading
reading - articles or documents
reading - at home
reading - class demands
reading - difficulties making sense of text
reading - difficulties making sense of text - vocabulary
reading - for information
reading - for themes
reading - helping with words
reading - higher level thinking
reading - in class
reading - involved in assessing
reading - kids don't read
reading - lab sheet
reading - making connections
reading - notes from text
reading - outside of class
reading - popcorn read
reading - practice for state tests
reading – read-alouds
reading - reading guides
reading - small groups or pairs
reading - SSR
reading - supporting what you think
reading - textbook
reading - to answer questions
reading - to assess learning
reading - understanding
reading - use sticky tabs
sources of knowledge
sources of knowledge - CNN
sources of knowledge - college
sources of knowledge - continues to build by figuring things out
sources of knowledge - current events
sources of knowledge - experiences
sources of knowledge - favorite subject in school
sources of knowledge - history channel
sources of knowledge - interest
sources of knowledge - internet
sources of knowledge - newspaper
sources of knowledge - other teachers
sources of knowledge - PD or workshops
sources of knowledge - reading
struggling students
struggling students - asking questions
struggling students - disruptive behavior
struggling students - don't come for help
struggling students - effort
struggling students - giving up
struggling students - grades

struggling students - hands up
struggling students - heads down
struggling students - kids raise hands
struggling students - not being engaged
struggling students - not much written on paper
struggling students - poor writing skills
struggling students - shut down
struggling students - task not completed or incorrect
struggling students - tests
student tasks - apply themes
student tasks - demonstrations
student tasks - fill out graphic organizers
student tasks - foldables
student tasks - follow along as teacher reads
student tasks - ice carving
student tasks - persuasive essays
student tasks - powerpoint
student tasks - propaganda poster
student tasks - read article
student tasks - read at home to prepare for next class
student tasks - read essay in science textbook
student tasks - read novel
student tasks - read textbook section
student tasks - reading documents
student tasks - reorganize periodic table cards
student tasks - sticky notes
student tasks - take another position
student tasks - visual discoveries
student tasks - warm-ups
student tasks - work on problems
student tasks - wrap-ups
student tasks - write
student tasks - write essay
students need to know or be able to do
students need to know or be able to do - apply what they learn
students need to know or be able to do - ask questions
students need to know or be able to do - bring materials
students need to know or be able to do - have an opinion
students need to know or be able to do - how to organize
students need to know or be able to do - interpret the material
students need to know or be able to do - make an effort
students need to know or be able to do - math or calculus
students need to know or be able to do - pay attention
students need to know or be able to do - read
students need to know or be able to do - read large volumns of info
students need to know or be able to do - wanting to learn
students need to know or be able to do - what they would do in other situations
students need to know or be able to do - work habit
students need to know or be able to do - work well in groups
students need to know or be able to do - write
students need to know or be able to do - write lab report

supplemental text - articles
supplemental text - biographies
supplemental text - find info
supplemental text - internet articles
supplemental text - literature selections
supplemental text - newspapers
supplemental text - other books
supplemental text - primary source documents
teaching certification
teaching practices
teaching practices - 5 E
teaching practices - activities
teaching practices - analyzing students' mistakes
teaching practices - block scheduling
teaching practices - clearing up confusions
teaching practices - co-teaching
teaching practices - compare and contrast
teaching practices - concept mapping
teaching practices - concepts or terms
teaching practices - connecting to current events
teaching practices - cooperative group work
teaching practices - cornell notetaking
teaching practices - covering curriculum
teaching practices - demonstrations
teaching practices - direct instruction
teaching practices - discussion
teaching practices - drawing pictures
teaching practices - elaborate
teaching practices - engagement
teaching practices - evaluate
teaching practices - evaluating test performance
teaching practices - explain
teaching practices - exploration
teaching practices - fill in the text skeleton
teaching practices - foldables
teaching practices - games
teaching practices - gradual release
teaching practices - graphic organizers
teaching practices - guided reading and discuss
teaching practices - hands on activities
teaching practices - helping students prepare for tests
teaching practices - homework
teaching practices - inquiry
teaching practices - interacting with students
teaching practices - introduce chapter topic
teaching practices - jigsaw
teaching practices - KWL
teaching practices - labs
teaching practices - lecture
teaching practices - linking back
teaching practices - mental models

teaching practices - modeling thinking
teaching practices - motivation and engagement
teaching practices - no homework
teaching practices - notetaking
teaching practices - novel centered
teaching practices - popcorn read
teaching practices - portfolio
teaching practices - practice and feedback
teaching practices - predicting
teaching practices - prepare for state tests
teaching practices - prior or background knowledge
teaching practices - problem solving
teaching practices - projects
teaching practices - prompting struggling students
teaching practices - questioning
teaching practices - raising expectations
teaching practices – read-alouds
teaching practices - read and answer questions
teaching practices - read and discuss
teaching practices - read section by section
teaching practices - reading and writing skills
teaching practices - reading discussion schedule
teaching practices - reading or writing strategy instruction
teaching practices - reading quizes
teaching practices - reading time in class
teaching practices - reading to students
teaching practices - reading to students
teaching practices - retaking tests
teaching practices - review
teaching practices - round robin review
teaching practices - scaffolding learning
teaching practices - skit
teaching practices - skit or act it out
teaching practices - SQ3R
teaching practices - SSR
teaching practices - study guides
teaching practices - substitute for textbook activities
teaching practices - summarizing
teaching practices - teacher decisions about what to teach
teaching practices - teaching definitions
teaching practices - technology
teaching practices - textbook activities
teaching practices - thinking activities
teaching practices - unit packet
teaching practices - using a textbook
teaching practices - using primary sources
teaching practices - using visuals
teaching practices - vary
teaching practices - visual discoveries
teaching practices - warm-ups
teaching practices - watching film or video

teaching practices - words of the week
teaching practices - worksheets
textbook - features
textbook - poorly organized
textbook - supplemental materials
textbook - tests not connected to content
textbook - used as main source
textbook - used as resource
textbook expectations - basic knowledge
textbook expectations - basic principals
textbook expectations - before every activity
textbook expectations - big issues
textbook expectations - chapter questions
textbook expectations - charts and graphs
textbook expectations - chronological order
textbook expectations - covering curriculum
textbook expectations - district adoption
textbook expectations - events tying everything in
textbook expectations - explain in your words
textbook expectations - History Alive
textbook expectations - homework
textbook expectations - most important to understand
textbook expectations - notetaking
textbook expectations - processes and steps
textbook expectations - read questions first
textbook expectations - reading
textbook expectations - reading quiz
textbook expectations - section by section
textbook expectations - to learn concepts
textbook expectations - understanding calculus
textbook expectations - understanding concepts
textbook expectations - understanding formulas
textbook expectations - vocabulary or terminology
writing
writing - across curriculum
writing - essay
writing - graphic organizers
writing - hands on activities
writing - help with writing skills
writing - lab reports
writing - news article
writing - persuasive essay
writing - research papers
writing - rough draft
writing - rubrics and examples
writing - short answer or essay
writing - to analyze
writing - to answer questions
writing - to assess learning
writing - to bring closure
writing - to compare and contrast

writing - to draw conclusions
writing - to explain
writing - to learn concepts and terminology
writing - to make sense of text
writing - to practice
writing - to prepare for state tests
writing - to prepare for discussion
writing - to retain information
writing - to solve math problems
writing - to summarize
writing - to support opinion
writing - to take notes
writing - to think
years taught

APPENDIX D
MAJOR CODE CATEGORIES

Assessing
Describe good teacher
Goals
Helping struggling students
Initiatives or mandates
Literate in science
Literate in social studies
Reading
Sources of knowledge
Struggling students
Students need to know how to be able to do
Supplemental Text
Teaching practices
Textbook
Textbook expectations
Writing

APPENDIX E
TEXT GENRE BY TEACHER – WEST PARK

Text Genres by Teacher	Written	Spoken	Graphics / Visual Representations	Digital / Technological Communications
Cate	Textbook Problem solving/on board Unit Packets/worksheets Scientific articles Lab sheets/reports Math problems Assessments	Think-alouds Problem solving on board Whole class discussion Small group discussion Review games	Problem solving/on board Drawing Labs Math problems Graphing on board Drawing Demonstrations	Calculators Overhead – math problems
Hal	Problem solving on board Unit Packets/worksheets Scientific articles (internet sites – NASA) Math problems Assessments	Think-alouds Lecture Group work	Problem solving/on board Graphic organizers Drawing/diagrams Demonstrations/Labs Math problems Pictures Handouts (Periodic Table, Electron Configuration)	Internet Overhead projector – internet websites Data projector – internet Websites Overhead of periodic table Overhead of worksheet
Dave	Novels/books Reading guides List of prior knowledge – on board Supplemental readings Assessments	Lecture Guest Speakers Storytelling Whole class discussion Small group discussion	Drawing	
Spence	Textbook Supplemental readings Articles (internet sites/CNN) Historical books Unit Packets / Study guides 2 column notes – on board Assessments	Lecture Storytelling Cooperative groups	Graphic organizers (on board) Film/video Maps Posters	Internet websites Simulation games Exam View (digital test making/computer test practice)

APPENDIX F
TEXT GENRE BY TEACHER – SOUTH HILL

Text Genres by Teacher	Written	Spoken	Graphics / Visual Representations	Digital / Technological Communications
Seth	Problem solving on board Textbook Essays (from textbook) Unit Packets Reading guides Lecture notes (outline on digital projector) Worksheets Warm-ups/questions Assessments	Read-alouds Think-alouds Lecture Collaborative/group discussions	Problem solving/on board Graphic organizers Acting it out/skit Drawing pictures Pictures Punnett squares/board	Digital projector – outline of notes for lecture Pictures from computer on screen
Russ	Textbook Supplemental text Newspapers Articles Biographies/handouts Literature Crossword puzzles Worksheets Lecture notes (outline on board) Assessments	Lecture Storytelling	Drawing Graphic organizers	Video clips
Cam	Textbook Primary source documents (from textbook) Worksheets Historical documents Study guides Assessments Notes	Lecture Read-alouds Small group discussion Cooperative groups	Graphic organizers Pictures/captions Political cartoons	Transparency – handwritten

APPENDIX G
CONTENT AREA COURSE SYLLABUS

Course Syllabus
Content Area Literacy

Kathleen Moxley

INTRODUCTION:

In this course we will examine readers and writers, theories of reading, instructional practices, contexts for teaching literacy, and ourselves as teachers, readers, and writers. The goal of this course is for us to become practicing, reflective teachers of content area reading in a multicultural society.

So, we will explore the relation of reading and writing to other language arts including listening, speaking, visual language, the use of visual representations, and digital literacies. We will also examine effective assessment of reading for determining student progress and informing instruction of all learners.

Further, we will examine the broader issues and complexities of literacy instruction including cognitive reading/writing strategies vs. instructional practices/strategies, content literacy vs. adolescent literacy, traditional vs. nontraditional texts, school context differences (urban, suburban, rural), and subject matter idiosyncrasies.

COURSE FOCUS:

- Teachers roles in literacy education (learning to read vs. reading to learn)
- Processes of reading: concepts of vocabulary and comprehension
- Formal and informal assessment procedures
- Strategic teaching methodologies
- Conceptualizing text (textbook selection and evaluation)
- Cognitive learning strategies for the content classroom
- Engagement and perspectives on connecting reading, writing, listening, visual language, visual representations, digital literacies, and classroom talk to learn from and about text
- Unit development within a literacy curriculum framework to integrate literacy instruction, language instruction, and learning in school subjects
- Writing in support of reading (e.g., electronic journaling, blogging, reflective essays)
- Reading in support of writing (e.g., inquiry projects, syntheses)
- Supporting classroom talk in whole/small group discussions

REQUIRED TEXT

Alvermann, D., Phelps, S., & Ridgeway, V. (2007). *Content area reading and literacy: Succeeding in today's diverse classrooms* (5th ed.). Boston: Pearson/Allyn & Bacon.

Additional Readings:

In addition to the textbooks, we will regularly read documents, journal articles, and chapters as part of our small group/whole group discussions. The additional readings will be provided electronically. Journal articles may include:

Journal Articles:

Afflerbach, P., & VanSledright, B. (2001). Hath! Doth! What? Middle graders reading innovative history text. *Journal of Adolescent and Adult Literacy. 44*(8), 696-707.

Hinchman, K. A., Alvermann, D. E., Boyd, F. B., Brozo, W. G., & Vacca, R. T. (2008). Supporting older students' in- and out-of-school literacies. *Journal of Adolescent & Adult Literacy. 47*(4), 304-310.

Lapp, D., Fisher, D., & Grant, M. (2008). "You can read this text – I'll show you how": Interactive comprehension instruction. *Journal of Adolescent & Adult Literacy. 51*(5), 372-383.

Nokes, J. (2008). The observation/inference chart: Improving students' abilities to make inferences while reading nontraditional texts. *Journal of Adolescent & Adult Literacy. 51*(5), 538-546.

Documents:

Balfanz, R., & Letgers, N. (2004). *Locating the dropout crisis: Which high schools produce the nations' dropouts? Where are they located? Who attends them?* Baltimore, MD: CRESPAR/Johns Hopkins University

Biancarosa, G., & Snow, C. (2004). *Reading Next: A vision for action and research in middle and high school literacy.* New York: Carnegie Corporation of New York and Alliance for Excellent Education.

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools – A report to Carnegie Corporation of New York.* Washington, DC: alliance for Excellent Education.

Heller, R., & Greenleaf, C. (2007). *Literacy instruction in the content areas: Getting to the core of middle school and high school improvement.* Washington, DC: Alliance for Excellent Education.

Kamil, M. L. (2004). *Adolescents and literacy: Reading for the 21st century.* Washington, DC: Alliance for Excellent Education.

Short, D., & Fitzsimmons, S. (2007). *Double the work: Challenges and solutions to acquiring languages and academic literacy for adolescent English*

language learners – A report to Carnegie Corporation of New York. Washington, DC: Alliance for Excellent education.

COURSE OUTLINE

Module 1 – What is Content Literacy?
Mixed message – Content vs. Adolescent Literacy

- Knowing ourselves as readers and writers
- Knowing our students as readers and writers
- Describing the strategic reader/writer

Assignment: Think-aloud Protocols

Module 2 – What is the developmental model of learning to read?
Mixed message: Learning to read vs. reading to learn

- Content Area Connections
  - Language development and literacy
  - Emergent literacy
  - Beginning reading and writing (sound)
  - Intermediate and advanced reading and writing to learn (meaning)

Module 3 – Planning for Content Area Instruction
Mixed message: What research tells us about developing readers and writers vs. the type of instruction that students often receive

- Knowing students as people and content area learners
  - Interviews, interest inventories, observations
- Primary goals for students' content literacy and development toward goals
  - Volume and breadth of reading and writing
  - Fluency
  - Engagement and motivation
  - Strategic reading and writing
- Components of integrated/balanced instruction across curriculum
  - Developing reading fluency
  - Building word knowledge
  - Supporting strategic, silent reading
  - Writing to learn
- Opportunities for listening, speaking, viewing, visual representing, digitally representing
- Assessing the classroom context
- Assessing tradebooks and textbooks

Assignment: Reading/Writing Unit Design

Module 5 – What counts as Text?
Mixed message – Traditional text vs. "New Literacies"
Mixed message – Authentic text vs. School-sanctioned text

- Learning with text
- Using text features and structures to Read/Write
- Goals & definitions
- Instructional approaches
- Analysis of text structure as models for writing
- Assessment & Instructional Issues
-

Assignment: Text Analysis and Readability Formulas

Module 6 – Comprehension
Mixed message – Flexible instructional models vs. whole class teaching

Prereading
- Goals & definitions
  - Instructional approaches for assessing/building student prior knowledge
  - Connections with the writing process
  - Collecting information and determining a focus
  - Brainstorming, quick-writes, graphic analysis of a form of writing
- Materials
  - Graphic forms for recording content information
  - Literature as models for content writing
- Assessment & Instructional Issues

During reading
- Goals & definitions
- Instructional approaches for responding to text
- Connections with the writing process
  - Clarifying the focus, ordering information, and developing writing
- Materials
- Assessment & Instructional Issues

Assignment: Expository Profundity

Post reading
- Goals & definitions
- Instructional Approaches
  - Discussions
  - Writing as reflection
- Connections with the writing process
- Materials
- Assessment and instructional issues

Module 7 – Vocabulary

- Goals & definitions
- Instructional Approaches
- Materials
- Assessment and instructional issues

Assignment: **Designing Subject Matter Vocabulary Instruction**

Module 8 – Engagement, Motivation, & Differentiating Instruction to Individual Students

Mixed message - What engages students in literacy instruction vs. what teachers are required to teach?

- Goals & definitions
- Literacy engagement in subject areas (evaluation of materials)
- Social, cultural, environmental, and intellectual factors on learning and literacy
- Intervention models and content area learning
- Instructional approaches for addressing literacy strengths and needs of learners
- Classroom organization/grouping for different types of instruction
- Materials
- Evaluating content area publications for struggling readers
- Second language acquisition and differentiation for English language learners
- Grouping for instruction
- Record keeping, portfolios, and self-evaluation

COURSE ASSIGNMENTS

Think-aloud Protocols

We will think-aloud while reading content texts. We will analyze our experiences as readers and discuss this awareness in relation to our role as teachers of content area reading.

Professional Journal Article Reviews

We will read two journal articles that explore content area reading and/or writing theory and practice, cognitive strategies, and diversity related to a content area. Students will keep a running journal/reading log for reflecting on the content of the journal articles describing how they might apply the literacy theory and strategies in their own classrooms. Students will participate in small group discussions. Learning will be incorporated into whole class discussion to analyze classroom implications. Students may present their learning from small group discussion to the class.

Journal/Reading Logs
We will journal our thinking by reflecting on prompts, connecting to other readings, our own experiences as learners, and to our teaching in preparation for small group and whole group discussion. Think "new literacies" and broader concepts of text as you determine how you create your journal. You will have the opportunity to use Google Notebook for your journals.

Book Club/Learning Community
Successful teaching depends on experience. Students will experience first-hand the integration of reading, writing, listening, visual language and talk while participating in a Teacher Book Club. Students will use blogger.com to post a response to a prompt. Students will address the prompt by contributing their own authentic comments and questions and connecting course readings with their own current thinking. Students will read all of their Book Club blog mates' postings and respond to every member in their group at least once.

Text Analysis and Readability Formulas
Students will evaluate content area text using the Friendly Text Evaluation Scale and readability formula. Students will determine the readability levels of various content area texts by applying a readability formula. Students will also discuss how they will use these scales to make accommodations for special needs students such as special education and English language learners

Reading/Writing Integrated Unit
Students will design and integrate pre-reading, during-reading, and post-reading lessons within a content area inquiry unit that illustrates the reading and writing process in which adolescents engage when they read content area texts. Students will design and implement lessons that incorporate writing to learn activities for content area instruction. These lessons will include specific strategies for content area instruction, grouping and discussion procedures, specific differentiation and accommodations for students with special needs such as special education and English language learners, and an assessment plan using rubrics and tests that foster regular, effective, and appropriate communication with parents. The plan should clearly connect to subject area state standards.

Designing Subject Matter Vocabulary Instruction
Student will select appropriate vocabulary words from subject matter text and design instruction for fostering growth and development of vocabulary. How will you teach subject matter concepts or academic vocabulary to promote better understanding of content?

Expository Profundity
Students will employ critical reading strategies to create lessons for three informational texts. In subject area/grade level groups they will use critical discourse to write out the expository profundity heuristics for these texts.

Evaluation:
Think-aloud Protocols 10%
Small group discussions 10%
Journal articles/entries/responses 10%
Text analysis and readability formulas 10%
Integrated Unit design 40%
Vocabulary 10%
Expository profundity 20%

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