

Look! Johnny and Janey *can* read:

**Enhancing the literate lives of teens through
SMART Board interactive whiteboard technology**

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July 1, 2007

Abstract

This teacher-researcher study examines how SMART Board interactive whiteboard technology enhances students' reading, knowing, viewing, speaking, and learning. Learning events included using SMART Board interactive whiteboard technology at least twice a week in addition to curriculum-mandated textual assignments. Students' discourse around literacy issues and students' final design products were analyzed to link communicative messages and socio-cultural contexts to social networks and meaning-making in a high school English classroom. Six case studies center on students who fit the description of "the children we worry about the most" (Hankins, 2003). Data analysis utilizes social semiotic and social discourse theories to demonstrate new definitions of literacy in a public school classroom through multimodality and SMART Board interactive whiteboard technology.

Problem statement

The U. S. Department of Education's National Center for Education Statistics released *The National Assessment of Adult Literacy* (NAAL) on 12.15.05. Responses to the report ranged from "troubling" and "sobering" to "something's not quite right" (Lederman, 2005). In NAAL, *literacy* was defined as "using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential" (p. 2). The NAAL data emerged largely from the mandated *No Child Left Behind* (NCLB) legislation, which defines literacy narrowly through print texts (Bullen, Robb, & Kenway, 2004; Dole, Duffy, Roehler, & Pearson, 1991; Valencia & Wixson, 1999; Wixson & Pearson, 1998).

Since print is the only text of value within the NCLB document, and since schools are held accountable for mandated standardized test gains year to year (Cuban, 1992; Darling-Hammond, 1997; Fullan, 2001; Honig, 2006a; , 2006b; McDermott, 2004), public

schools often consider literacy practices as a process of “mining of extracts of texts for fixed meanings and ‘correct’ answers” (Boustead & Ozturk, 2004, p. 56). Students’ reading responses and understanding can tend toward “a literal, often superficial level with little evidence of inferring, evaluating, or critical reading,” according to Walsh, Asha, & Spranger (2007, p. 51).

Research in literacy is “in crisis” (Meacham, 2000-2001). To be successful, literacy education must be able to address the needs of all learners, and, as Begoray (2001) argues, some students “can learn some concepts better through one sign system than another” (p. 214). Because non-print texts traditionally have been devalued as tools to enhance literacy achievement, according to Abbott & Shaikh (2005), “There is little recognition of a need for such work” (p. 465). Understanding how students react when required to examine print and image-based texts in an analytical model challenges traditional notions of secondary English literacy. Literacy is the ability to read, write, communicate, and comprehend. Students have access to a wide array of literacy-based activities, ranging from traditional school-based literacies to the literacies they use to make sense of their daily lives. American public schools have traditionally adhered to an approach to instruction based on print texts and do not provide students with the tools necessary to help them analyze and critique embedded messages in the extensive variety of texts they read everyday.

Youth today in America comprise a heterogeneous group, but they are also marked by hierarchies defined by ethnicity, gender, race, and class (Ghosh, Mickelson, & Anyon, 2007). Fairclough (2003) suggests that discourse figures as part of the social activity within a practice, in representation, and in ways of being. Discourse in this sense, as part of social activity, constitutes genres, which are diverse ways of acting and producing social life in a semiotic mode. Discourse as representation of social life is positioned to reflect different

ways of seeing social life. Discourse as part of ways of being constitutes styles, or ways of using language. Social practices are networked in ways that constitute social order, which is a social structuring of semiotic differences, or ways of making meanings. The relationship between discourse and social practices is dialectical in that elements are internalized by other elements. Past practices and imaginative futures become embedded in social practices and networks and become enacted as genres. People's experiences might be deeply felt yet unnamed, even unnamable, within discourse. Importantly, social institutions are the effects of discourses (Fairclough, 2003).

Trifonas (2004) argues that a text is the set of "lexical or visual signs" that acts as cues to guide a reader's mental decoding and meaning-making operations (p. 1). Multimodal texts are comprised of readily identifiable elements that create a meaningful integrated form of expression. Linguistic acts are not singular or monomodal; they take place within multiple modalities, or more than one mode or channel of communication. According to Lincoln (1992), "Without the images to create meaning in the words, children will not read... and thus there is a functional--- in addition to an aesthetic --- link to literacy (p. 90)." Multi-modal texts comprise written, visual, spoken, multimedia and performance texts such as films, television shows, commercials, cartoons, music lyrics and music videos, video games, instant and text messaging, children's books, satellite radio broadcasts, comic books, graphic novels, magazines, advertisements, and adolescent novels. Multi-modal texts are daily components of literacy experience.

For learning to be critical as well as active, learners need "to understand and produce meanings in a particular semiotic" domain that is familiar, and also to evaluate that domain as "a complex system of interrelated parts" (Smith & Wilhelm, 2002, p. 122). Semiotics can provide a framework for isolating and explaining levels of meaning for both language as

print text and image as pictorial text. The act of isolating symbols can create “dialectical tension beneficial to thought,” according to Fosnot (1996, p. 22).

Context

The study’s population resides in a northeastern suburban community approximately 40 miles southwest of the state capital, with a population of 29,500. Its citizens are, on the whole, white, European-American, and upper-middle class. At the graduation ceremony for the class of 2007, the principal reported that over ninety percent of Taylor¹ students would attend college. Diversity tensions emerge when socio-economic class distinctions become evident among the student body.

Taylor High School has a population of about 1550 students. The roster for this study comprised 23 teenagers, with an average age of sixteen, at the sophomore high school level. The participants’ classroom was situated on the second floor of one wing of a brick-and-cement 1960s school. This study took place from late August, 2006 to early June, 2007². Students in Taylor High School English classes are grouped according to ability. These were “college preparatory” students, who were designated to the less rigorous of two English class offerings at the sophomore year level. This was not an inclusion class³, although two students did fail, and two students, during the school year, were evaluated and deemed appropriate for special education services after their ten years of public schooling. This was a roster that a substitute teacher described on a daily report form as “tough class to keep focused. How do you do it?”

Figure 1: Case studies

¹ According to confidentiality stipulations for subjects in research, school, town, and state names have been affixed with pseudonyms.

² Statewide testing scores are released in late October, following testing. A largely quantitative analysis subsequent to this narrative will analyze the degree to which students who participated in studies with SMART Board interactive whiteboard interactive whiteboard interactive whiteboard interactive whiteboard technology did or did not achieve literacy gains on standardized testing.

³ “Inclusion” means that students with Individualized Educational Plans are in the class.

Student #	Pseudonym	Characteristics and observations	gender	2004 state language/literacy score ⁴	Description of performance of state language/literacy score	Final grade for English, 2007
1	Randy	Took stigma of special education status in math with him throughout his day; extremely quiet and attentive; driven to succeed academically; completed all homework assignments; thorough	M	254	Proficient (high end)	B+
2	Aditya	Only person of different race in class; quiet; outside the social cliques in class; let other students call him by nickname "Ditty"	M	234	Needs improvement	B-
3	Linda	Was in honors track in freshman year, but scored poorly; accomplished singer; confident and popular; creative coiffures	F	254	Proficient (high end)	A
4	Kerrie	Goth physical appearance; rarely spoke in class discussions; artistic and creative; good relationship with Mom; low self-esteem; lower socio-economic status than peers	F	240	Proficient (low end)	C+
5	Matt	Happy-go-lucky; socially popular; academics less important than networking with peers; polite and respectful; completed most homework assignments	M	250	Proficient	B
6	Judy	Difficulty with standard English conventions; student council representative; on-again, off-again dating of "bad boy;" polite and attentive; cared about academics	F	248	Proficient	B

Research design

This ten-month research study was divided into three phases: a pre-SMART Board interactive whiteboard phase, an SMART Board interactive whiteboard application phase, and a post-SMART Board interactive whiteboard phase.

⁴ Statewide testing results for literacy and language are reported for individual students, schools, and districts according to four performance levels defined by the Board of Education: Advanced (260 and above), Proficient (240-259), Needs Improvement (220-239), and Warning/Failing (219 and below).

In the pre-SMART Board interactive whiteboard phase, a participant group and a control group were identified. Both groups submitted student release forms, student assent forms, and surveys about self-perceptions of literacy. Pretest data was assembled regarding student past performance on the most recent state mandated language and literacy testing.

In the SMART Board interactive whiteboard application phase, the participant group was interviewed and audiotaped to determine self-perceptions of literacy. Importantly, the SMART Board interactive whiteboard was included in instruction for a minimum of two literacy (i.e. multimodal, or print, audio, and/or visual) lessons per week.⁵ At the mid-year project report time, for example, statewide standardized testing was imminent. Students were able to review materials presented online by the state department of education together, so as to come to consensus easily by sharing observations. Such exercises, however, served as tangents to bridge instruction between the traditional, lecture-based English high school lessons and the critical literacy classroom upon which this study is founded.

In the post-SMART Board interactive whiteboard phase, students designed products that represent their interpretation of appropriate symbols of learning.⁶ This project rose from an expectation that students would move from a fear of end-of-year data of state-mandated summative assessments, to a stage of hope through the delight of utilizing a SMART Board interactive whiteboard in the classroom.

SMART Board interactive whiteboard background

This action research sought to improve students' overall literacy levels by transcending a strict instructional climate of print by incorporating multimodal texts in

⁵ Please see Appendix for a sample unit.

⁶ When state mandated testing scores are released, the researcher will compare scores from previous testing.

public school instruction through SMART Board interactive whiteboard technology. Multi-modal texts are written, visual, spoken, multimedia, and performance texts. They reflect the real, literate lives of Americans (Dyson, 2003). They decenter students from immediate experience (Fosnot, 1996), construct meaning through the integration of existing and new knowledge (Dole, Duffy, Roehler, & Pearson, 1991), and represent experiences and ideas with symbols (Kolberg & Mayer, 1972).

Teaching English means much more than helping students to identify tropes within print texts as the understood rhetorical code (Bourdieu, 1977; Cowan, 2005). Critical literacy literature shifts the discourse of literacy education to analysis and critique of relationships among texts, language, power, social groups, and social practices. Students examine literature and media --- written, visual, spoken, multimedia, and performance texts --- to question and challenge embedded attitudes, values, and beliefs. In Finder's (2000) research, she determined that "popular culture opened up possibilities for productive engagement with texts, opened up opportunities for multiple readings, opened up deliberations of the politics of texts" (p. 3). Nagle (1999) affirms that, in the construction of a literate classroom environment, teachers need to recontextualize the "complex communicative abilities" of students' everyday lives to celebrate private and public literacy achievement (p. 13). Foucault (1980) admonished us to detach the power of Truth from forms of social, economic, and cultural hegemony in order to deconstruct the essential systems of power that control society. As example, Hall (2003) argues that seemingly straightforward media telecasts decode in a "hegemony of the dominant code" (p. 515). This and other critical literature of literacy distinguishes this study from that of the typical secondary-English teacher-researcher.

SMART Board interactive whiteboard technology provided a significant opportunity for students to gain new tools for looking at, thinking about, and knowing the world. Students could read their worlds reflectively; consider outsider perspectives; and interrogate the media as major political, pedagogical, and social forces (Giroux, 1999). Ability to utilize technology provided by the school district was competitive among teachers due to limited equipment and poor physical plant wiring for modern technologies. To use technology, a teacher needed to sign up in advance through the library for a few DVD players, projectors, and laptops. If a teacher did not anticipate far enough in advance the need for technology, the opportunity was not available. New teachers, who tend to have more facility with technology, received less access, due to unfamiliarity with procedures.

In the classroom, the SMART Board interactive whiteboard engaged students with diverse learning styles and incorporated multimodal texts, which are imbued with signs. The SMART Board interactive whiteboard added numerous options to deliver curriculum. The SMART Board unit, connected to a researcher-provided laptop and school-provided projector, made the classroom quite special. The teacher-researcher classroom was only one of two classrooms of eighty-four that had been allowed wireless access to the school server.⁷ The SMART Board interactive whiteboard allowed opening and controlling any computer application. Thus, PowerPoint® presentation graphics program, websites for Modern Language Association style, notes for coding research citations, interactive grammar websites, student artifacts from across the world, You Tube short films such as *Vernal Equinox*, CD-ROMs, DVDs, and even traditional video instructional materials like film versions of print texts easily became a common focus for the entire class.

⁷ The other teacher was removed near the end of the school year due to perceived security concerns.

With the SMART Board interactive whiteboard, the Internet could be one of several areas of instructional foci within a single class period. As an educator, this presented a powerful advantage over signing out one of two computer labs. New literacies could be molded seamlessly with old literacies. Moreover, due to the ability to use interactive technology, the study population could view the Internet together at any time. In Taylor, this was truly unique.

Research methods and data analysis

This qualitative study, which examines students' literacies through utilizing SMART interactive whiteboard technology to incorporate multimodal texts in public school instruction, focuses on analysis of documents and participant observation to understand and explain social phenomena. Because research came from a teacher who had eleven years of employment and familiarity with Taylor schools and community culture, qualitative methodology was appropriate to understand the interaction among the SMART Board interactive whiteboard, the students, and the social and cultural contexts within which they learned. As Haraway (1988) argues, a "network of connections, including the ability to partially translate knowledges among very different – and power-differentiated – communities" (p. 580). SMART Board interactive whiteboards instilled power – both through teacher-researcher access to new instructional techniques and through students' perceptions of being special.

The field of semiotics concerns ways in which people create reality by connecting cultural signs, in largely unconscious ways, to familiar systems of conventions. Based on qualitative analysis, this research demonstrates that students' construction of identity against the backdrop of SMART Board interactive whiteboard technology is a complex interaction

of networking. Texts that students produced were a crucial part of these networking relations.

Eastern and Western cultural artifacts: “Look Eastward, Angel” unit

What do upper-middle class students make of life within a country at war? During a Global Awareness⁸ year that focused on the continent of Asia, how did students who are required to study countries and cultures react within a unit on Eastern Philosophy, called “Look Homeward, Angel”? Fiske’s (1987) work on intertextuality is important to applications of critical literacy to the classroom, as he asserts that “any one text is necessarily read in relationship to others and that a range of textural knowledges is brought to bear upon it” (p. 108).

The sophomore class’ pre-2007 school-year summer reading revolved around the Global Awareness initiative with the text *Dragon’s Gate* (Yep, 1995).

Otter first starts out in his village in China with his mother and dreams about going to America to the “Land of the Golden Mountain” with his father and uncle. His mother doesn’t allow him to go until Otter gets in a fight with a man and kills him, making his mother send him to America in order for him to stay out of trouble.

--- from Lynda’s analysis of *Dragon’s Gate*

When he gets to America and starts working he complains about everything and he is not much of a help. The other men make fun of him and he feels like an outcast... I think the theme is courage because at the end he has to go to the top of the mountain so hat it wouldn’t avalanche anymore. And he makes it back alive, which is very difficult.

- from Judy’s analysis of *Dragon’s Gate*

At this beginning of the school year point, neither Lynda nor Judy has engaged in thinking beyond knowledge-level comprehension so as to layer summary with personal negotiation. Neither has synthesized her own experiences, identified suppositions, traced inferential clues, or reflected on her own thinking. Each is posing an academic identity for

⁸ The New England Association for Schools and Colleges recommended the annual Global Awareness initiative during their accreditation report, which cited the lack of student exposure to diversity issues in Taylor.

themselves to please a new teacher that represents fulfilling a required assignment and little more.

Soon into the first term, however, students with little prior knowledge of Asia examined various aspects of the Eastern world and issues arising from it by using print and SMART Board interactive whiteboards. They watched news clips from CBS.com. They skimmed Comondreams.org, a progressive website for alternative news stories. On the spacious SMART Board screen, they viewed sections of *Children of Heaven* (Majidi, 1997), a film about two children in Iran who share a pair of shoes, to illuminate the Koran's place in children's lives. As companion pieces, they read together and aloud the children's story, *Sami and the Time of the Troubles* (Heide & Gilliland, 1995). They worked individually to modernize the ancient *Sayings of Saadi* (Saadi, 1997) into found poems that had meaning for their own lives. They self-selected a text on the Middle East or the Far East to share with the class. Most students used the Internet as a research source, which they modeled on the SMART Board interactive whiteboard collaboratively.

Literacy is tied inextricably to personal, relational experiences formed through multi-modal text experiences. Additionally, interconnections among language, literacy, and culture are becoming stronger (Au & Raphael, 2000). By linking semiotics to speech, image, and writing, students can demonstrate acquisition of new literacies. Kress (2000) found that students transform what had been presented to them "via a range of modes --- in image, in speech, in experiment/ demonstration, with models -- into a new sense, their sense, representing their interests in their world" (p. 330). This work, Kress states, is "intentional deployment of resources in specific configurations to implement the purposes of the designers" (p. 340).

Such a shift in theory regarding meaning and its use introduces students who reach beyond memorization, recall, and analysis to one of text maker. Academic opportunities for design give agency to students. According to Jewitt and Kress (2003),

If the aim is to act productively in periods of rapid change, and in one's own interest, then design must replace competence and critique as the essential goal of educational practice of theories of learning, and of theories of representation much more generally" (p. 17).

Once lessons on the SMART Board interactive whiteboard were completed, design was an essential connection to critical thinking that offered students opportunities to demonstrate acquisition of new meanings. Thus, students wrote an original story for an audience of children that captured the lives of Eastern people.

Most of my friends and their families had left the city because of the fighting. My father claimed we had nothing to fear; exclaiming our fellow insurgents would fight until the U.S. military leaves. I lay awake listening to the gunfire that seemed to grow closer with every night.

--- from Randy's "Look Eastward, Angel: Writing a Children's Story" final product, called *Abu's choice*

When Xao and Lee finally entered the square, the music was so loud that the boys could feel the drums thump inside them. Xao was showing Lee everything to do and everything there is to eat. They were having so much fun together that they almost forgot to find there (sic) father. So the boys looked all around for him, by the spice cart, the tea cart, even by the jewelry cart with the jade stone necklaces.

--- from Judy's "Look Eastward, Angel: Writing a Children's Story" final product, called *My brother Xao*

Randy synthesized old ideas to create new ones. He created a conscious construction of an academic identity in conjunction with his social relations between students who may or may not be his friends outside of the class context. Thus, his networks of practice identify degrees of social hierarchy and social distance. He recognized patterns and related knowledge across several areas: strife in a community, family dynamics; tensions between youth and society. Judy, on the other hand, incorporated outside research as she

designed her text. Fairclough (2003) states that in “ ‘knowledge exchange’... the focus is on eliciting and giving information, making claims, stating fact” (p. 105). In the binary system that separates East from West, Judy’s predominant pattern encapsulates approaches to difference by bracketing difference, so as to focus on commonality and solidarity. Both Randy and Judy use discourse “to survive collectively, rather than individually” (Fosnot, 1996, p. 25).

The generic structure of the students’ discourse comprises tensions in which “social control, stabilization, and ritualization” (Fairclough, 2003, p. 73) are negotiated. Through action, interactions, social relations, particular worldviews, and instruction delivered via the SMART Board interactive whiteboard, the students were able to create a social event as text. They represented aspects of their physical, social, and mental worlds by connecting parts of texts together within the situational context of the public school classroom, informed by SMART Board interactive whiteboard interactive technology.

Advertising design artifacts: “The non-fiction texts of our lives”

As the class moved into a unit where literacy would be considered through non-fiction, Lynda described MTV’s documentary series, *True Life* (“I’m addicted to crystal meth,” 2006). “*It’s, like so real,*” she offered, making the classroom a place to share the multiple voices that fill her life inside and outside school. “*She gets hooked, and can’t get off of it,*” Lynda said. “*It was so sad. I stayed up to see the end.*” Deconstructing the MTV text, she exhibited a particular strength in literacy that connected her personal life to the world beyond. Critical literacy pedagogy acknowledges the complex recontextualization processes that students like Lynda use --- borrowing, translating, and reframing media material--- in their communicative practices (Dyson, 2003; Fairclough, 2003).

In advertising magazines, and television shows, the media show us the 'right' way to look and act. It shows us that to be the 'ideal' person you need to be wealthy, Caucasian and a man. Also, it is believed that to be beautiful, you need to be a tall size 2, which the majority of society is not.

--- from Lynda's "Social Messages in Media" writing re-assessment

For example some people say they are afraid when they see a black male in the streets of a well known city when that is wrong but since in a movie that person saw that black male killed now they are afraid.

--- from Matt's "Social Messages in Media" writing pre-assessment

For example if a popular girl is wearing (sic) a brand name of jeans, then a whole bunch of other girls will wear the same brand, maybe even the same pair.

--- from Judy's "Social Messages in Media" writing pre-assessment

Through the lens of *Killing Us Softly III* (Kilbourne, 2002), the classroom allowed students to distance themselves from contemporary advertising landscapes. They critically examined how, why and to what effect corporations and their advertisers use images in conjunction with a variety of other texts⁹ to sell their products. Kilbourne uses mass media images of femininity against social reality, poses advertising fantasy against actual experiences, and encourages a demystification of stories advertising narratives about females against the actual lives of females. By showing how and why advertising removes agency, this study expanded Kilbourne's positioning, through use of the SMART Board interactive whiteboard, to include other forms of market capitalism. Top Super Bowl advertisements over the last decade, for example, came under analysis and consideration.

Abbott & Shaikh (2005) argue that modern pedagogy is undergoing a "shift in ontological significance possible with synthesizing technologies from one of reference to one of signification, that is, from referential to creationist or production practices" (p. 465).

When asked to create his own advertisement for an existing product on the market, Aditya chose the Bugatti Veyron car. He positioned one image of the car, right angled so as to emphasize the front grill and swooping lines, at the top of the page. Three images of the

⁹ Please see appendix 1 for a detailed overview of lessons and texts.

same male are spread across the bottom in lessening scale. The man states dually, *“Is it more than you can handle?”* and *“Raising the bar on the quality of the car!”* An engine is placed center left on the page.

Throughout the instructional unit, students were constantly asked questions about power, privilege, and embedded messages in texts. Aditya had received semiotic tools to examine the culture of market capitalism. He chose, instead, to embrace that culture: to elevate dreams beyond a mere upper-middle class hope for tomorrow to that of one whose wealth and status would allow acquisition of a six-figure, elite automobile. Aditya rejected the opportunity to distance himself from “white privilege” (McIntosh, 1997) and, instead, to embrace a sense of capability as agent of social change in the global community. He chose not to desire an “authentic existence” (Freire, 1992, p. 32), but, rather, to be like the power structure at work. He is an American able to create a design emblematic of solid American marketing: one of the new literacies of his generation.

Kerrie chose an item from her own life to advertise: Morbid Make-up[®]. One website (Jackal, 2007) suggests this brand enables one to be “qualified to be a weekend goth - aka Notagoth or Person-In-Black... several shades lighter, but not dead white... Think ‘freshly dead’ and you’re on your way (p. 1).” Kerrie’s choice of topic was not only different from her peers’, who tended toward more mainstream advertisements, she also distinguished herself by hand-drawing the central object and by layering and mounting, so that each item represented a different dimension of the overall effect. She also included the intertextual “Hot Topic: everything about the music” logo to reinforce her keen grasp of new literacies. Archer (2006) perceives “texts as sites of struggle over discourse, meaning, subjectivities, and power” (p. x). Kerrie’s skill was in working multimodally, integrating words with other semiotic modes and, at the same time, enhancing her academic literacy practices.

When Matt had the choice of topics, he connected his love of current media topics to a current advertising slogan: “Drink responsibly.” Typically, this slogan is connected to discussions of alcohol use, but Matt incorporated a play on words to create a persuasive message for Coca-Cola™ products. Seven young adults chug beverages, but Matt has superimposed the Coca-Cola bottle over another set of images. He keenly met the requirements of the assignment to be persuasive, connected to the social network that is the classroom, and, in doing so, cleverly renegotiated the public and private spheres that segregate public schooling from the real world. He demonstrated his literacy and language skills in a way that surpassed the assignment criteria.

Lynda drew upon her love of the arts and theatre to produce her advertising design. Recognizing the materiality of visual signs, that is, tools and materials used in making visual texts, she constructed an academic identity that positioned her within implicit school achievement behaviors yet also located self through structuring and networking of social practices. She captured, through words, youthful energy (“intensify your world”). She centered theatrical snapshots of four females symmetrically to draw the eye of the viewer to the eyes of the two models posed sideways and upside down. Lynda has two goals in this case: first, she has identified the product for sale --- eye makeup --- and, second, she has challenged Kilbourne’s decapitation theory of women in advertising by the choice of using stage performers, not the “real” people who buy makeup. *All the World’s a Stage* (Shakespeare, 1598), and, in Lynda’s design, she has distanced herself not only from the images of advertising which bombard today’s youth, but also from the theories Kilbourne argues.

If, as Jewitt and Kress (2003) state, “Meanings are made, distributed, received, interpreted, and remade in interpretation through many representational and communicative

modes” (p. 1), then a multimodal semiotic analysis of student artifacts can yield rich observations. Students shape the material of their culture into resources for representation. They gain keen awareness of social systems as they reshape resources. Thus, the signs contained within each advertisement are newly made through the specific social context of the classroom. Additionally, although signs are transformed, culture also intervenes; students use culture to shape meaning, and the choices they make to signify that meaning “provide insights into the meaning principles of a culture as much as an individual” (Jewitt & Kress, 2003, p. 11).

Conclusion

Multi-modal texts are imbued with signs. Sign-systems, including interpersonal language, other media, and other areas of discourse, create a social reality to which youth respond as “natural”(Dewey, 1966; , 1989), yet reality cannot be separated from the sign-systems in which they are experienced (Chandler, 2002). SMART Board interactive whiteboard technology allowed students to view and represent. It contributed to an ability to comprehend, use, and control the symbol systems of both print and non-print media, as well as understand the relationship between them (Cox, 1994).Through the use of SMART Board interactive whiteboard technology, the students imagined new ways to articulate their acquisition of literacy in the public school classroom. As Kress (2003) notes, students

did not simply demonstrate competence in the use of language or of image. They transformed what had been presented to them via a range of modes --- in image, in speech, in experiment/ demonstration, with models – into a new sense, their sense, representing their interests in their world (p. 330).

Through student artifacts and case study narratives, this study unveiled a rich vocabulary that students were able to draw upon to describe images and to create critical interpretations of their own work. The SMART Board interactive whiteboard became a

conduit through which they could connect academic-to-public literacies and the texts they encounter in wider social and cultural contexts.

When the state standardized testing results are returned in late autumn 2007, it will become evident whether the SMART Board interactive whiteboard contributed to literacy levels of this study group in comparison to a control group. Because standardized testing only assesses print texts, and because this study transcended the use of print texts into multimodality, it is uncertain to what degree SMART Board interactive whiteboard technologies will demonstrate increased test scores. What is clear, however, is that the SMART Board interactive whiteboard generated much excitement in students who were otherwise detached from a prescribed curriculum; it created unique instructional opportunities and literacy objectives to be obtained in a technology-deprived public school building; and it engendered constant multimodal connections to students' own lives. SMART Board interactive whiteboard technology is the norm of tomorrow in a world where new literacies are commonplace.

Appendix 1: SMART Board interactive whiteboard Activities Log for Advertising Unit

“Advertising sells products but it also sells a great deal more than products. It sells values, it sell images, it sells concepts of love and sexuality, of romance, of success, and perhaps above all, of normalcy. To a very great extent it tells us who we are and who we should be. However I think that advertising is often overlooked, or is considered too trivial to really be examined. Because the individual ads are stupid and trivial, people assume that the whole phenomenon is a stupid and trivial one.”

Jean Kilbourne

Print	SMART Board interactive whiteboard	Visual	Description
	ü		Students brainstormed types of non-fiction texts from their real lives, adding and sharing via a dynamic Word file
	ü		Students shared their lists between classes and discussed why one class used some elements and not others; what comprised a non-fiction text; watched a video newscast from the previous evening’s CBS News on student sexual harassment at the freshman college level
ü			Students read, from the <i>Elements of Literature</i> anthology, “A Guide to the Inferno,” by Charles Nicholl; answered questions at end of reading
ü			Played “Jeopardy” in class based on <i>character, events, themes & motifs, quotes, and Spanish words</i>
	ü		Reviewed commas and dependent clauses from websites
ü	ü		Deconstructed the structure of a daily newspaper
ü	ü		Deconstructed the structure of a daily newspaper
	ü		Conducted a pre-assessment about persuasion in advertising, showing a PowerPoint presentation graphics program

		ü	Watched the PBS documentary from Frontline, called <u>The Persuaders</u>
ü		ü	Analyzed a non-fiction, self-select outside novel for quintessential literary terms; watched the PBS documentary from Frontline, called <u>The Persuaders</u>
	ü		Looked at women's images in advertising, using a PowerPoint and research derived from Jean Kilbourne's, <i>Killing Us Softly</i>
	ü		Looked at women's images in advertising, using a PowerPoint presentation graphics program
ü	ü		Described characterization in a non-fiction, self-selected outside novel. Reviewed unit to date after Thanksgiving break, using PowerPoint presentation graphics program technology
		ü	Students deconstructed print media advertisements for social messages and persuasive composition techniques
	ü	ü	Students delivered presentations to the class about their advertisement deconstructions; four students chose the option to prepare their presentation for display on the SMART Board interactive whiteboard
		ü	"Jeopardy" game about media and popular culture terminology
ü			Wrote a newscast using the adventures/ conflicts of a protagonist in a non-fiction, self-select outside novel as basis for a segment
ü	ü		Read and discussed an article from New York Times newspaper called, "TiVo is watching when you don't, and it tattles;" watched a trailer from NetFlix™ for the film, <u>Cars</u> ; visited a website called brandchannel.com, in which product placements in films is chronicled
ü	ü		Reviewed terminology of media and popular culture; analyzed several ads on Adbusters.com
ü	ü		Student conferences about advertising project planning sheets; watched four famous commercials on YouTube™
		ü	Read Langston Hughes' poem, "Theme for English B," pp. 376-377.
ü			Students zeroed in on the most significant conflicts in their outside reading novels by creating a newscast in which a television anchor narrates the story of the conflict the antagonist has experiences.
ü			Unveiled the project assignment to "Create an original advertisement"

	ü		Looked at more still advertisements using YouTube; of particular note were two suggested by students
ü	ü		Modeling of the cover letter, final product, and product diagram; each student created an “Advertisement planning sheet”
ü		ü	Using differentiated instruction, some students were signed off for the planning sheets while others continued to expand and modify their ideas; began final products
ü	ü		Students watched a YouTube short clip from the <u>Simpsons</u> in which Bart and Lisa were members of a focus group; students read excerpts from an article called “Focus groups: Why they are important to marketing”
	ü	ü	Students identified their “communicative messages;” watched AdBusters spoof ads; worked on computers to clarify their own moderator’s agenda for running a focus group
		ü	Students identified target audiences for their products and ads and focused on income levels indicative of this audience’ consumer purchasing power
ü		ü	Students ran focus groups, shared first drafts of advertisements; and revised their ads
ü		ü	Students ran focus groups, shared first drafts of advertisements; and revised their ads
		ü	Students shared their final ads: the moderator described the ad for the designer; students voted on the three best ads in class: <ul style="list-style-type: none"> ô Most Creative, ô Best Connection to Target Audience, and ô Most Likely to be Selected by an Actual Marketing Division

Resources

- Abbott, & Shaikh. (2005). Visual representation in the digital age: Issues arising from a case study of digital media use and representation by pupils in multicultural school settings. *Language and Education, 19*(6).
- Archer. (2006). A multimodal approach to academic 'literacies' Problematising the visual/verbal divide. *Language and Education, 20*(6).
- Au, & Raphael. (2000). Equity and literacy in the new millennium. *Reading Research Quarterly, 35*(1), 170-188.
- Begoray. (2001). Through a class darkly: Visual literacy in the classroom. *Canadian Journal of Education, 26*(2), 210-207.
- Bourdieu. (1977). Cultural reproduction and social reproduction. In Karable & A. H. Halsey (Eds.), *Power and ideology in education*. New York: Oxford University Press.
- Boustead, & Ozturk. (2004). 'It came alive outside my head.' Developing literacies through comparison: the reading of classic text and moving image. *Reading*
- Bullen, Robb, & Kenway. (2004). 'Creative destruction': Knowledge economy policy and the future of the arts and humanities in the academy. *Journal of Education Policy, 19*(1), 3-22.
- Chandler. (2002). *Semiotics: The basics*. New York: Routledge.
- Cowan. (2005). Reading at risk: Cause for alarm? . *Teachers College Record*.
- Cox. (1994). Media literacy. In A. Purves (Ed.), *The encyclopedia of English studies and language arts* (Vol. 2, pp. 791-795). New York, NY: Scholastic.
- Cuban. (1992). Curriculum stability and change. In P. Jackson (Ed.), *Handbook of Research on Curriculum*. New York: MacMillan.
- Darling-Hammond. (1997). *The right to learn: A blueprint for creating schools that work*. San Francisco, CA: Jossey-Bass.
- Dewey. (1966). *Democracy and education*. New York: The Free Press.
- Dewey. (1989). *Freedom and culture*. New York: Prometheus Books.
- Dole, Duffy, Roehler, & Pearson. (1991). Moving from the old to the new: Research on reading comprehension instruction. *Review of Educational Research*.
- Dyson. (2003). Welcome to the jam: Popular culture, school literacy, and the making of childhoods. *Harvard Educational Review, 73*(3), 328-356.
- Fairclough. (2003). *Analysing discourse: Textual analysis for social research*. New York, NY: Routledge.
- Finders. (2000). Gotta be worse: Negotiating the pleasurable and the popular. *Journal of Adolescent & Adult Literacy*
- Fiske. (1987). *Television culture*. New York, NY: Routledge.
- Fosnot. (1996). *Constructivism: Theory, perspectives, and practice*. New York. : Teachers College Press.
- Foucault. (1980). *Power/ knowledge: Selected interviews and other writings 1972-1977* (C. Gordon, Trans.). Hemel Hempstead: Wheatsheaf.
- Freire. (1992). *Pedagogy of the oppressed*. New York: The Continuum Publishing Company.

- Fullan. (2001). *The new meaning of educational change*. New York, NY: Teachers College Press.
- Ghosh, Mickelson, & Anyon. (2007). Introduction to the special issue on new perspectives on youth development and social identity in the 21st century. *Teachers College Record*, 109(2).
- Giroux. (1999). *The mouse that roared: Disney and the end of innocence*. Lanham, MD: Rowman and Littlefield.
- Hall. (2003). Encoding and decoding. In Routledge (Ed.), *The cultural studies reader*. New York: Routledge.
- Hankins. (2003). *Teaching through the storm: A journal of hope*. New York: Teachers College Press.
- Haraway. (1988). Situated knowledges: The science question in feminism and the privilege of the partial perspective. *Feminist Studies*, 14(3), 575-599.
- Heide, & Gilliland. (1995). *Sami and the time of the troubles*. New York, NY: Clarion Books.
- Honig. (2006a). Building policy from practice: Implementation as organizational learning. In M. I. Honig (Ed.), *New directions in education policy implementation: Confronting complexity*. Albany, NY: State University of New York.
- Honig. (2006b). Complexity and policy implementation: Challenges and opportunities for the field. In M. I. Honig (Ed.), *New directions in education policy implementation* (pp. 1-24). Albany, NY: The State University of New York.
- I'm addicted to crystal meth (Writer) (2006). *True life*. Music Television.
- Jackal. (2007). How to be a weekend goth. 207
- Jewitt, & Kress. (2003). *Multimodal literacy*. New York, NY: Peter Lang Publishing.
- Kilbourne (Writer) (2002). Killing us softly 3.
- Kolberg, & Mayer. (1972). Development as the aim of education. *Harvard Educational Review*.
- Kress. (2000). Multimodality: Challenges to thinking about language. *TESOL Quarterly*, 34(2), 337-340.
- Lederman. (2005). Graduated but not literate [Electronic Version]. *Inside Higher Ed*. Retrieved 01.08.06 from <http://insidehighered.com/news/2005/12/16/literacy>.
- Lincoln. (1992). The humanist tradition. In P. Jackson (Ed.), *Handbook of Research on Curriculum*. New York: MacMillan.
- Majidi (Writer) (1997). Children of heaven. Iran: The Institute for the Intellectual Development of Children and Adults.
- McDermott. (2004). Incentives, capacity, and implementation: Evidence from Massachusetts education reform *Journal of Public Administration Research and Theory* 16(1), 45-65.
- McIntosh. (1997). White privilege: Unpacking the invisible knapsack. In *Beyond heroes and holidays: A practical guide for K-12 anti-racist, multicultural education and staff* (pp. 77 - 80). Washington, D.C.: Teaching for Change.
- Meacham. (2000-2001). Literacy at the crossroads: Movement, connecting, and communication within the research literature on literacy and cultural diversity. *Review of Research in Education*, 25.
- Nagle. (1999). Histories of success and failure: Working class students' literacy experiences. *Journal of Adolescent & Adult Literacy*, 42(2).
- Saadi. (1997). The sayings of Saadi. In M. Evler (Ed.), *Elements of Literature*. Orlando, Florida: Holt, Reinhart, and Winston, Inc.
- Shakespeare. (1598). As you like it.
- Smith, & Wilhelm. (2002). *Reading don't fix no Chevies: Literacy in the lives of young men*. Portsmouth, NH: Heinemann.

- Trifonas. (2004). Text to images: The aesthetics of pictorial signs. *Studies in Media & Information Literacy Education*, 4(2).
- Valencia, & Wixson. (1999). *Policy-oriented research on literacy standards and assessment* (No. 3-004). Ann Arbor, MI: University of Michigan.
- Walsh, Asha, & Spranger. (2007). Reading digital texts. *Australian Journal of Language and Literacy*, 30(1).
- Wixson, & Pearson. (1998). Policy and assessment strategies to support literacy instruction for a new century. *Peabody Journal of Education*, 73(3&4), 202-224.
- Yep. (1995). *Dragon's gate* New York: Harper Trophy.