Abstract

It has become clear that our understanding of literacy needs to change. “Hypermedia” is a term that this paper uses to describe texts that make use of multiple modalities, are created in a digital writing environment, and may be read in a non-linear manner. Today’s secondary level students are extensively reading hypermedia texts (Luckin et al., 2009; Meneses and Momino, 2010), but they are not producing hypermedia texts themselves (Luckin et al., 2009). This paper identifies a gap between the literacy skills today’s students require and those that are presently being taught in schools. The research review portion of the paper analyses digital literacy practices in schools, and, more specifically, the use of hypermedia by teachers and students. It is focused by the following question: What does the literature reveal about the use of hypermedia text reading and construction in secondary education? The application to practice section of this paper consists of a unit plan that answers the following focus question: How can hypermedia text be used for the construction and communication of literary analysis at the secondary level? This unit plan is designed for a enriched English classroom at the secondary level, but is easily adaptable for regular English classes. The major assessment piece is a student-constructed hypermedia text that demonstrates both conventional and digital literacy skills.
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SECTION 1: INTRODUCTION

Background to the Study:

I have often wondered how, or if, reading and writing will change in my lifetime. Since graduating with my Bachelor of Education, I have taught for eight years in the Vancouver School District. During this time I have noticed how little the out-of-school digital world entered the English classroom. Many English teachers, including myself, had a tendency to select their content readings from whatever was available in the book room and required writing from their students that was focused on the analysis of those readings and manifested itself as the standard five paragraph literary essay. There was very little meaningful engagement with the media of the 21st century – digital media available on the internet. Put simply, our practice seemed mired in the past. But we were supposedly required to educate our students for the future. This was a problem that sent me looking for answers.

For the past five years I have taught in what is considered to be a high achieving academic school where most students are expected to go on to post secondary education. Additionally, many of the students are enrolled in a arts-based mini-school (this is an enriched programme where students focus on a field in the liberal arts). Because of these factors, it made sense to explore potential connections students could make between words and images.

In my Advanced Placement English 12 class I noticed that, despite being accomplished writers of traditional literary analysis essays, my students had a limited understanding of text and literacy. They understood text as words on a page, and literacy as the reading and writing of those words. Although I felt our school was very successful
at teaching students to write the five paragraph literary essay, we were not preparing them for a world where digital literacy skills were becoming increasingly important.

At this same school I participated in the Multiliteracies Project (http://www.multiliteracies.ca/index.php). In this project teachers from various schools were sharing the ways they were helping students engage with multiliteracies. The term "multiliteracies" is defined by the New London Group (1996) as having two aspects: 1) that increasingly societies are becoming more globally oriented, and, therefore, our understanding of literacy should change to accommodate the "multifarious cultures that interrelate and the plurality of texts that circulate;" and 2) that the "burgeoning variety of text forms associated with information and multimedia technologies" is also affecting our understanding of literacy (New London Group, 1996, 1). I had always believed that English students should practice both critical analysis and construction of texts that were not limited to alphabetic print, but I never had a name for it. Nor did I realize that others were exploring this idea also. As a result of my participation in this project, I decided to explore how students in an English class could expand their understanding of literacy, and learn new literacy skills. Additionally, I wanted to address the way new digital tools could be used to engage students with the theoretical concept of multiliteracies.

The digital world of the internet is, I believe, an increasingly important writing space. The students I teach now, at the secondary level, were born into a world with the internet. But, I noticed that my students had separated their literacy worlds into two parts: the conventional print-based literacy that was required in school, and the digital and interactive world of the read/write internet that they participated in online (mainly outside of school). This dichotomy should not be so pronounced. I thought, if they are reading
and writing online, then we as teachers need to address digital literacy in the classroom. I decided to explore ways that students could critically analyse and contribute to the digital world and expand their understanding of literacy at the same time.

The term “hypermedia” may be used to describe new kinds of “texts” that employ more than one communicational mode and allow for non-linear reading (Gerjets and Kirschner, 2009, 252). These hypermedia texts are encountered by students regularly on the internet, but are rarely produced in a school environment. As an English teacher, I feel the need to address the way text is changing. Therefore, I have decided to focus this paper on the use of hypermedia text construction in the secondary English classroom. The first part will be a review of the literature to date about hypermedia text in education, and the second will apply concepts from the literature to my practice in the form of a unit plan.

**Focusing Questions for the Project:**

1) What does the literature reveal about the use of hypermedia text reading and construction in secondary education?

2) How can hypermedia be used for the construction and communication of literary analysis at the secondary level?

**Theoretical Framework:**

There are four theoretical concepts that inform this paper: the need to acknowledge the concepts of multiliteracies and multimodality, the changing nature of text itself, the need for changes to the practice of teaching based on these principals, and new curriculum
guidelines that specifically require changes to teaching English in the secondary classroom.

In 1996 the New London Group called for a change in language education. In a world where multiple communicational modes are increasingly available to us, and there is increasing cultural and linguistic diversity, the way we use language will inevitably change also (New London Group, 1996). The group claimed that multiliteracies should be an important consideration for educational curricula designers and teachers alike. They noted that modes of meaning other than the linguistic (such as the visual, audio, gestural, spatial, and multimodal) need to be validated and incorporated into English classes more frequently (1996). When language education is limited to the linear alphabetic text on a page (such as the page you are reading right now) then we are not fostering the linguistic growth that the contemporary world requires. Why shouldn’t a student have the opportunity to communicate their ideas in multiple modes? The out-of-school world does it all the time. Students are exposed to film, photography, music, sculpture, animation, dance, and various combinations thereof. Indeed, the combination of communicational modes is a hallmark of modern media. Consider that music videos, commercials, social networking websites, video games, and mash-up art pieces now colour the everyday online experience of many 21st century students. Should we not encourage students to employ the communicational modes to which they are exposed outside of school in the classroom as well? Students’ assignments should be assessed by more that just the linguistic mode; they should be assessed by the relationship between multiple communicational modes (New London Group, 1996). But incorporating multiple modes in a single project is not always an easy task. One needs easily accessible tools.
A few years after the New London Group’s paper got educators talking about multiliteracies, the focus began to move towards how new technological tools could aide in the “reading” and “writing” of multimodal pieces. Kalantzis, Cope and Fehring (2002) stated that “through new communicational technologies, meaning is being made in ways that are increasingly multimodal” (1). When a concept such as multiliteracies is made more real and valid by increased access to digital writing tools on the internet, we as educators need to take this seriously. We have always communicated with different modes of expression, but now we can combine these modes more readily in everyday life.

When we can no longer define literacy by the ability to read and write alphabetic text on a page, and we must reconsider what we mean by “text” itself. This may sound radical, but not when one comes to understand that our understanding of text has always been changing. Centuries ago the mediums of scroll and codex drove home the idea that literacy meant words were no longer just oral, they could have a permanent and abstract existence on a page. Later, the printing press fixed the structure of the words into a linear shape and allowed for this shape to become a familiar site around the world. And now writing in digital spaces is causing a “remediation” of the word again (Bolter, 2001). Electronic text is not just a version of printed text on a screen. It is a combination of binary information and mark-up language which manifests itself on the screen as “text,” and, therefore, is a “process” not a static artefact. (Hayles, 2003).

Peters and Lankshear (1996) identified three aspects to digital text that separate it from print text. Digital text really only exists as its code, and, therefore, may be transmitted to other mediums and reconstituted into various forms (Peters and Lankshear, 1996). Secondly, Peters and Lankshear (1996) noted that digital text has the potential for
a “radical interactiveness” that breaks down the “reader-writer distinction” (62). This has become especially prevalent in the Web 2.0 world of the internet, where “readers” are also “authors” as they may contribute to or manipulate texts they encounter on the internet. Their (Peters and Lankshear, 1996) third descriptor of digital text is that it is inherently multimodal, as it simultaneously allows the “processing of word, image, and sound” (62). With the dynamic fluidity that is offered by digital media, text may now adopt the characteristics of other, traditionally non-textual, modes. Peters and Lankshear (1996) claimed that texts will increasingly become “reader-constructed intertexts” which “involve a confluence of words, sounds, and images, bringing the television and rock video more centrally into the ambit of reflective analysis” (68). In other words, digital text may become increasingly multimodal.

All of this is breaking down our conventional understanding of literacy. There seems to be a shift from the concepts of writing and book to that of image and screen (Kress, 2004). This is not to say that alphabetic text will be replaced by images. But, rather, that we cannot limit our understanding of literacy to only alphabetic text in linear formats such as books or articles. Additionally, we must not view new digital literacies with the lens of conventional print literacies (Hayles, 2007). Literacy may be expanded to include all of information transmission and even become a new liberal art in itself (Shapiro and Hughes, 1996).

We as teachers must now determine how we change our practices in light of this new understanding of literacy. This is not just a matter of increased use of word processing software or adding pictures to Powerpoint presentations. Lankshear and Knobel (2006) described that as the “old wine in new bottle syndrome” – a mere dressing up of conventional literacy practices (55). The original incarnation of the popular internet in the 1990's was informed by conventional literacy
practices, which have been in place since the advent of the printing press. This was a literacy which operated in a framework where knowledge was held by a few authorities and disseminated to the many readers/consumers. It was a read only environment where text was static and value was determined by the scarcity of information. The Web 2.0 reality is that knowledge is generated by a collective effort; it exists in a read and write environment where text is dynamic, in that the content and the method of communication changes frequently; and, value is placed on the level of interconnectedness of different informational nodes (Lankshear and Knobel, 2006). Unfortunately, all teachers today were themselves educated in a Web 1.0 world (or perhaps in a world prior to computers and the internet). Therefore, their teaching is informed by a set of norms that are already out of date. Prensky (2001) identified these two groups as the “Digital Natives,” those who are accustomed to and may prefer instant and unfettered access to dynamic multimodal texts, and the “Digital Immigrants,” who assume that text has not changed and they can go on teaching English as they themselves were taught English. Digital immigrant teachers must reconsider what it means to foster creativity, deep thinking, and enjoyment of learning in their students if they are going to adequately prepare them for life our of school (Prensky, 2001; Gee, 2004; Jenkins, 2005).

The software tools and multimedia resources now available on the internet allow those who are digitally literate to read and write hypermedia texts. It is with these tools that digital texts are increasingly being constructed with an “ensemble of communicational modes” (Kress, 2000, 142). Both Kress (2000; 2004) and Messaris (1998) argued that educators need to acknowledge the increasingly visual aspect of digital literacy. In fact, Kress went so far as to say that the “visual mode may be coming to have priority over the written” (2000, 143). Messaris (1998) argued that the syntax of “visual literacy” (75) is of increasing importance. Students must come to understand importance of the relationship that different modes have to one another in a digital text. Jenkins
(2005) identified one of the essential skills of new digital literacy to be the ability to think across media and gather information from multiple modes – this is called “transmedia navigation” (46). Consider that on a typical website images, sounds, and text (both regular and hypertext) form a collage of information. How they relate to each other is important to understanding the website as a whole. If students are spending time “reading” and “writing” on such websites, we need to alter our literacy education in a way that it gives them the ability to fully participate in such multimodal read/write environments. Then, hopefully, students will develop the ability to critique the knowledge of such environments. This is our responsibility as English teachers in the 21st century.

But the English classroom lags behind. If the primary goal of language education is to prepare students to be active and critical readers and writers in their adult lives then things need to change. English teachers need to embrace new forms of literacy and the texts that new literacies produce. Only then can they adjust their teaching accordingly. Tyner (2003) observed that multimedia literacy is an important component to the performance standards in the U.S.A., but are seldom assessed in American classrooms. In its 2009 position paper, The National Council of English Teachers mentioned that multimodalities should be formally incorporated into the curriculum; that alphabetic, oral, and visual forms should all be employed; that media literacy must be explicitly taught; and, if school instruction does not change in this way, it is in danger of becoming irrelevant. A little closer to home, the current British Columbia Ministry of Education’s Prescribed Learning Outcomes (PLO’s) call for similar changes to teaching. Preface each statement below with the phrase: “Students should be able to

B2 read, both collaboratively and independently, to comprehend a wide variety of information and persuasive texts with increasing complexity and subtlety of ideas and form, such as ... print and electronic reference material ... advertising and promotional material.
B3 view, both collaboratively and independently, to comprehend a variety of visual texts, with increasing complexity of ideas and form, such as broadcast media . . . web sites.

B10 synthesize and extend thinking about texts, by transforming existing ideas and information.

C4 create thoughtful representations that communicate ideas and information to: explore and respond, record and describe, explain and persuade, and engage.

C10 write and represent to synthesize and extend thinking, by . . . transforming existing ideas and information; contextualizing ideas and information.

C14 use connections in writing and representing, appropriate to purpose and audience, to enhance meaning and artistry, including: presentation/layout.

(English Language Arts: 8 to 12, Integrated Resource Package, 2007).

The above list indicates that we must engage students in the reading, writing, and critiquing of new digital literacies. The question is no longer, “Should we as educators change our practices?” Rather, the question is now, “How are we going to change our practices?”
SECTION 2: LITERATURE REVIEW

I have divided my review of the relevant research into the following two categories: Digital Literacy and Hypermedia in Education. The first will analyse studies that address digital literacy in general – including concepts around multiliteracies and multimodal texts. The second will narrow the focus to studies that address hypermedia text reading and writing in secondary level English classes.

Digital Literacy:

Assuming students have access to the internet, what factors affect the develop of students’ digital literacy skills? This is something Menses and Momino (2010) addressed in their quantitative study of students digital literacy practices in Spain. With a large sample size of 6,602 students from 350 schools of varying grade levels and socio-economic status they addressed the following three aspects of digital literacy: 1) What do the students know?, 2) How did they learn what they know?, and 3) Where did they learn it? (Menses and Momino, 2010). Generally, they noted that school training is helpful, but not nearly as significant as out of school training when it comes to digital literacy (Menses and Momino, 2010). In fact, they observed that 72.4% of the students in their study learned their digital literacy skills mostly in their out-of-school contexts (Menses and Momino, 2010). If we as teachers are supposed to be helping students become critical readers and writers in digital environments, then should not students actually be learning something about this in school? Interestingly, Menses and Momino (2010) also observed that students who do receive most internet training in school tend to have the lowest digital literacy abilities. So it seems that not only are students learning outside of school,
but we as teachers are not providing quality instruction in this area when we do teach it. This study serves to establish the notion that schools are not doing a good enough job in addressing the changing nature of 21\textsuperscript{st} century literacy. But what are students specifically learning in their out-of-school environments?

The significance of the read/write internet to education is becoming increasingly clear. In their large quantitative study, Luckin, Clark, Grabner, Logan, Mee, and Oliver (2009) analysed data from 2611 students of 27 different secondary schools in the United Kingdom in order to determine both the extent to which students use web 2.0 technology, and also the limitations of their literacy skills in such areas. They noted that 3/4s of students use social networking sites regularly, picture sharing and posting is more common than video, blogs are not very popular, multiplayer games are popular, podcast use is infrequent, and many students cut and paste content for school assignments from websites (Luckin et al., 2009). On average, students are using computers 2.5 hours a week in school and 22 hours a week out of school (Luckin et al., 2009). But time spent online does not mean critical literacy skills are being developed. In fact Luckin et al. (2009) found that there is a lack of higher order thinking skills being developed during such activities. This is where the role of the teacher comes in. They (Luckin et al., 2009) identified three categories of users among the students: researchers (those who read with little critical inquiry), collaborators (those who file share, use social networks extensively for mainly superficial conversations), and producers/publishers (those who create content like photos, music, text, websites, art, blogs, and wikis). But the third category is by far the smallest in number (Luckin et al, 2009). According to the above two studies, student participation in the read/write web is not an issue, but the skills they are learning may be.
Therefore, instruction needs to change so that students gain the critical literacy skills they need to make better use of the digital tools.

The critical reading of digital sources online is of particular importance to all of the Humanities. In a qualitative study involving data from 17 Social Studies teachers in a Masters of Education program, Bolick (2006) identified several characteristics of learning from multimodal digital primary sources. She noted that the unique nature of historical sources mediated by hypertext affords new ways for teachers and students to construct their understanding of history (Bolick, 2006). Specifically, “readers must take on a much more active role in the reading process” (Bolick, 2006, Digital Archives, para. 3). Bolick (2006), here, is addressing the unique nature of hypertext that requires readers to make decisions about which path they will follow. She observed that digital archives in a hypertext environment gave access to primary sources that would otherwise not be available to teachers and students (Bolick, 2006). This, in turn, shifts the Social Studies classroom from one that is teacher-centred to one that is student-centred (Bolick, 2006). Students can construct knowledge themselves with the use of such tools and further the “democratisation” of the reading process (Bolick, 2006).

If the way we read is altered by digital and hypertextual environments, then writing must also be altered in such environments. As defined earlier in this paper, web 2.0 tools change the way we use the internet. Although both web 1.0 and web 2.0 tools make use of multimedia to communicate, it is only web 2.0 that allows the reader to become the writer in a collaborative environment. Handsfield, Dean, and Cielocha (2009) observed that web 2.0 tools may encourage more careful writing and more critical observations of others’ writing. In their study, student participation in a blog was greater
because the students had a greater sense of audience, and, therefore, a greater sense of purpose for their writing – they took more ownership (Handsfield, Dean, and Cielocha, 2009). Unfortunately, they also observed that students and teachers both tended to use online tools in a ways that “reflect socially and historically based assumptions about how students and teachers should engage in literacy practices” (49). In other words, this again is the “old wine in a new bottle” syndrome identified by Lankshear and Knobel (2006). So, on the one hand students are participating in the read/write literacy afforded by web 2.0 tools (Luckin et al, 2009), but they are not always participating critically (Handsfield, Dean, and Cielocha, 2009). Teachers need to find a way to make writing in such environments meaningful to their students.

Writing with the use of multiple modes of expression sometimes may not look like “writing” at all. If a piece of writing includes images, video, different coloured fonts and movement then what is it? Hull and Nelson (2005) argued that multimodal texts represent a new type of text entirely separate from monomodal texts. Their case study conducted a close analysis of one student’s autobiographical digital story entitled Lyfe N-Rhyme (Hull and Nelson, 2005). In an after school community program called Digital Underground Storytelling for You(th), teenagers were given access to multimedia digital tools to construct autobiographical narratives. Hull and Nelson (2005) viewed over 200 digital stories and selected one that seemed to stand out. Their analysis was focused on interplay of words and images in this narrative. They determined that there was added meaning revealed by the relationship between words and images. This means we must “widen our definition of writing to include multimodal composing as a newly available means” (Hull and Nelson, 2005). They also noted that digital stories are actually more
like linear narratives than hypermedia texts (Hull and Nelson, 2005). In other words, digital storytelling is not synonymous with hypermedia because the author still dictates the narrative and it unfolds in a linear manner.

The powerful personal storytelling that seems to prosper in digital multimedia writing environments was also noted by Hughes and Robertson (2010). They conducted two case studies of beginning elementary school teachers’ use of digital narratives. In this study, digital writing by the teachers and the students was analysed. The teachers constructed digital stories and the students constructed visual essays, digital poems, and participated in collaborative book projects. They noted that “what makes the use of digital media in English Language Arts so effective for these novice teachers is its potential to engage students in a reflective exploration of self and their place in it” (316). Students were engaged by an activity that allowed for the incorporation of multiple modes of expression (images and sounds), and they did not view the process as “work.” (Hughes and Robertson, 2010).

**Hypermedia in Education:**

As noted in the introduction to this paper, in order for a text to be classified as hypermedia it must involve multiple modes of literary expression and allow for non-linear reading. It is helpful to revisit the research review of Gerjets and Kirschner (2009), where they noted that “multimedia environments are characterized by a system-controlled linear structure, hypermedia environments offer non-linear information access, where learners can select and sequence information according to their personal needs.
and preferences" (255). The following studies either explicitly state that their purpose was to analyse student use of hypermedia (either reading or writing), or they describe their work as an analysis of digital multimedia in general, but use hypermedia texts as student-generated data. Either way, all of the following studies involve student use of hypermedia texts.

According to Eagleton (2002) hypermedia texts may include: hypertext fiction, video games, e-zeen (electronic online magazine), digital encyclopaedia, educational software, or live chat rooms. In this ethnographic study, Eagleton analysed student use of hypermedia text in the early stages of readily available hypertext construction software. She took extensive field notes, conducted interviews and analysed the students projects. She noted that print-based literacy skills were required for digital literacy practices (Eagleton, 2002). Additionally, "students exhibited remarkable flexibility in moving between many different written language genres" (Eagleton, 2002, 5). They saw the need for catchy titles at the top of pages, informative captions under pictures, transcriptions of interviews and descriptive paragraphs (Eagleton, 2002, 5-6). They employed the different types of writing that they believed were necessary for the task, and, therefore, these students were making critical choices about their writing because of the need to communicate successfully in hypermedia environments. Additionally, during the design process of their e-zeens students came to realize that visual literacy was very important to the effectiveness of hypermedia text (Eagleton, 2002). Because of this, Eagleton (2002) came to the conclusion that "hypermedia literacy requires the ability to orchestrate and transmediate among traditional literacies and "new" literacies of visual presentation, computers, and hypertext" (13). This is an important connection between new and old,
and inspires further explorations of student production of hypermedia texts.

An interesting study, conducted by Matthewman, Blight, & Davies (2004), made two key observations: 1) a metalanguage is needed to further explore multimodal texts, and 2) the current curriculum limits the possibilities of 21st century literacy practices.

This study was conducted in an English secondary school that had a focus on information communication technologies and business enterprise. In phase 1 students created Powerpoint presentation versions of stories they read in English class. Phase 2 saw the students create multimedia presentations to promote the English department to year 6 students and parents. Because students were working with a new type of writing where they constructed texts that used multiple communicational modes at once, students and teachers were at a loss for the metalanguage needed to help problem solve or give feedback (Matthewman, Blight, & Davies (2004). Because the curriculum (in the U.K.) did not address this aspect of new literacies, Matthewman, Blight, & Davies concluded that the curriculum ultimately limits creativity with technology (Matthewman, Blight, & Davies (2004). This hole in the curriculum also affects the method of testing.

Matthewman, Blight, & Davies’ (2004) study placed the multimodal projects at a time of the year where the conventional literacy curriculum had already been completed and the major standardized tests had already been written. Therefore, despite the fact that there is a pressing need to address new digital literacies, teachers may feel tied to a traditional course syllabus if the testing does not change. This will be a problem everywhere standardised testing heavily affects the students’ final marks and only focuses on conventional literacy practices.

Interestingly, neither of the above two studies identified hypermedia texts as
knowledge sources, or as possible examples of student writing. In 2005, Ware and Warschauer published their preliminary findings of a broad study involving student production of multimodal digital texts, some of which were hypermedia. The first phase gathered data from an after school program called Digital Underground Storytelling for You(th). Here it was observed that students used text in new ways by juxtaposing words with visuals in order to convey meaning that otherwise “could not have been expressed through words alone” (Ware and Warschauer, 2005, 436). This supports the claims of Hull and Nelson (2005), who studied the same after school program, and determined that multimodal texts represent a separate form of writing entirely. Both studies indicated that students created digital narratives by combining text, images, video, and music. The resulting “texts” could have be evaluated according to their separate modes, but were often evaluated as whole multimodal pieces. Perhaps this is the way text will come to be understood as the tools that make such pieces possible become more and more accessible.

In the same study, Ware and Warschauer (2005) observed student literacy practices in a one-to-one laptop program in three different schools in California. They wanted to know what would happen if the hardware was no longer an obstacle to student learning. As Jenkins (2006) recommended, we need to rethink the “digital divide” from the problem of access to digital tools to the problem of “opportunities to participate and to develop the cultural competencies and social skills needed for full involvement”(4). In other words, students need more that just access to develop digital literacy skills - they need opportunities to participate. The one-to-one laptop program gave each student a laptop that they could use at school and take home. This was an attempt to bridge the disconnect between the digital practices at home and those at school. Students produced
multimodal projects such as online literary newspapers where they expressed their understanding of literature with typical modes of communication used in newspapers (articles with images and captions, comics, ads, etc.) (Ware and Warschauer, 2005). In this way “hybrid activities [multimodal] are used not as a substitute for academic work, but rather as a way to draw students into academic work” (Ware and Warschauer, 2005, 443). But they also noted that the success of such activities may not be evaluated with the standardized tests of conventional literacy, and, therefore, current assessment practices (at least in the form of standardized tests) “fail to adequately measure the broad range of literacy required for 21st century life” (Ware and Warschauer, 2005, 443). Another key observation they made was that youth seemed “vulnerable to consuming culture uncritically” and that teachers should be aware of this (Ware and Warschauer, 2005, 443-444). In other words, don’t get caught up in the new and flashy nature of digital multimedia tools when assessing student abilities to express meaning with them is what is important.

Three years later, Warschauer (2008) published the final report on the one-to-one laptop program. For this study he did a quantitative analysis of the data collected from 67 students (in 10 different schools) over a period of two years (Warschauer, 2008). Teachers in English classrooms had students read hypermedia texts online and then construct their own. The projects were designed to encourage students to express their understanding of traditional literary works in a multimodal way, and the resulting projects were often hypermedia in nature. He found that the use of laptops in the classroom expanded opportunities for scaffolding traditional texts with multimodal information from the internet and other digital texts (Warschauer, 2008). Specifically, he
observed the following changes in students' literacy practices: they discussed their interpretations of literature in online forums; they transmediated text from prose to non-prose multimodal texts; they prepared a wider range of composition and presentation types, including: movie trailers, posters, advertisements, digital stories, and digital newspapers (Warschauer, 2008). Additionally, he observed that low achieving students became more engaged in literary analysis, students increased their ability to express meaning in multiple modes, and digital literacy practices expanded beyond Powerpoint presentations and Word documents (Warschauer, 2008). As Ware and Warschauer (2005) predicted in their initial findings, Warschauer (2008) confirmed that students indeed do not improve their scores on traditional standardized literacy tests (hand written essays) as a result of one-to-one laptop programs. But he noted that this is more a problem with the nature of the test, and not an indicator that the program was unsuccessful (Warschauer, 2008). This study is important not only because it draws conclusions from a larger sample size, but also because it shows what students are capable of when given the tools, and, perhaps more importantly, the chance to use those tools in an educational setting.

Interestingly, moving from the large sample size to the small yielded similar results. Vincent’s (2006) study used data from two “under performing” ten year olds and found that multimodal text production can help develop 21st century literacy skills. In this study students were given access to a computer program called Microworlds in which they created scenes, with the use of both words and images, to express their ideas. He came to understand that students who are struggling in the conventional English classroom may need “multimodal scaffolding in order to communicate complex ideas effectively” (Vincent’s, 2006). But Vincent (2006) also identified the need for valid
assessment criteria to be developed for multimodal texts, like hypermedia, otherwise teachers and curriculum writers around the world may abandon the possibility of incorporating it because they cannot quantify its merits. This, in turn, may leave some children out of the learning process. Additionally, Vincent (2006) presented the argument that multimodal work may be a more realistic way to express and share meaning as this is increasingly the way the world communicates.

Evidence of low performing students becoming engaged in their learning by work with multimodal writing was not limited to Vincent (2006). Walsh (2007) conducted a study in his own classroom which had similar results. Two classes (58 students total) in an area of low socio-economic status in New York participated in knowledge gathering and production of knowledge with hypermedia texts (Walsh, 2007). The students studied Depression era America by visiting various hypermedia websites that held content in the form of images, songs, film clips, photography, and print literature. The students collected material they felt were relevant in an online portfolio and used it to construct their own hypermedia websites about the experience of minorities in the Great Depression. Through this process the students became familiar with software tools such as Dreamweaver, Flash, and Adobe Photoshop. Walsh (2007) observed students who were not engaged with school became engaged when working on this project. He attributed this to the fact that students were making use of their different “cultural capital” for these projects (Walsh, 2007). He determined that his students developed a greater sense of ownership because they had the freedom to select modes of literacy that they believed were their strengths, and this made them more likely to succeed (Walsh, 2007). In fact one group of students submitted their project to an out-of-school youth
digital literacy competition and won free laptops. Apparently others thought the students were successful also.

The above studies clarify the benefits and obstacles that come with the use of hypermedia texts in the classroom. But many do not attempt to develop specific assessment criteria for hypermedia. A study by Wyatt-Smith and Kimber (2005) did just that. In this large qualitative study they assessed over 500 student website projects from both English and cross-curricular classes in grades eight and ten. Additionally, they collected surveys from students, teachers, parents, administration, and recorded student screen activity during the production of the websites. They developed a five part assessment criteria as follows:

1) E-proficiency – the extent to which students can use communication tools, search engines, and software for the purposes of locating information on the internet;
2) Cohesion – the “internal logic of a hypermedia text;
3) Content – whether the content and type of content is appropriate to the task;
4) Design – how well the various modes of a hypermedia text work together to express meaning;
5) Transmodal Operation – the holistic consideration of the dynamic aspects of the text’s various elements

(Wyatt-Smith and Kimber, 2005).

Some of these criteria may seem to overlap, but Wyatt-Smith and Kimber (2005) insist that assessment criteria for multimodal electronic texts should be a holistic set of related elements. The fifth category (transmodal operation) is the most important here, as it is the phrase given to the dynamic element of working across different modes at the same time – it is the sense of the new multi-faceted text that could not be created by single modes on their own. Their findings indicated that multimodal text work may “open rich possibilities of self-expression” (Wyatt-Smith and Kimber, 2005). This is similar to the findings of Vincent (2006) and Walsh (2007). Wyatt-
Smith and Kimber (2005) propose that their criteria helps to "demystify" the assessment of multimodal texts, and that teachers should give special priority to the "transmodal" operation element. In order to keep classroom literacy practices valid, they call for teachers and curriculum designers to refocus the curriculum in such a way that it may develop students' multimodal design capabilities, help them access new digital knowledge sources and help them learn new software skills (Wyatt-Smith and Kimber, 2005). The use of digital multimodal texts (many of which are hypermedia by nature) is perhaps one of the best ways to accomplish these things.

Summary:

There are several key points that are worth reviewing from the above literature on digital literacy and hypermedia. In the studies on digital literacy in general, it was found that students are making frequent use of web 2.0 (often hypermedia) tools (Luckin et al., 2009; Menses and Momino, 2010). Despite this frequency of "reading," very few students are "writers," or producers, of online digital content in any mode (Luckin et al., 2009). Students seem to be learning more skills in out-of-school environments that in the classroom (Menses and Momino, 2010). Classrooms where students are encouraged to make use of their out-of-school digital literacy skills find that students tend to take greater ownership for their work and sometimes excel where they previously struggled (Bolick, 2006; Hughes and Robertson, 2010). Students can participate more in the construction of knowledge through the use of hypermedia resources online (Bolick, 2006; Walsh, 2007). The combination of all the modes of expression in a multimodal piece actually represents a new textual mode in itself (Hull and Nelson, 2005; Ware and
Warschauer, 2005; Wyatt-Smith and Kimber, 2005).

When it comes to hypermedia specifically, there are several key ideas that surface in the literature. Hypermedia texts need to become a part of the English curriculum because they represent new areas of literacy that are currently not being addressed (Matthewman, Blight, & Davies, 2004; Vincent, 2006; Ware and Warschauer, 2005; Warschauer, 2008; Wyatt-Smith and Kimber, 2005). Teachers must learn the new skills associated with hypermedia use and production if they wish to be valid and effective educators of literacy in the 21st century (Matthewman, Blight, & Davies, 2004; Ware and Warschauer, 2005; Wyatt-Smith and Kimber, 2005). A metalanguage needs to be developed in order to better teach multimodal or hypermedia “writing” (Matthewman, Blight, & Davies, 2004; Vincent, 2006; Wyatt-Smith and Kimber, 2005). Standardized tests limit the ability of teachers to assess new digital literacies, like those evident in hypermedia (Matthewman, Blight, & Davies, 2004; Ware and Warschauer, 2005; Warschauer, 2008; Wyatt-Smith and Kimber, 2005).
SECTION 3: CONNECTIONS TO PRACTICE

As my understanding of literacy changes so too will my teaching. In this section I will take what I have observed from the above research and apply it to my practice. But first I need to crystallize a few key points. It is now clear to me that the multimodal may be considered a new type of writing in itself (Hull and Nelson, 2005). In fact, the multimodal is becoming the most significant meaning making mode, as it “relates all the other modes in quite remarkably dynamic relationships” (New London Group, 1996).

On the internet, the multimodal is used to disseminate information, sell products, and facilitate communication. On the Web 2.0 internet these digital multimodal texts are often hypermedia in nature – they use more than one communicational mode at once, they may be “read” in more than one way (they are non-linear), and readers may even contribute to their content.

From the outside, this focus on hypermedia may seem like a trivial attempt to spice up the English classroom, but it has very practical purposes. It is now clear that students are spending huge amounts of time in digital spaces filled with hypermedia texts (Luckin et al., 2009; Menses and Momino, 2010). If they are reading, and potentially writing, in these spaces shouldn’t we address this kind of literacy in the classroom? Messaris (1998) and Kress (2000) argue that we, as teachers, need to develop students’ critical digital literacy skills. I agree with them, and wish to better prepare my students for the literacy practices of the 21st century.

We are approaching a point where we can realistically expect students to read and write hypermedia. Digital tools now allow students to construct, share, and annotate hypermedia texts without the extensive training of a software programmer. Also, the
same tools allow students to publish their work without going through the traditional corporate or academic channels. These freedoms were not extensively enjoyed by secondary level English students in the past, but they may be exercised in the English classroom today.

In the last school year (2009-2010) I experimented with hypermedia text production in the English classroom. I found that students could use presentation software to construct hypermedia texts. These “texts” made use of multiple modes of communication and could be read in a non-linear manner. Although this preliminary foray into hypermedia text production in the classroom was successful, it required fine tuning.

After reviewing the research literature in this area I have decided to develop a new hypermedia unit. In this unit students will go beyond merely writing their own hypermedia texts. They will begin by reading a wider variety of hypermedia sample texts on the internet. This will provide examples upon which they may model their own work, and will help with the development of a metalanguage – something identified as a necessary component to digital literacy units by several researchers (Matthewman, Blight, & Davies, 2004; Vincent, 2006; Wyatt-Smith and Kimber, 2005). They will engage in a peer review process where they can make observational digital “tags” on each others work. And, in the interests of developing literacy skills that are valid and “real” they will actually publish their work for a wider audience.

I will use the New London Group’s (1996) four components of multiliteracies as guidelines for the unit (see above literature review for a detailed list). The “situated practice” will occur when students review online examples and incorporate their own
preferred communicational modes in the writing process. "Overt Instruction" will occur in the development of explicit metalanguages in class discussion (I will identify keys words that students may use for describing the different modes) and a step-by-step procedure to writing with Prezi software. The "critical framing" will consist of an analysis of hypermedia texts online and the peer review activities. Finally, the "transformed practice" will, hopefully, occur when students demonstrate their new digital literacy skills by constructing hypermedia texts that will be published on the internet.
## Unit Overview: Grade 12 English - Hypermedia Poetry Unit

<table>
<thead>
<tr>
<th>Topic / Objectives</th>
<th>British Columbia Ministry of Education Prescribed Learning Outcomes (English Language Arts: 8 to 12, Integrated Resource Package, 2007)</th>
<th>Student Activities</th>
<th>Assessment</th>
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</table>
| 1) Conventional Poetry Readings + Discussions | • B1 read, both collaboratively and independently, to comprehend a wide variety of literary texts, including literature reflecting a variety of times, places, and perspectives; poetry in a variety of forms  
• B12 recognize and explain how structures and features of text shape readers’ and viewers’ construction of meaning and appreciation of author’s craft, including form and genre, functions of text, literary elements, literary devices, use of language | • Conventional Poetry Mini Unit  
• Class discussions of poetic terminology, form, and poem content.  
• Student work on traditional poetic annotation and terminology review on paper. | • Informal assessment of in-class discussions  
• Formal assessment of homework |
| 2) Poetry Research and Annotation of Digital Texts | • B10 synthesize and extend thinking about texts, by transforming existing ideas and information.  
• B11 use metacognitive strategies to reflect on and assess their reading and viewing, by referring to criteria, setting goals for improvement, creating a plan for achieving goals, and evaluating progress and setting new goals | • Project Intro  
• Diigo set-up  
• Poetry research and annotations of websites  
• Sharing of annotations  
• Discussion on the benefits of such technology | • Informal assessment of discussions  
• Formal assessment of student participation in tagging process |
| 3) Intro New Types of “Text” | • B2 read, both collaboratively and independently, to comprehend a wide variety of information and persuasive texts with increasing complexity and subtlety of ideas and form, such as print and electronic reference material . . . advertising and | • Reading E-Literature and Prezi samples.  
• Discussions of how these texts make meaning with different modalities.  
• Discussions of how “reading” hypermedia texts is non-linear.  
• Provide Metalanguage definitions. | • Informal assessment of participation in class discussions.  
• Homework questions on e- |
| 3) continued | promotional material.  
- B3 view, both collaboratively and independently, to comprehend a variety of visual texts, with increasing complexity of ideas and form, such as broadcast media . . . web sites. | Student-produced metalanguage added to teacher’s list. | literature |
| 4) Hypermedia Text Production | - C4 create thoughtful representations that communicate ideas and information to: explore and respond, record and describe, explain and persuade, and engage.  
- C10 write and represent to synthesize and extend thinking, by . . . transforming existing ideas and information; contextualizing ideas and information. | Prezi introduction  
- Students complete online tutorials  
- Project criteria discussion  
- Prezi order of operations guidelines  
- Students collaboratively construct their own hypermedia text in Prezi | Informal assessment of students working in groups and learning new software skills |
| 5) Peer Review and Annotation | - C11 use metacognitive strategies to reflect on and assess their writing and representing, by relating their work to criteria, setting goals for improvement, creating a plan for achieving goals, and evaluating progress and setting new goals  
- C7 select, adapt, and apply a range of strategies to revise, edit, and publish writing and representing, including checking work against established criteria, enhancing supporting details and examples, refining specific aspects and features of text, proofreading | Students read each others’ hypermedia texts and annotate them using Diigo  
- Students make changes after reviewing their peers’ annotations | Informal assessment of annotation and peer review process |
| 6) Publication | - C7 select, adapt, and apply a range of strategies to revise, edit, and publish writing and representing | Students edit and publish their Hypermedia Prezis | Formal assessment of hypermedia projects and Diigo annotations |

**Table 1 Unit Overview**
Unit Plan Discussion

This unit will grapple with a new understanding of text itself. Because of this, students need to be exposed to samples of new types of text. I want students to come to understand that literacy is not limited to reading and writing alphabetic text from left to right on a printed page. Although, I should mention that modern literacy has always had multimodal characteristics. Things like magazine advertisements, music videos, poster presentations, comic books, and websites have always required the use of more than one communicational mode to convey their message. The difference now is that students can potentially read, construct, share, annotate, and disseminate multimodal texts in a digital environment with greater ease than ever before. Also, these texts are increasingly hypermedia in their nature.

Part 1 - Conventional Poetry Readings + Discussions

The first few days of the unit will be spent reading, discussing and answering questions on a selection of poems (Appendix B). This is an abbreviated version of a conventional poetry unit. I want to teach them in a conventional manner for a few lessons so they have a point of comparison once we begin using the technology. I will give the students paper copies of poems, and lists of poetic terms with their definitions. This will expose students to a sample of poetic forms from the last 500 years: English and Italian sonnets, dramatic monologues, haikus, and free verse. The authors will also represent a range from the last 500 years: from William Shakespeare in the 16th century, to William Wordsworth in the 19th, and all the way to Al Purdy in the 20th.

The intention here is to provide students with the basics of a conventional poetry unit before moving on to the newer digital literacy skills. This may seem a bit
hypocritical, but it will help the unit in two ways: 1) it will cover the poetry basics (which are required for a student’s success on standardized tests); and 2) it will establish a solid launching pad from which to explore literacy in the digital world. This is in keeping with Eagleton’s (2002) observations, that hypermedia literacy requires students to go back and forth between print and digital literature practices.

**Part 2 - Poetry Research and Annotation of Digital Texts**

After reading and discussing all of the poems, students will form their project groups (2-3 students in each group) and select a poem that they wish to explore further. I will introduce students to the following project goals at this time:

1) to conduct online research about their poem;
2) to annotate hypermedia texts (for research and peer review);
3) to construct their own hypermedia piece;
4) to publish their finished hypermedia pieces on the internet.

With the above goals in mind students will begin to make the transition from print literacy practices to digital literacy practices.

Now its time to start exploring hypermedia texts. The objective of the first part of the unit is to expose students to three different hypermedia texts and get them thinking critically about those texts. The three categories of hypermedia we will explore are: informational websites about poems and authors of poems, pieces of electronic literature, and sample prezis. But it is not enough to have students read a few hypermedia texts and move on. I want them to make analytical observations of hypermedia, just as they would make analytical observations of print-based literature. But to do this students need to develop their digital literacy skills. They need to transfer literary analysis skills, like
highlighting, annotation, categorizing, labeling, and critical reading in general, to the digital world.

Analyzing digital texts requires an ability to mark-up and annotate digital text with critical observations. This is where social bookmarking transcends the gap between the page and the screen. I will have students register themselves with a social bookmarking site called Diigo (Diigo, 2010). This software will help them organize, share, tag, and annotate useful hypermedia websites. Each student will join the class’s Diigo group. This way only students in the class may see each other’s work and I, as the administrator of the group, can oversee and regulate the content. Then students will visit sites that provide information about the poem they have chosen for the project. They will gather bookmarks in their Diigo libraries and add captions which summarize the website’s assets (see fig 1).

**Figure 1** Diigo bookmark library (Diigo, 2010).
Students can share their bookmarks with others in their group. The bookmarks may be organized by date or by tag. Tags are key words that categorize the information on a website for the maker of the bookmark. In figure 1, my tag list appears down the left hand side of the page and the individual tags for each bookmark appear in grey boxes beneath the captions. Users can search for sites according to the tags that other users attach to their bookmarks. In this way, the students are constructing a knowledge base for their poetry projects. They are determining what is relevant information, then sharing that information with the other students in their group. This is the student constructed knowledge-base that the web 2.0 world makes possible.

Another feature of Diigo’s social bookmarking software that the students will use in this unit is the “sticky note” annotation function (see fig 2). Digital “sticky notes” are little yellow tags (like their namesake paper versions) that identify interesting details on a website. The sticky note can accommodate a couple of sentences worth of text. The sticky notes function as a kind of annotation that is visible to either the user alone, the user’s selected group, or the wider Diigo community. The great advantage of the sticky note function is that it allows users to make observations that appear to stick to the website itself – like a paper stick note would to a textbook page. Each note appears as a little yellow square when a user activates their Diigo bookmarking software. They disappear as soon as the user signs out of Diigo. Also, students may respond to each others notes. Each note may potentially contain entire conversations. In figure 2 there are three sticky note annotations. One on the image of Al Purdy, one next to some highlighted text (also a function of Diigo), and one next to the selection of poem titles. The one on Purdy’s image has been opened in order to read the message and the
This is the kind of web 2.0 tool that is required for sharing ideas and observations on the internet. Lankshear and Knobel (2006) would call this the establishing of the "folksonomy," or a bottom-up labeling of publicly accessible knowledge. Taxonomies are characterized by the fact that certain powerful individuals label and categorize information (librarians, governments, large corporations, famous authors and scholars). Whereas, folksonomies allow everybody to contribute to the labeling and categorization of information – all the "folks" get a say in what is valuable knowledge.

**Part 3 – Introduction of New Types of “Text”**

After researching the authors and the poems themselves, I will give students an
opportunity to explore electronic literature (e-lit). In particular, students will explore the e-lit collection available at the Electronic Literature Organization’s website (Electronic Literature Organization, 2010). Here students can browse through dozens of examples of e-lit and start to become familiar with the idea that a text does not have to read in a linear manner. These are excellent examples of hypermedia texts. In fact they can best be described as hypermedia poetry.

![Figure 3 Electronic Literature Organization, Vol. 1](image)

Each of the images in figure 3 is a thumbnail (iconic representation) of a piece of e-lit. Users may click on one image and then begin reading an e-lit piece. These sample e-lit pieces are all very different, but they share the characteristic of being multimodal and non-linear – they are hypermedia texts. Readers may navigate freely through the images, sounds, and texts. In this way the reading experience can be very different for every
reader. For example, a piece by Reiner Strasser (2004), entitled *in the white darkness*, consists of a poke-a-dot background where each dot may be clicked to reveal a different element of the composition. Some dots reveal pictures, others sounds, and others reveal lines of text (see Fig 4).

![Image: in the white darkness, by Strasser, R. & Coverley, M.D.](image)

**FIGURE 4 in the white darkness, by Strasser, R. & Coverley, M.D.**

It is up the reader as to how to explore this piece, and how to make meaning from it. The purpose of this exercise is to expose students to hypermedia texts that are pieces of art.

The class will then discuss the merits and drawbacks of reading and writing in this manner. There may be some resistance to the idea that these are "real" poems, but hopefully this resistance will lessen after more exposure. By spending time with e-lit students may come to realize the possibilities of working with hypermedia. Despite the fact that these e-lit pieces are very different from the informational websites they
explored earlier, both are legitimate examples of hypermedia. Both use multiple communicational modes, and both may be read non-linearly. Adding the Diigo annotations allows students to make observations about these features. Now students need to see examples of the kind of hypermedia texts they will create.

At this point in the unit I will give students a glossary of metalanguage which may come in handy (Appendix A). These terms (as poetic with terminology) give the students the vocabulary to speak about hypermedia texts in an analytical manner. As mentioned above, this is in keeping with the “Overt Instruction” of The New London Group (1996), and the recommendations for the use of metalanguage of Matthewman, Blight, & Davies, (2004), Wyatt-Smith & Kimber (2005), and Vincent (2006). There will also be opportunities for students to add to this list as the unit progresses.

The third set of hypermedia texts we will explore are made with Prezi presentation software. This software is freely available online. Individual presentation texts may be downloaded if one registers as a teacher with the site. I will present the website to the students and then let them explore some of the samples. There are thousands of hypermedia prezis freely available on Prezi.com. Each one has been created by independent writers and submitted for public viewing. A valuable feature of the website is the search function. A search with the key word “Macbeth” yields 553 individual prezis – 430 of which may be downloaded and are registered for reuse (See Fig 5). This is a wealth of user-generated information that was not available in the Web 1.0 world. It is only made possible by web 2.0 technologies – the read/write web.
Prezis allow the writer to import images and text that they have created in other environments, like Photoshop or Microsoft Word, and then arrange them on a palette. Texts, arrows, shapes, frames, and different colour themes may be added to help organize information.

The really unique feature of a Prezi is the zoom function. Prezi palettes have a great sense of depth. Readers may move left or right, but they may also zoom in or out. This dynamic feature allows the writer to embed vast amounts of information without cluttering the screen with content. Images or text can be made so small, and placed at such a deep depth, that they seem to disappear. Figure 6 shows an opening view of a Prezi, and Figure 7 shows a zoomed-in part of the same Prezi.
This Prezi explores different aspects of hypermedia texts. I designed it to communicate understanding about a new medium while using the medium itself. The opening view shows the word “Hypermedia” in large font twice – once right-side up and once up-side down. Within the bottom half of the “H” on the left side are a few key words and my own photographs arranged in a shared space (see Fig 7). The title of the piece can grab the reader’s attention because the detailed information does not clutter the visual space.

Figure 6 Prezi entitled “Hypermedia,” opening view

Figure 7 Detail of Prezi entitled “Hypermedia”
The details may be hidden for the sake of clarity, or just to surprise a reader with a new idea in an unexpected location.

To help with reader navigation, a writer may establish a “path” which will lead a reader from item to item in the palette. In figure 8 I made the path visible on a short Prezi about the first stanza of Shakespeare’s “Sonnet 116.”

![Prezi on Sonnet 116, path revealed](image)

The blue dots indicate where the screen will move to after each click. The blue line that connects the dots is the Prezi’s “path.” In this example the reader is taken from the title of the poem to the Red letters “First Quatrain” then to the individual lines of the first quatrain. Numbers five and six are an annotation which identifies a juxtaposition in line two of the poem. This path is intended to guide the reader through the text. But, in keeping with hypermedia principals, the reader may also deviate from this path whenever they wish. Deviating from the path is non-linear reading. This may allow affordences that a strictly linear path would not. A reader may wish to revisit a specific area of the prezi
that the path has already passed by. Or, the reader may wish to zoom out in order to see
the wider picture. By exploring samples such as these, students can see how other people
arrange and present hypermedia texts with the software that they themselves are going to
use. This sample viewing exercise is a valuable modeling experience for students who
may be feeling that this whole hypermedia text thing is too much for them. It serves as
acclimatization to a new medium.

The ease of incorporating multiple modes and the non-linear nature of the reading
make this software perfect for producing stand alone hypermedia texts. Also, each
completed Prezi may be shared within a limited group, such as a class. If a teacher
registers for an educational account she may download the students’ finished work. This
way the teacher does not have to rely on Prezi’s availability to access student work at a
later date. Also, students can preserve copies of their Prezi hypermedia projects on their
own computers.

Part 4 - Hypermedia Text Production

After exploring three types of hypermedia texts (informational websites, e-lit, and
Prezis), students will construct their own hypermedia texts. They will use Prezi to make a
literary annotation, or close reading, of a poem. I will spend a lesson walking them
through the class registration process and a step-by-step construction of a very basic
Prezi. From initial experiments with Prezi, I developed an order of operations that may
ease frustration when learning the technology. They are as follows:

1) Import the main text in bite-sized chunks (each word or phrase that you want to
draw attention to should be in a separate text box).

2) Import secondary texts (annotations / marginal information like captions)
3) Import images or video

4) Construct your path by connecting the various text boxes and images in the order that you wish them to be revealed to your reader.

5) Arrange the different items on the palette spatially. This may require dragging, spinning, and shrinking or enlarging.

If the students follow these steps they are less likely to have problems negotiating the complex visual space of a hypermedia text.

Then I will give students several lessons in the computer lab to construct their prezis. They will work in groups of two or three. Prezi offers a collaborative work feature where more than one individual can make changes to a prezi at the same time. Therefore, students may work collaboratively from home if they need to. The end result will be a poetry presentation with annotations that demonstrate the student’s analytical skills. There may be images that illustrate allusions, highlighting of patterns in the text, explanatory captions, contextual information about the subject matter or the author, and any number of other types of annotations. When the students finish they will make the prezi viewable to the rest of the class.

**Part 5 - Peer Review and Annotation**

After students have completed their hypermedia projects there will be an opportunity for them to review each other’s work. Prezi.com offers a group sharing function where members of a group can view the work of the other members, but the outside world cannot see this work. There is a comment function at the bottom of each prezi where students may provide feedback to their peers. But in the spirit of developing their digital literacy skills, I will encourage students to use their Diigo accounts, that they
set-up earlier, to add sticky note observations to their peers’ prezis. As demonstrated earlier, the sticky notes can actually represent back and forth conversations between students. I did this for my own prezis (fig 9).

**FIGURE 9** Annotations of Prezis using Diigo

In this way authors and readers of hypermedia may discuss their observations and make recommendations for improvement. After a class of peer review, students will be given a chance to make changes to their projects and then repost the finished product.

**Part 6 – Publication**

After the final changes have been made to the students’ projects they may elect to publish them. The view permissions of each prezi may be changed by the author. There are three categories of permissions. This type of author control is becoming increasingly common on the read/write web 2.0 world. At Prezi.com authors may choose to keep their work private, allow only members of a group to view it, allow anybody on the internet to
view it, or allow anybody to both view and download it for their own purposes (fig 10).

![SONNET CXVI (116)](image)

**FIGURE 10** Prezi view permissions

Additionally, Prezi offers the following web 2.0 features: other editors may be invited to make changes; viewers may click the heart icon to indicate that they like it; linking mechanisms to social software such as twitter and facebook; and email options.

The above features facilitate publishing and engage in dialogue with the outside world. This is very important to students’ learning. Their creative work here may enter the public space, and, therefore, may seem more real. These are authentic literacy practices. Luchin, et al. (2009) observed that very few students may be categorized as writers or producers of online content. This unit is one way that students may learn the digital literacy skills required to become writers/producers of online content. Hopefully, the end product will be evidence of what the New London Group (1996) calls “transformed practice.” Students will have demonstrated that they can make meaning in
new contexts. They will become critical readers and writers in digital spaces.

Project Assessment:

Most of the assessment for this unit is identified in the overview table (see table 1). There is a blend of informal and formal. Both the final project and the peer review process will be taken into account for the final formal assessment. As the administrator of the Diigo group I can keep track of the observations made by each member, and, therefore, give each student a grade based on the quantity and quality of their observations. This is a very powerful tool for assessing peer review of hypermedia.

The assessment of the hypermedia piece itself will incorporate elements from Wyatt-Smith and Kimber’s (2005) guidelines for holistic assessment of digital texts. It will include cohesion of text, expression of content knowledge, effectiveness of the different design elements, and, lastly, consider the “transmodal operation” of the entire hypermedia piece (the effectiveness of the prezi’s dynamic aspects, i.e. use of movement); (Appendix C).

Limitations of this Unit Plan

Every teacher’s unit plan is slightly idiosyncratic. I have developed the skills necessary to feel comfortable with digital tools such as Diigo and Prezi. These may prove difficult to learn for teachers who have little web 2.0 experience. But as mentioned in the literature review section of this paper, teachers need to develop current digital literacy skills if they wish to make their teaching relevant for their students (Matthewman, Blight, & Davies, 2004; Ware and Warschauer, 2005; Wyatt-Smith and Kimber, 2005). Students also may have difficulty with these new software tools. Just because they are frequently reading
with web 2.0 tools (Luckin et al., 2009; Meneses and Momino, 2010), does not mean they are proficient writers with web 2.0 tools (Luckin et al., 2009). Because of this there may be some growing pains that a conventional print-based poetry unit would not have.

Another possible limitation may be the length of the unit itself. Not only do the students have to study poetry, they have to learn new software. They are already well acquainted with the pen and paper technologies prior to grade 12. But writing with web 2.0 tools may slow them down. If this unit takes longer than a conventional poetry unit there may be concerns about completing the curriculum. Standardized tests require teachers to “get through” a certain amount of material at a certain speed. If these are in place some teachers may hesitate to adopt a potentially length poetry unit.

Lastly, the available hardware may be a limiting factor. Some schools may not have enough available computers to justify a class of thirty students occupying a lab for an extended time. Such spaces are often hotly fought over in high schools. In addition to availability, the processor speed and RAM of individual computers and the speed of the school server may be limiting factors. Hypermedia by nature makes use of the visual modes. But pictures and videos take more computer memory than text. The combination of slow computers and large files may slow down Prezi and make this project frustrating for some students.
SECTION 4: CONCLUSIONS

I began this paper with two questions in mind:

1. What does the literature reveal about the use of hypermedia text reading and construction in secondary education?

2. How can hypermedia be used for the construction and communication of literary analysis at the secondary level?

In the literature review (section 2) of this paper I identified the fact that the nature of text is changing. In digital spaces the multimodal is coming to represent a textual mode in itself (Hull and Nelson, 2005; Ware and Warschauer, 2005; Wyatt-Smith and Kimber, 2005). The combination of different modes and the spatial relationship these modes have towards each other affects the message a text is conveying. Messaris (1998) called this “visual syntax.” I believe we need to teach students about this “visual syntax” so they can better understand the hypermedia texts they are already reading on the internet. The research indicates that hypermedia needs to have a presence in the English/Language Arts curriculum (Matthewman, Blight, & Davies, 2004; Vincent, 2006; Ware and Warschauer, 2005; Warschauer, 2008; Wyatt-Smith and Kimber, 2005).

Today’s students are extensively participating in the web 2.0 world, including reading hypermedia texts (Luckin et al., 2009; Meneses and Momino, 2010). But this participation is, sadly, limited. Students are rarely taking full advantage of the web 2.0 tools - few of them are producers of content (Luckin et al., 2009). If students are not producing content then their voices are not being heard. As English teachers we need to make sure our students have the skills to read and write in the literacy spaces of the 21st century. The above unit plan is one way teachers can help their students do this. In it
students not only analyse and annotate hypermedia texts on the internet, but they produce their own hypermedia texts.

Unfortunately, the research also indicates that we as teachers are not incorporating web 2.0 literacy skills as often as we should (Matthewman, Blight, & Davies, 2004; Vincent, 2006; Ware and Warschauer, 2005; Warschauer, 2008; Wyatt-Smith and Kimber, 2005). In the process of completing my Masters of Education and designing this unit I had to learn two types of communication software: Diigo and Prezi. I was no expert in these prior to my Masters program. After all, I am what Prenksy (2001) would call a “digital immigrant.” I’ve had to reform my understanding of what it means to be literate. But now I have the confidence to teach digital literacy skills in the English classroom. Other teachers need to teach these skills.

It was made clear by several researchers that a metalanguage was needed to help students negotiate this new territory of hypermedia text analyse and actual construction of hypermedia texts (Matthewman, Blight, & Davies, 2004; Vincent, 2006; Wyatt-Smith and Kimber, 2005). I developed a list of terms that may be helpful for talking and writing about hypermedia (see Appendix A).

Lastly, the research indicated that the new literacies should not be subjected to old assessment tools, such as the five paragraph essay on a standardized test (Matthewman, Blight, & Davies, 2004; Ware and Warschauer, 2005; Warschauer, 2008; Wyatt-Smith and Kimber, 2005). Therefore, my unit was designed to assess the students’ use of digital annotation tools and the hypermedia text itself. I developed a holistic scale with specific criteria. This does not mean that a teacher should not ask their students to write an essay in order to demonstrate their understanding in that mode. Rather, I wanted students to
demonstrate their understanding in the same mode that was being used by the digital texts they were reading - hypermedia.

Over a decade ago, the New London Group (1996) called for teachers to begin evaluating the visual mode along with the linguistic mode. Additionally, they identified the need to focus on the multimodal in classrooms (New London Group, 1996). In new digital spaces, at least, the "text paradigm" that so many English teachers use - that of the print book - is disappearing (Lankshear and Knobel, 2006). For so long we thought of reading and writing as the thing that happened in tangible, codex, linear, paper books. But now it is happening in a hypermedia environment. I believe we need to address this area of new literacies more directly by teaching with hypermedia texts, asking our students to critique hypermedia texts more thoroughly, and we need to start accepting hypermedia texts as alternatives to the printed paper. I believe English teachers are now in a perfect position to begin this process.
References:


Websites:


Appendix A:

The Metalanguage of Hypermedia
note: citations provided where applicable

clicks = the act of clicking the mouse or track pad on a computer; it may be used as a measure of distance, ie: it is five “clicks” from the home page to the information we want.

colour = different colours can help establish different tones in a piece

embed = the method by which a piece of media is digitally inserted into a hypermedia piece

folksonomy = bottom-up tagging community that tag and categorize information (Lankshear and Knobel, 2007)

font = shape and style of alphabetic letters, chosen for effect

hyperlink = a word acts as both a piece of text and a digital link to another place where words or images may be used to help explain the root word

hypermedia = information coming from more than one source/mode that may be explored in multiple ways and possibly manipulated by the reader; reading is non-linear (Gerjets + Kirschner, 2009).

hypertext = text which uses hyperlinks

movement = flash animation may be embedded in a piece; some movement is automatic, and some is controlled by the reader as a manner of navigation

multimedia = information coming from more than one source/mode; reading is linear (Gerjets + Kirschner, 2009).

taxonomy = top-down directories that tag and categorize information (Lankshear and Knobel, 2007)

Web 1.0 = websites based on the principals of the initial manifestation of the internet, read only content, fewer multimodalities, less user content available, less sharing of content between users.

Web 2.0 = websites that allow or encourage user content, the read/write web, greater amount of multimodalities, more sharing of user content, hypermedia texts are possible

visual syntax = relationship of images in a series or montage, how they arrange
themselves Messaris (1998)

**zoom in or out** = the method by which objects in a piece appear to come closer; especially in Prezis
Appendix B:

Poems used in the unit:

Sonnet CXVI (1609), William Shakespeare
Death Be Not Proud (1663), John Donne
Ode On a Grecian Urn (1820), John Keats
The World is Too Much with Us (1807), William Wordsworth
Ulysses (1842), Alfred Lord Tennyson
Funeral Blues / Stop All the Clocks (1936), W.H. Auden
Do Not Go Gentle (1952), Dylan Thomas
Railway Club Blues (1997), Pete Trower
My '48 Pontiac (2009), Al Purdy
Depression in Namu, BC (2009), Al Purdy
Appendix C:

Hypermedia Poetry - Marking Criteria:

E-Proficiency + Cohesion: 1 2 3 4 5 6
- Poem is reproduced accurately (including title, author, and all lines) in a central space on the Prezi.
- Ideas are clear, explicit, and easy to follow
- Path makes sense (easy for viewer to divert from and return to)
- Appropriate in content and submitted on time.

Content of Poetic Analysis: 1 2 3 4 5 6
- Appropriate level of analysis; you understand the poem thoroughly.
- Form - the form of the poem is connected to the meaning of the words.
- Devices - Accurately identifies any poetic devices that apply your understanding of the poem.
- Theme - addresses the theme of the poem.

Design and Transmodal Operation: 1 2 3 4 5 6
- Interesting use of a Hypermedia Text. Analysis of poem is conveyed in a creative manner.
- An enjoyable experience, not bogged down with giant blocks of text.
- It may be understood by either following the path or exploring independent of path

Diigo - Marking Criteria

Annotations 1 2 3 4 5 6
- Evidence of critical reading of hypermedia texts is demonstrated
- At least 12 observations needed (6 poetry websites, 6 peers’ projects)

Project Total /24