ENHANCING THE USE OF HISTORIC SITE TEXTS AS PRIMARY SOURCES FOR HISTORICAL INQUIRY THROUGH FOCUSED INSTRUCTION

By

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ABSTRACT

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This mixed methods study examined fourth- and fifth-grade students' experiences in using multiple texts within a historic site environment (specifically objects, buildings, tour guide's words, labels and signs) as sources of information for historical inquiry in order to determine whether providing focused instruction about these multiple texts and intertextual reading enhances student achievement and motivation to engage with texts. Phenomenographic and survey research methodologies were employed. For the quantitative portion of the study, a quasi-experimental design was used to investigate the effects of instruction about multiple historic site texts on the students' conceptual development and abilities to use these texts for historical inquiry. Students from two fourth-grade and two fifth-grade classrooms participating in a visit to a local historic site were assigned to one of two groups: an instruction group, in which students took part in focused classroom instruction about the multitextual historic site environment and a historic site field trip, or a non-instruction group, in which students took a field trip to the same site but did not receive the classroom instruction. Pre- and post-visit questionnaires were administered that assessed participants' concepts of the multitextual historic site environment, knowledge of source use, and motivation to engage with sources (including value and perceived ability). For the qualitative portion of the study, transcripts from the instruction group's classroom discussions and written artifacts from two participant source use activities completed by all students were examined using systematic content analysis methods.

Intertextual reading models exhibited in the participants' source use activities were assessed and categorized. In both portions of the study, analyses focused on describing the character of students' concepts of historic site sources and on comparing group and grade level differences in students' knowledge of source use, motivation, critical use of sources in the activities, and the intertextual reading models exhibited in the source use activities. The results of this study showed that the participants' abilities to use historic site sources were related to their conceptual understandings of sources, participation in the focused instruction, and grade level. The importance of scaffolding and pre-visit preparation for making a difference in the students' conceptual development and skills improvement was demonstrated. Overall, students showed significant improvements in their understandings of the use of historical sources for historical inquiry and a shift toward thinking like historians. Classroom and historic site educators may use this information as a basis for assessing students' conceptual understandings historic site texts and for designing effective learning experiences for fourth- and fifth-grade students. New theorizations based on the findings in the areas of intertextual reading and historical source terminology are presented.

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CHAPTER 1: INTRODUCTION

Statement of the Problem

Historical thinking, the means through which history is constructed and understood (Limón, 2002), is advocated by national and state history standards and by experts in the fields of history and social studies education. It has been argued successfully that elementary school-aged children are able to think historically (Barton, 1997a; Fink, 2001; Martin, 1990; VanSledright, 2002b). Barton (1997a) observed, "Attempting simplistically to establish whether children can or cannot understand history distorts the field beyond recognition; children clearly do understand history—the important issues are what they understand and how they understand it" (p. 160). Wineburg (2010) defended the notion that historical thinking is necessary for all students by arguing,

Students need to be taught to 'think like historians' not because they will become professional historians but precisely because most won't. The goals of school history are not vocational but to prepare students to tolerate complexity, to adapt to new situations, and to resist the first answer that comes to mind. (p. 4)

Helping K-12 students to achieve this type of thinking is the goal of the *1996 Revised National History Standards*. The *Standards* have been used as a model for history education in over thirty states (National Center for History in the Schools, NCHS, 2004). According to the *Standards*, the use of primary sources (including documents, photographs, oral histories, artifacts, and historic places) is integral to facilitating historical thinking. For example, one of the five types of historical thinking in the section "Developing Standards in History for Students in Grades K-4," the NCHS advocated

Historical research capabilities, including the ability to formulate historical questions

from encounters with historical documents, artifacts, photos, visits to historical sites, and eyewitness accounts; to acquire information concerning the historical time and place where the artifact, document, or other record was created; and to construct a historical narrative or story concerning it. (para. 6)

In other words, the *Standards* suggest that students should engage with primary and secondary sources from the time they enter school in Kindergarten and throughout elementary school.

Children's use of primary and secondary sources in elementary schools has been the focus of the majority of research studies about elementary school students' historical thinking. Teaching children to learn history through this method is an established K-12 practice involving asking questions about the past, which then are answered through analysis and interpretation of sources. Understanding the characteristics of primary and secondary (historiography) sources is central to this method (Barton, 2001a, 2001b; Drake & Nelson, 2005; Schamel, 1998; Zarillo, 2004), as is instruction in how to use sources (Drake & Brown, 2003; Fertig, 2005).

With a primary function of preserving evidences of the past for people present and future (Bain & Ellenbogen, 2002; Schell, 1992; Tilden, 1957/1977), historic sites provide primary and secondary sources for information about the past. (Although many definitions exist, in what follows, *historic site* will refer to a place officially designated as historic by local, state, national, or international authorities). Historic sites are considered places for the public to learn about history, through resources that are available in these places, including the built environment, landscapes, spaces, narratives, and more (Datel, 1985; Glassberg, 2001). The physicality of objects and places provides opportunities for learning about the past (Donnelly, 2002; Prown, 1980; Schlereth, 1985), because they contain evidence of the past that is with us in contemporary form, as Lowenthal (1985) asserted, "Artifacts are at once past and present" (p. 248). Like

museums (Bal, 1992; Hooper-Greenhill, 1994; Ravelli, 2006), historic sites provide non-material sources of information as well, such as discourses and narratives. Tour guides communicate narratives about people, objects, and places in historic sites, which may be as well remembered by visitors as the people, objects, and places they describe (Leach, 2011a). Curators, educators, and exhibit developers provide curatorial narratives through label and wall text, exhibition practices, and spatial manipulation (Stainton, 2001). In sum, Meng (2004) described museum exhibitions as "obviously multimodal in that different semiotic resources, such as photographs, three-dimensional physical objects, space and language, are co-deployed in complex ways to construct meaning" (p. 28). Similarly, a historic site is not one thing; rather, it is a multimodal, intertextual environment (Mathewson-Mitchell, 2007; Ravelli, 2006), which supplies multiple types of information to visitors. Texts within historic sites must be read against each other in order for learners to interpret this information.

Every year, millions of people visit historic sites worldwide. In the United States, the National Park Service reported over nine million visits to National Historic Sites in 2008 (U.S. Department of the Interior, 2009). State and local sites add millions more to this number. Many of these visitors are children on school field trips. These trips have the potential to deepen children's understandings and appreciation of the past, allow them to practice the work of historians, and connect them with authentic historical objects and places (Farmer, Knapp, & Benton, 2007; Hooper-Greenhill, 2007). In Michigan, the state history curriculum sequence begins in third grade, and as a result, many Michigan students visit local and state historic sites, such as the State Capitol and Crossroads Village in Genesee County. For some students, this is their first exposure to a historic site. Fifth-grade children study early American history, and students in this grade in some schools visit local sites or travel greater distances to sites, such as

Colonial Michilimackinac in Northern Michigan.

Purpose of the Study

The impetus for this study was the realization that although millions of elementary school children in the United States visit historic sites each year and the expectation exists in federal and state curriculum standards that they will use these sites as sources of information for historical inquiry, little understanding exists about students' capabilities in this area. Historical inquiry involves working with multiple sources, requiring skill in evaluating sources and making intertextual comparisons, but research on children's use of primary and secondary sources generally has been confined to their study of documents, oral histories, and photographs. Although the literature about teaching with primary sources has explored children's experiences using these types of sources, no known studies expressly examine elementary school students' use of the multitextual historic site environment as sources for historical inquiry. Further, in most of the studies that do center on aspects of intertextual comparison in children's primary source use, theoretical aspects of intertextuality, such as those from the fields of reading and new literacies, have been ignored.

The purpose of this study was to examine fourth- and fifth-grade students' experiences with historic site texts as sources for historical inquiry and to determine whether providing focused instruction in using sources within historic sites (specifically, built and spatial environments, artifacts, tour guide narrative communication, and curatorial interpretation, such as labels and signage) enhanced students' critical use of sources and motivation to engage with texts. Because fourth and fifth graders comprise a large historic site visitor population from the elementary grades in Michigan and many other states, due to state and American history being taught at these grade levels, conducting a study with students at these grade levels offered the

opportunity to understand more about the learning abilities of a population that is likely to experience historic sites on school field trips.

Knowledge is limited about how these learners, particularly children who comprise a large visitor population of historic sites, make sense of the multiple texts in these environments. What are children's concepts of these texts? What do they believe about using texts for answering historical questions? What texts do they think are most reliable and why? What do they learn from different types of texts? How do they "read" multiple texts together?

In what follows, these questions are addressed in depth. The goal for this research study is not only to answer these questions but also to provide information useful for shaping our understandings about how children experience historic site environments and what they need to be engaged learners in these environments. It is my hope that the answers to these questions will supply information for classroom and historic site educators useful in producing relevant and effective learning experiences for students in historic places. Further, this information may assist professionals in developing related educational materials, activities, and pedagogies. Finally, this knowledge may help to produce students who are more critical consumers of information in multitextual forms, an especially necessary skill in a knowledge economy (Goldman, 2004; Wineburg, 2010).

The next chapter introduces the literature used to frame this study. Literature related to the nature of historic sites, children's concepts of the multiple historic site texts, children's skills and challenges in using sources for historical inquiry, and use of document based question activities in elementary school classrooms is discussed. The theoretical and empirical research discussed therein provided the basis for the research study questions and design and informed the interpretation of the results.

Chapter 3 outlines the research methods for the study. Information about the study's research design, methodologies, research questions, participants, and data collection procedures are presented here. The reasoning for making certain design and methodological decisions for the study is included in this chapter.

Chapters 4-6 detail the research results of the study. Chapters 4 presents the results from classroom sessions with the instruction group, Chapter 5 details the results of the participant questionnaire, and Chapter 6 discusses the results of the two source use activities. In these chapters, you will encounter a group of enthusiastic, bright, and generous young people, who shared their experiences learning about the multiple texts within historic sites with me. What they believed about historic site sources, how they used sources for historical inquiry, and the skills they exhibited and challenges they faced are presented and discussed in these chapters. The results from using a variety of data collection methods and instruments provide a clearer picture of the children's conceptual understandings and abilities.

Finally, Chapter 7 highlights the most important findings and implications of this research study. Connections from the results to the literature and existing theory are made and discussed. Based on this discussion, suggestions are made about directions for future research.

CHAPTER 2: REVIEW OF THE LITERATURE

This chapter provides a review of the literature on the major terms and concepts employed in this research study as well as delineates the theoretical frameworks for the study. This study is grounded within three major theoretical frameworks: conceptual development, intertextual reading theory, and motivation theory. Literature employed in the study's theory based analyses came from the following areas: children's concepts of the nature of multiple texts within historic sites, children's skills and challenges in using primary sources and multiple texts, and use of document based question activities in elementary school history and social studies education.

What Is a Historic Site?

Historic sites may be defined in many ways. Literature characterizes historic sites as places for learning that are multitextual in nature. This literature also provides information about experts' concepts of historic site, in order that they may later be compared to the research study participants' concepts.

A Place for Inquiry and Learning

Many history and material culture scholars assert that historic sites are sources of information about the past. Historic places allow the public to learn about history, through resources that are available in these places, including the built environment, landscapes, spaces, narratives, and more (Datel, 1985; Glassberg, 1996). Sites are physical environments in which visitors can experience the spatial settings that people in the past experienced (Donnelly, 2002). These places contain parts of the past that are with us in contemporary form, as Lowenthal (1985) asserted, "Artifacts are at once past and present" (p. 248). Accessing primary information through the physicality of objects and places provides opportunities for learning about the past

not possible with other types of primary sources, such as documents or photographs. Schlereth (1985) contended, "Physical objects are viewed as slightly less biased records of past human activity in that they usually survive not as transcriptions or translations or condensations of event *but often as events themselves*" (p. 24, emphasis added). Thus, encounters with authentic historical objects are regarded not only as opportunities for knowledge acquisition but also as a type of knowledge of past events or personages (Bain & Ellenbogen, 2002; Gelman & Frazier, 2007; Huyssen, 1995; Nemeroff & Rozin, 2000).

From the perspective of many professionals working in the museum field, historic sites are considered primary sources. In a content analysis survey of the websites of the 67 historic sites/houses accredited by the American Association of Museums (Leach, 2011b), the researcher found that one of the most commonly discussed aspects of the historic site's nature was the site as a primary source (65.6% of the sites), exceeding the remembrance function (55.2%) or connecting people to the past (49.2%). These institutions and others stress the function of the historic site as unique locations embodying evidence of the past. An emphasis on visitors learning from historic places as primary sources was found on these websites. The following examples show how particular institutions described primary sources at their sites.

- "Students will compare and contrast their lives with those of colonial children using primary sources and material culture in a hands-on and interactive setting" (Carlyle House Historic Park, Alexandria, Virginia, http://www.nvrpa.org/parks/carlylehouse/ index.php).
- Opportunities for students "to analyze, interpret, and evaluate primary source material" (Hermann-Grima/Gallier Historic Houses, New Orleans, Louisiana, http://www.hgghh.org/).

- "Our programs feature experiences with real objects in a real place. Getting close to primary sources like buildings, landscape and artifacts provides a tangible connection to the past" (Historic Deerfield, Deerfield, Massachusetts, http://www.historicdeerfield.org).
- "Primary sources offer open-ended opportunities for teachers to encourage students' curiosity and creativity and strengthen critical thinking skills" (Rutherford B. Hayes Presidential Center, Fremont, Ohio, http://www.rbhayes.org/hayes).

Likewise, the National Park Service's *Teaching with Historic Places* (TwHP) program, established in 1991, promotes the use of historic sites as primary sources. The more than 130 available lessons include introductions, practice in using primary evidence, hypothesis generation, and analysis. Boland (2002) suggested that by using the lesson plans, "teachers and students practice examining places as three-dimensional sources of evidence" (p. 21).

For the purpose of this study, *historic site* will be defined as an environment having historic significance to a community or communities of people and possessing the characteristics of a primary source, which may be explored through the historical method and material culture methods.

What Are Historic Site Texts?

The historic site environment is not the same as a museum environment, although the two have many similarities. Historic sites and museums both provide places for encountering objects and narratives. Both are concerned with learning and visitor engagement. One major difference is that while the museum provides a display context for objects, the historic site environment is its own display context, and in its entirety, may be considered an object as well (Leach, 2007). In many cases, however, literature from museum studies is equally applicable to historic sites, as

in literature about the multitextual museum environment.

The notion of "museum-as-text" has been explored by a number of scholars (Bal, 1992; Macdonald, 1996; Silverstone, 1994). Ravelli (2006) asserted, "The meanings at stake need to be interpreted in context, and the immediate context is that of museums themselves as a kind of 'text': a space which makes meanings, and which can be 'read'" (p. 119). Mason (2006) argued that the analogy brings to the fore issues of narrative, authorship, and the place of the museum visitor in the construction of meaning. She observed,

The advantage of understanding museums in terms of texts and narratives is that it moves away from privileging or compartmentalizing a particular aspect of the museum; for example, its building, collections, individual staff, or organizational status. All these components remain crucial, but a textual approach argues that they must be viewed in concert to understand the possible meanings of the museum. (p. 27)

Involving visitors in the identification and evaluation of museum texts with the goal of creating meaning is central to learning, and this learning is multitextual and multimodal (Hooper-Greenhill, 1994; Meng, 2004). This multimodality creates an environment that is experienced both physically and discursively, through various semiotic resources (Meng, 2004; Ravelli, 2006). For visitors to engage with multiple texts, they must possess multiple literacies, including "linguistic, visual, audio, gestural, spatial patterns, technological and print-based" (Mathewson-Mitchell, 2007). Gaining these literacies comes from practice, as Hein (2000) concluded, "Learning to interpret them [visible things] is as necessary an ability for everyone as learning how to use numbers or how to speak and listen, but it is far less commonly recognized" (p. 111). Gaining and practicing these literacies may be challenging, especially for novices (Bain & Ellenbogen, 2002).

For the purpose of this study, *historic site texts* will be defined as the sources, both tangible and intangible, for historical inquiry and learning contained in or produced by/within a historic site that may be explored using the historical method and material culture methods. The major focus will be on the following types of historic site texts: objects, buildings, tour guide's words, and labels and signs. *Object* is defined as a three-dimensional item (e.g., rocking chair). *Building* is defined as any structure in an outdoor space designed for particular human or animal use (e.g., house, barn, and outhouse). *Tour guide's words* are the verbal communications of a person who educates visitors and directs their experiences at historic sites. The term *tour guide* was used interchangeably with the word *docent* when interacting with the research study participants. *Labels* and *signs* are defined as written communications at a historic site. Labels and signs are a common means of conveying information at historic sites, including visitor orientation and direction and exhibit information.

Theoretical Frameworks

The three major theoretical frameworks framing the study – conceptual development, intertextual reading theory, and motivation theory – are discussed below.

Conceptual Development

Learners' concepts are the foundations of their knowledge. *Concept* has been defined as "*a perceived regularity in events or objects, or records of events or objects, designated by a label*" (Novak & Cañas, 2008, p. 1, emphasis original), essentially what people know or believe about particular things or ideas. People's concepts are the building blocks of their reasoning systems that expand and become more sophisticated over time (diSessa, 2002). Concepts help to create systems of reasoning or "set[s] of core principles that define the entities covered by the domain and support reasoning about those entities" (Carey & Spelke, 1994). These systems are

the "interrelated propositions" or "mental models" that Chi and Roscoe (2002) defined as *knowledge* (p. 6).

Conceptual development occurs when learners adapt or reorganize their concepts (Carey & Spelke, 1994; diSessa, 2002), in other words, when learning occurs. Concepts may change from naïve constructions to constructions more in line with expert thinking. For example, children may conceptualize a historic document as a primary source but not conceptualize a historic house in the same way. Changes do not always reflect a direct move from naïve to expert thinking. Instead, Vosniadou, Vamvakoussi, and Skopeliti (2008) suggested that children develop an intermediate step of mixed or "synthetic" concepts, by attempting to reconcile their original naïve concepts with concepts learned via instruction.

Instruction to help produce conceptual change should identify and acknowledge learners' existing concepts. Brewer (2008) asserted,

Instructional efforts should not try to reduce the variety of knowledge states displayed by the child in order to adjust to a single view. It should take into account that a variety of knowledge states are represented in the child's mind in order to deal with task or situation requirements. On the other hand, instructional programs should encourage children to provide verbal explanations of a phenomenon, that is, to redescribe their implicit representations into explicit ones. (p. 168)

Conceptual development approached in this manner reflects a constructivist epistemology. The learner is actively involved in the construction of knowledge. As Létourneau and Moisan (2004) suggested, "They [facts] take form gradually, clustering around the original narrative core, which constitutes a basic matrix to which these young minds attach additional facts as they receive and collect them" (p. 118), forming and changing their concepts.

In this dissertation, Novak and Cañas' (2008) definition of concept ("*a perceived regularity in events or objects, or records of events or objects, designated by a label*") will be employed. Further, *conceptual development* will be defined as learners adapting or reorganizing their own concepts (Carey & Spelke, 1994; diSessa, 2002; Létourneau and Moisan, 2004).

The work of Vygotsky (1978) further defines the process of conceptual development. Vygotsky observed that all children's learning is built on their existing concepts and that learning should be matched to the learner's current level of conceptual understanding. He suggested, however, that learners have two developmental levels: actual development level and potential development level. What the learner can do on her own is the actual level, and what she can do with the help of a more knowledgeable other (an adult or a peer) is the potential level (Vygotsky, 1978; Wertsch, 1984). Determining the difference between these two levels provides a better measurement of cognitive ability than assessing actual development level alone.

Vygotsky called the difference between these two levels the *zone of proximal development* (ZPD). The importance of this concept from a developmental perspective is that, as Vygotsky (1978) asserted, "What children can do with the assistance of others might be in some sense even more indicative of their mental development than what they can do alone" (p. 85). For example, a child who can count to ten on her own without the aid of a teacher and to twenty with the teacher's assistance has a counting ability that may be defined in terms of both the actual level and what she can do in the ZPD. The child's performance in the ZPD illustrates that the she is moving toward being able to count to twenty on her own and thus conceptual development may be observed and assessed. Vygotsky (1978) argued, "the only 'good learning' is that which is in advance of development" (p. 89), in other words, learning that pushes the learner toward conceptual development.

Helping the learner to progress through the ZPD has been called *scaffolding* (Bruner, 1986; Wood, Bruner, & Ross, 1976), a metaphor for the "the temporary support provided for the completion of a task that learners otherwise might not be able to complete" (van de Pol, Beishuizen, & Volman, 2010, pp. 271-272). Van de Pol et al. discussed the three components of scaffolding in the process of learning: contingency, fading, and transfer of responsibility to the learner. Contingency means calibrating the support necessary for learning to the individual needs of the learner, reflecting Vygotsky's notion that this support be at or slightly above the learner's actual development level. Fading is the act of gradually withdrawing scaffolding as the more knowledgeable other recognizes that it is no longer needed, in other words, that development has taken place. Finally, the more knowledgeable person transfers responsibility to the learner. Assessing the effectiveness of scaffolding and the resulting conceptual development is dependent on the outcomes for students (van de Pol et al., 2010).

Intertextual Reading Theory

Intertextual reading theory highlights the need for readers to construct understanding with and across multiple texts. Goldman (2004) asserted,

Knowledge management entails understanding not only isolated bits of information but relating these individual bits to one another in meaningful and systematic ways. Information must be coordinated, understood in relation to other information, and evaluated with respect to coherence and consistency with large bodies of information, choices are made about what information to 'trust' and what to question; about what information to pass on to others and what not to. (pp. 318-319)

The need to read intertextually is especially important in the domain of history (Foltz, Britt, & Perfetti, 1996; Perfetti, Britt, & Georgi, 1995; Rouet, Favart, Britt, & Perfetti, 1997;

VanSledright, 2002b; Wineburg, 1998). Foltz et al. (1996) observed,

In the domain of history, a reader will typically read multiple accounts of the same historical event in order to generate an understanding of the event. These texts can include primary sources, participant's and historian's accounts, and textbooks. The task for the reader is to then integrate this information into a coherent cognitive representation. (p. 110)

Various models for cognitive representation in history have been developed, including Goldman's (2004) textbase/knowledge use description, Wineburg's (1998) model of expert practice, and the documents' model (Bråten, Strømsø, & Britt, 2009; Britt, Perfetti, Sandak, & Rouet, 1999; Perfetti, Rouet, & Britt, 1999).

The documents' model (Bråten, et al., 2009; Britt et al., 1999; Perfetti et al., 1999) suggests that readers form interconnected models of the multiple documents they read. In Britt et al. (1999), the authors argued, "Learning historical narratives requires the reader to construct a model of the situation from many sources and to integrate information from these sources rather than constructing a separate model of each text" (p. 211). The authors proposed four models of intertextual reading, which they constructed through analyses of adult students' experiences with reading multiple history texts. These models included the *mush model*, *situation model*, *documents' model*, and the *tag-all model*.

In the mush model, the reader's representation of multiple texts is constructed by giving information from the sources, but without providing individual identification of the texts or acknowledging the sources of the knowledge. In other words, the reader mentions information from individual texts without identifying the source's attributes or addressing its relevance (e.g., author, reliability, etc.): "The essential element of this model is that there is no tagging or

marking for where the information came from. All information is integrated completely, without attention to the source of the information" (Britt et al., p. 218).

In the separate representation model, the reader presents and cites information from multiple sources but does not make connections between individual texts. Information from the multiple texts is not integrated together. Britt et al. stated, "The defining feature of this model is that there are two distinct models, one for each text, and they are completely independent of each other" (Britt et al., p. 216). Readers develop separate mental models of each text, and prior knowledge from other sources is not applied.

The documents' model integrates the *situation model* (Kintsch, 1998), in which readers combine information from the textbase (mental models of textual content and meaning) and prior knowledge from other texts, with an *intertexts model*, incorporating information about sources (e.g., author, source type, and historical context) and how the sources are related to the others (e.g., agreement, conflict, supplementary information) (Figure 1). Within the documents' model, the reader "considers the understanding of contents and sources of multiple texts within a unified framework" (Bråten et al., 2009, p. 7).





When readers' practice follows this model, they use mental models of textual content and meaning, prior knowledge, awareness of information *about* multiple sources, and intertextual

relationships *among* multiple sources to create representations of their understanding of a particular event, topic, or issue.

The tag-all model is one in which identifying and citing sources is key to understanding of multiple sources. In this model, "each piece of information must be tagged for its source" (p. 219). Britt et al. (1999) suggested that this model, while typical of scholarly practice, places a high cognitive load on readers. According to the authors, trying to approach intertextual reading with this model is probably too great a task for disciplinary non-experts.

Of the four models, Britt et al. (1999) argued that the documents' model is "most typical of a good reader's model of multiple-test learning in history" (p. 220). In their discussion of the documents' model, Bråten, Strømsø, and Britt (2009) observed,

Unlike the comprehension of single texts, an adequate comprehension of multiple texts must include information about how the different texts relate to each other (Goldman, 2004; Perfetti et al., 1999). Moreover, adequate comprehension of multiple texts must include information about the sources themselves and what characterizes those sources (Perfetti et al., 1999). (p. 7)

In the documents' model, information *from* and *about* each individual source is combined with prior knowledge. Information from sources is not used indiscriminately; rather, what Britt et al. (1999) called "core event items" or information appearing in multiple sources and thus essential to understanding the texts together (as opposed to unique or "non-core event items," which occur in only one text) are identified by the reader. These core event items help to create the reader's sense of what information in the multiple sources is most important to examine intertextually. The authors' conclusion was that non-expert readers of history whose reading fits the documents' model would achieve the best understanding of the information from multiple texts.

Reflecting agreement with Britt et al.'s conclusion, in this dissertation, learners' progress toward attaining the documents' model was considered movement toward a desirable model for multitextual learning. Further, when compared to the mush and separate representation models, taking into account the different evidences of intertextual reading in each model calls, I argue that the documents' model is the most complex of the three. In this study, therefore, learners' progress toward the documents' model was defined as movement toward additional complexity (Figure 2).



Figure 2. Continuum of complexity in the four intertextual reading models.

Regarding the likelihood of attaining a documents' model, Britt et al. (1999) asserted, "Readers who are knowledgeable about a text's source will be more likely to form a documents' model" (p. 222). Further, they observed, "A reader would also be more likely to form a documents' model when the task is to learn the story while keeping texts separate and when the texts provide conflicting accounts of partially overlapping events" (p. 223). In this study, the students' use of the intertextual models was explored within this framework.

Motivation Theory

Expectancy x Value motivation theories state that learners' effort motivation is a function of their expectation and value. Various versions of this theory exist (Atkinson, 1964; Brophy, 2004; Feather, 1982; Pekrun, 1993; Vroom, 1995; Wigfield & Eccles, 2000). As articulated by Brophy, the effort learners put forth

Is the product of (a) the degree to which they *expect* to be able to perform a task successfully if they apply themselves (and thus the degree to which they expect to get whatever rewards that successful task will bring), and (b) the degree to which they *value* those rewards as well as the opportunity to engage in the processes involved in performing the task itself. (p. 18)

If students encounter the challenges in working with primary sources, as described above, their expectancy to do well in primary-source-related tasks may be low. For instance, archaic language in many primary source documents may be difficult for elementary school-aged children to read and understand, detracting from their ability to move from initial reading tasks to analysis and interpretation. When using historic site texts as sources for inquiry, children may encounter a higher degree of success, since "reading" objects and buildings involves different skills, often not requiring traditional literacy.

Children's value of using historic site texts impacts their use of these sources. For example, levels of intrinsic motivation (e.g., how interested are they in using sources for inquiry) impact students' value levels (Waterman, 2005; Waterman, Schwartz, & Conti, 2008). Another aspect of value the learner's enjoyment of an activity. Learners' enjoyment is related to personal relatedness and interest, both individual and situational (Brophy, 2004; Hidi & Renninger, 2006). The instructional sessions, historic site field trips, and activities were designed to encourage and develop students' interest. Of prime importance was children's pure enjoyment of the experience and the historic site itself, as Boulotis (2007) explained,

I believe museums and archeological sites provide the most comfortable and productive access to a three-dimensional understanding of the ancient world, which you visitors can quite literally enter into and touch, embarking on multiple dialogues with it....First and

foremost, we should lead children to love museums and archeological sites voluntarily, as a wondrous setting where unusual stories can unravel, and where they themselves have a role to play. In fostering this love, we are undoubtedly laying the groundwork for future returns to three-dimensional antiquity, as well as for exercising a critical eye. (p. 187)

In the present study, students' levels of value were explored though the student questionnaire and the classroom sessions.

Literature for Theory Based Analyses

Children's Concepts of the Nature of the Multiple Texts within Historic Sites

No matter what their individual prior experiences or knowledge, children should possess concepts about the nature of texts within historic sites, developed over time and with instruction and experience, just as they have concepts in school subject areas, such as science and mathematics, and general life knowledge areas. Establishing the closeness of children's concepts of historic site texts to experts' concepts (reflected in the literatures of history, historic preservation, museum studies, and material culture studies) was of interest in this research study. No known studies specifically address elementary school-aged students' concepts of the multiple texts within historic sites.

Children's concepts of the nature of historic site texts are developed gradually, as they absorb information from many sources in their environments (Létourneau & Moisan, 2004). In history learning, students' concepts of the purposes of history appear to change as they are exposed to historical knowledge and instruction in historical methods (Barton, 1997a; Levstik & Pappas, 1987; Seixas, 1994; Voss, Wiley, & Kennet, 1998). The decisions elementary school-aged children make about using historic sites as primary sources may be based on what they believe about the uses of historic sites as primary sources. These beliefs reflect children's

exposure to beliefs and philosophies about the definitions and functions of historic sites held by particular socio-cultural groups, such their local communities. As with all concepts, these beliefs will inform how and what children communicate about and engage with historic sites.

With classroom instruction and exposure to historic places (through on-site visits and media, such as photographs, television, and online sources) and narratives about historic places (through family members, friends, teachers, and media), children may develop concepts about historic sites that align more closely with expert thinking (i.e., that of historians, historic site professionals, and geographers). For example, children will understand that historic sites are "authentic places of history [that] offer opportunities to experience where real history really happened" (National Park Service, 2009, para. 1) and that "they are symbolic, representing at least the necessities of one or more persons at a given time and place. They may also carry messages about the hopes, circumstances, and traditions of those who built them" (Kyvig & Marty, 2000, p. 172). Between naïve and such expert thinking, children may develop an intermediate stage involving the creation of synthetic concepts (Vosniadou et al., 2008). For instance, a child might believe that an artifact may be used as a primary source, but that the source's accuracy does not need to be questioned because the source is "from the past," and the child can see and touch it.

Children's Skills and Challenges in Using Primary Sources and Multiple Texts

This literature helps to identify prior research related to the abilities elementary schoolaged children have when working with primary sources and multiple texts. Some of the works discuss history and social studies curricular expectations for children. Others describe the results of empirical research with elementary-aged students about their use of sources.

Children's primary source use. Teaching children how to learn history through the

historical method by doing the work of historians is an established K-12 practice, and use of primary sources is central to this method (Barton, 2001a, 2001b; Danzer, 1971; Drake & Nelson, 2005; Keohane, 1946; Schamel, 1998; Zarillo, 2004). Current standards in social studies education support and encourage this type of teaching (Michigan Department of Education, 2007; National Council for the Social Studies, 1994). Beginning in kindergarten, Michigan students are expected to be exposed to the practice of using primary sources as a basis for historical inquiry (Michigan Department of Education, 2007). Use of primary sources provides tangible links to the past (Gallagher, 1998; Potter, 2003), teaches critical thinking and inquirybased learning (Craver, 1999; Tally & Goldenberg, 2005; Veccia, 2004), and may increase student motivation for history learning (Barton, 2005).

Various model of practice for evaluation of sources have been advanced. Wineburg's (1991, 1998) model included the processes of sourcing (attribution of sources), contextualizing (locating sources in time and place), and corroborating (intertextual comparison of sources). VanSledright and Afflerbach (2005) defined four cognitive activities necessary for evaluating sources: attribution (identification of source author or maker), identification (type of source), perspective (judgments about the author or maker's point of view), and reliability (intertextual comparison of a source with other sources). Further, the authors highlighted the importance of prior knowledge and its relationship to the four activities, which is consistent with the emphasis on prior knowledge in the intertextual documents' model (Britt et al., 1999). These models or elements of these models have been used in assessing the source evaluation abilities of children, including early elementary-aged students (James & McVay, 2009).

Students' understanding of what constitutes a primary source and when and how to use them are challenges for educators (Barton, 1997a; Swan, Hofer, & Locascio, 2008; Zarillo,

2004). Cognitive developmental stages may affect students' abilities to work with primary sources (Foster & Hoge, 1999; Foster & Yeager, 1999; Mackintosh, 1998; VanSledright, 2002a). Even with instruction, children may have difficulty working with primary sources (Barton, 1997a; Dutt-Doner, Cook-Cottone, & Allen, 2007; Kobrin, 1995). For instance, in one study, fourth- and fifth-grade students had difficulty using the evidence they examined to support their own conclusions (Barton, 1997b). Students need to learn not only how and where historians get historical evidence but also learn to make their own determinations about what constitutes a primary source and ways to use this type of source.

Although historical inquiry often is discussed as an intellectual exercise, the very fact that the historical method depends on the use of documents, voice recordings, and other tangible and intangible sources means children's concepts about uses of primary sources are related to the way children expect to interact with sources. How learners approach interaction with sources makes a difference in what concepts they form from or about them (Falk & Dierking, 2000; Paris & Hapgood, 2002; Prown, 1980). Conceptual development and change is rooted in the sensory experiences children have in the physically knowable world (Rice & Yenawine, 2002). Thus, places and objects in the historic site environment create a juncture for new physical experiences.

One factor that affects students' abilities to use primary sources is developmental level. The ability to make intertextual comparisons with help from more knowledgeable others seems to be present in elementary school students as young as first grade (James & McVay, 2009). Age-related developmental differences might exist between third- and sixth-grade students' abilities to draw conclusions from examining primary sources (Foster & Hoge, 1999). VanSledright and Afflerbach (2005) found that fourth grade students were capable of differentiating between primary and secondary sources, but that they were not yet ready to use

source based information to make claims about their historical questions. Elementary-aged children appear to understand that there exists a connection between sources and making decisions about the past, but children's belief in their own agency to use sources to make decisions may be limited, especially before fifth grade (Barton, 1997b; Foster & Yeager, 1999). Further, the ability to judge the validity of sources may develop in the later elementary years (VanSledright, 2002a; VanSledright & Afflerbach, 2005).

The research literature on children's use of primary sources for historical inquiry is not broad. In a 2009 unpublished literature review of peer-reviewed (Leach, 2009), empirical research studies on elementary school children's historical thinking published between 1985-2009, I found that of 25 total studies, 10 (40.0%) focused on children's use of primary and secondary sources. Much of the research in the area of children's primary source use is attempting to demonstrate that children are capable of doing what is specifically being asked of them in most state mandated social studies history education standards. The lack of research in the area of primary source use in the classroom has created problems for history education, as Barton (2005) observed. He asserted,

In some cases, scholars who have little experience with historical methods appear to be passing along mistaken ideas about what historians do. In other cases, the use of primary sources seems to be driven less by a concern with historical authenticity than by demands for standards and accountability. The misunderstandings that arise from these practices, if not addressed, will result in classroom procedures that are not only inauthentic but irrelevant and ineffective. (para. 4)

As described above, use of sources has become standard practice in teaching historical inquiry at the elementary school level. Curriculum standards require the use of primary sources
for learning history. Certain issues are connected to children's use of primary sources. When elementary school children use historic sites as sources for historical inquiry, many of the same issues in using primary sources in general also may be present.

One central issue in children's source use is their conceptual understandings. All new knowledge is constructed by learners, based on what they already know and understand (Vygotsky, 1978). Thus, when teaching children to use of historic sites as multitextual sources, the instruction must be coordinated with their present levels of conceptual understanding. Assessing children's concepts is important, since what teachers think students believe and what students *actually* believe may be entirely different (Barton, 2001a; Barton & Levstik, 1996; Brophy & Alleman, 2005; Seixas, 1994). Potential mismatches between educators' and children's concepts about historic sites' identity as multitextual sources or their use as sources for historical inquiry may potentially limit or negatively impact children's learning when teachers use school visits to historic sites as social studies learning experiences.

A second issue is the challenges elementary-aged children face when evaluating or using primary source evidence (Appendix A). For example, many students at this level fail to address the reliability and validity of sources. They do not seem to understand how to use the evidence to support their own conclusions (Barton, 1997b). Children often do not recognize and know how to deal with the "interpretive paradox" of history, meaning that both history and the "rules" of doing history are constructed (Scott, 1996; VanSledright, 2002a, 2002b), creating implications for the analysis and interpretation of primary sources. Children's abilities to work with historic sites as primary sources may be related to general academic ability (Swan et al., 2008) and race (Foster & Hoge, 1999), as well as other variables.

A third issue is that, as with teaching students to use primary source documents, students

need to be taught to use sources from historic sites. Teaching with sources at the elementary school age should involve helping students learn the skills needed to examine, evaluate, and apply information from sources. Bråten & Strømsø (2006) observed, "Research indicates that high-school students hardly profit from the reading of multiple historical source documents, at least not without some specific instruction in how to integrate information across texts" (p. 459), an observation which may apply even more to younger students and using multimodal texts. Instruction in the classroom with primary sources during directed activities has been shown to be effective in improving students' achievement in reading, analyzing, and interpreting historical documents (VanSledright, 2000). Goldman (2004) suggested that students in early adolescence face some difficulties and "need instructional support to develop principled ways of engaging in comparative and contrastive reading across multiple documents" (p. 343).

The final issue is students' motivation to use primary sources. Although elementary school children's use of primary sources is usually teacher-directed, certain aspects of use may be related to motivation in primary source use. One aspect of motivation is children's own perceived ability to be successful (Brophy, 2004; Feather, 1982; Pekrun, 1993; Wigfield & Eccles, 2000). Another aspect of children's value of using primary sources for historical inquiry is enjoyment. A person interested in some content or activity may be motivated to continue participation based on the enjoyment she or he receives from participation (Brophy, 2004). Although some studies report children's enjoyment in using primary sources (e.g., VanSledright & Kelly, 1998), the types of enjoyment children display have not been explored.

Children's intertextual source use. Use of multiple sources in social studies and history is foundational, as Bråten and Strømsø (2006) proposed, "The ability to build cumulative representations of historical events from the reading of a series of source documents may be

regarded as the sine qua non of expertise" (p. 459). Reading multiple sources requires different cognitive processes than reading single texts (Bråten & Strømsø, 2006; Foltz et al., 1996; Goldman, 2004; Hartman & Hartman, 1994), although it is acknowledged that no text is truly a "single text" (Allen, 2000; Kristeva, 1980). Evaluation of multiple sources should contribute to an understanding of the whole (Perfetti et al., 1995; Rouet, 2006; Wineburg, 1991).

Few studies of multiple source use (intertextuality) have been conducted with elementary school-aged participants. Goldman (2004) remarked,

Although the research on the intertextual processes of domain experts is thin, there is even less research on what children do with multiple texts and on how instructionally to support the development of these broader literacy competencies in children across the education spectrum from elementary school to high school. (p. 319)

Existing studies reveal that students have difficulty making connections among multiple texts, in order to produce a cohesive understanding of an event or topic (Foster & Hoge, 1999; Foster & Yeager, 1999; VanSledright & Kelly, 1998). In a study with sixth-grade students, Goldman and colleagues (2004) found that most students (7 out of the 10 participants) showed no combinations of text or simple combinations that failed to integrate information across texts and with prior knowledge. Few students (3 participants) displayed what the authors called "complex combination" when working with multiple texts, that is, "integration of multiple accounts with recognition of both the commonality of the basic event and the difference in perspectives provide by each of the authors" (pp. 342-343). In a related study, Wolfe and Goldman (2005) observed that sixth-grade students' abilities to provide complex explanations about a historical event they were studying hinged on the amount of effort they put forth to make and explain connections across multiple texts.

Studies with participants of high school or college age have revealed important issues when working with multiple sources. Stahl, Hynd, Britton, McNish, and Bosquet (1995) noted that participants had trouble reconciling conflicting information and with using information from the multiple texts to support their opinions. Further, the authors found that the number of sources the participants used was important to the outcome of their study: Students' mental models of the historical information about which they read were more consistent after reading two sources, but examining additional sources did not improve the consistency of their models. The practice of modifying and reshaping one's mental model through examinations of additional sources, as historians do, does not always occur (Perfetti et al., 1995; Wineburg, 1991). Another challenge is evaluation of the trustworthiness of sources when reading across multiple sources (Bråten et al., 2009; Sanchez, Wiley, & Goldman, 2006; Stadtler & Bromme, 2007; Wineburg, 1991). Perceptions of bias affect evaluations of sources (Bråten et al., 2009). For example, undergraduate students in Rouet, Britt, Mason, and Perfetti's (1996) study rated documents perceived as biased (historians' essays and historical participants' accounts) as less reliable than primary sources and textbooks, which they viewed as less biased than the other sources.

An addition to being useful for historical inquiry, using multiple texts has other benefits for learners. First, learners may acquire more flexible information from texts (Perfetti et al., 1995; Spiro, Coulson, Feltovich, & Anderson, 1994), that is, "representations being less tied to any specific text and more accessible under a variety of circumstances" (Bråten & Strømsø, 2006). In history study, knowledge gained through multiple texts has the potential to create deeper knowledge of the subject of inquiry than through single, textbook-type sources (Bråten & Strømsø, 2006; Britt & Aglinkas, 2002; Wiley & Voss, 1999) and increase disciplinary knowledge (Stahl et al., 1995). Further, learners using multiple texts may develop better

"knowledge management" skills, useful in knowledge societies where such skills are an advantage (Goldman, 2004, p. 319).

Instructing Children to Use Multiple Texts As Sources for Inquiry

Students need to be taught to use historic sites as primary sources for inquiry, just as they need to be taught to use other types of primary source documents. Teaching about source use at the elementary school age should involve helping students learn the skills needed to examine, evaluate, and apply information from sources. Instruction in the classroom with primary sources during directed activities has been shown to be effective in improving students' achievement in reading, analyzing, and interpreting historical documents (VanSledright, 2000). Readily available resources provided by libraries and museums, such as the Library of Congress (http://www.loc.gov/teachers/) and the Smithsonian Institution (http://www.smithsonian source.org/), provide teachers free information about teaching with primary source documents and media. Far fewer resources are available to teach students about how to use historic places as primary sources (for an example, see http://www.nps.gov/history/nr/twhp/index.htm).

Instructing students to use primary sources as part of social studies instruction allows them to develop skills during authentic tasks. VanSledright's (2000) study of fifth-grade students found that through classroom instruction in analyzing and interpreting historical sources, students improved their skill in reading, analyzing, and interpreting historical documents. Authentic inquiry is essential, but the type of instruction is important, as Barton (2005) argued. Teaching students to used sources evidence for historical questions they themselves have asked is ideal. Although the guidance of teachers is necessary to scaffold students' historical inquiry, especially at the lower elementary grades, authentic historical questions may be asked by students within the context of their classroom learning, even in first grade (see example in James

& McVay, 2009). For exploring the museum environment, Gazi (2007) suggested that children be taught to "familiarize themselves with the methods available for knowing about the past," "understand the use of various categories of vestiges as historical evidence," and "realize the subjectivity of all interpretation" (p. 209), something equally applicable to the historic site environment.

Instructing children to read intertextually is necessary as well. Goldman (2004) observed that information from multiple texts is complex, reporting, "Information across two (or more) texts could be consistent and complementary, contradictory, or componential, that is, information across texts is part of a larger whole not necessarily specified in any one of the texts" (p. 344). Understanding the relationships between texts is dependent upon being able to determine the types and characters of the relationships (Lemke, 2004). In studies with high school students, instruction in using multiple sources was found to improve sourcing (i.e., attribution of sources) (Britt & Aglinskas, 2002; Nokes, Dole, & Hacker, 2007) and evaluation of sources (Nokes et al., 2007). Undergraduates who received instruction in multiple source use had better judgment of trustworthiness (Bråten et al., 2009; Sanchez et al., 2006; Stadtler & Bromme, 2007), gained conceptual knowledge (Sanchez et al., 2006; Stadtler & Bromme, 2007). Conversely, Graesser et al. (2007) built on Sanchez et al. (2006) but found that sourcing skills and comprehension were not improved by instruction.

Various examples of instructional programs have improved students' performance in intertextual reading. Britt and Aglinskas (2002) described how instruction improved high school students' performance in historical document sourcing and writing essays based on the information learned. Nokes et al. (2007) taught high school students using Wineburg's (1991)

sourcing heuristic, which resulted in improvement in sourcing ability. Participants using multiple sources instead of just textbooks learned more content during a three-week intervention. Instruction resulted in better judgment of trustworthiness of sources by undergraduate students who read multiple sources about medical topics (Sanchez et al., 2006). Additionally, Bråten et al. (2009) found that students' sourcing skill (specifically, judgments of trustworthiness) predicted comprehension about multiple texts when controlling for previous knowledge. Instructional programs should encourage students to find their own links between texts (Britt et al., 1999; Hartman & Hartman, 1994). These examples, though they describe results with older learners, include principles that may be applicable for teaching younger students.

Document Based Questions

A *document based question* (DBQ) is a type of assessment or learning activity in which students study primary sources and use them to answer directed historical questions. DBQs typically include text documents, visual documents (e.g., photographs, maps, or graphic representations of statistics), a paragraph presenting background information on the topic, and the question to be answered (Stovel, 2000). The DBQ is a familiar activity to many teachers and students in American schools. The document based question was introduced to the Advanced Placement United States History exam in 1973 (Rothschild, 2000). One purpose for the use of this type of question was to encourage history teachers to use primary sources in addition to teaching content. DBQs are used in history instruction at the elementary school level as well. For younger students, the format of the DBQ is similar, but the sources and questions are simplified. The website "Teaching with Documents" (http://www.edteck.com/dbq/index.htm) provides many examples and materials for using this tool with elementary school students. Design templates and scoring rubrics are available from many state and local educational

websites (e.g., http://www.emsc.nysed.gov/osa/ss/ and http://www.colquitt.k12.ga.us/).

Document based questions by design require intertextual reading of multiple sources on a historical topic. Many of the same challenges inherent in other types of intertextual reading, however, occur when students encounter DBQs. For example, Kotzin (2001) observed in high school students the "tendency to go through and explain each document rather than look at the documents collectively within the context of the question being asked" (p. 309). In a study examining high school students' experiences with DBQs, Young and Leinhardt (1998) found that only over time did the students progress from "knowledge telling (listing period and document content as discrete information bits) to knowledge transformation (integrating content as interpreted evidence for an argument)" (p. 25).

Though some scholars have critiqued the DBQ format as incongruent with disciplinary practice by experts in history (Barton, 2005; Davis, 2005; Grant, Gradwell, & Cimbricz, 2004), a more authentic version of this activity might include essay prompts that ask students to construct their own arguments, student selection of sources, thoughtful evaluation of sources, and group input on the activity (Grant et al., 2004). In the present study, a "Source Based Question Activity" (SBQA) (so called because this name reflects an emphasis on intertextual reading of multiple sources) was employed as a tool for data collection. The SBQA in this study allowed participants to select and evaluate their own sources as part of an authentic activity (visiting a historic site and addressing a historical question).

Literature from this review was used to inform the analyses of data in the research study, including the development of coding schemes in systematic content analyses and interpretation of quantitative data. Chapter 3 describes how this was done, by outlining the design of the study, the materials and data used during the project, and the types of analyses conducted.

CHAPTER 3: RESEARCH METHODS

This research study focused on how two fourth-grade and two fifth-grade classes developed and refined their understandings of and abilities to use the multiple texts within historic sites as sources for historical inquiry. Data was collected in a mixed methods design that included analyses of classroom discussions, a questionnaire administered to all students before and after a field trip to a historic site, and two written activities based on the intertextual use of sources from the historic site. From each grade, one class received focused instruction designed to enhance their ability to evaluate and use historic site sources, whereas the other two classes did not receive this instruction.

Research Design

This study employed a concurrent triangulation mixed methods design, which was quasiexperimental (Creswell, 2009). The qualitative and quantitative data were collected and analyzed independently, and the results of each were compared and used to inform interpretation of the other data type. Several advantages existed in using a mixed methods approach. First, it provided opportunities to gain broader perspectives in addressing the research questions by using multiple data collection and analysis methods. Additionally, it imparted more validity for the analysis of both types of data, by allowing comparisons and analyses of differences and convergences between the two types. Finally, it allowed deeper exploration of the participants' experiences by providing multiple ways for students to express their beliefs about using the multiple texts within historic sites for historical inquiry and multiple ways for the researcher to approach understanding these beliefs.

Methodological Frameworks

A methodological framework reflects "the whole system of principles, theories and

values that underpin a particular approach to research" (Somekh & Lewin, 2005). This study was framed by phenomenographic and survey research methodologies.

Phenomenography

Phenomenological studies examine the "lived, human phenomena within the everyday social contexts in which the phenomena occur from the perspective of those who experience them" (Titchen & Hobson, 2005, p. 121). A direct phenomenological approach allows researchers to foreground the experience of the participants (Titchen & Hobson, 2005), by analyzing and interpreting their discourse and actions, rather than the perspective of the researcher. Though not necessarily representative of any other cases, this study provided better understanding of the particular cases involved (Stake, 2004), specifically, the fourth- and fifth-grade student participants.

Distinctions are made among different approaches to phenomenological research methodologies. This study employs what is known as a phenomenographic frame, in which representative categories of experience in particular contexts are described (Marton, 1981, 1986; Van Manen, 1990). Case and Light (2011) suggested that phenomenographic research attempts to do two things: (1) focus on the ways learners differ, and (2) use the *experience* as the unit of analysis. The authors observed, "The analysis aims at identifying the fewest, logically related, categories required to describe the totality of variation discerned in the pool of experience" (p. 199).

For this study, a phenomenographic approach was appropriate because it allowed exploration of various aspects of the participants' experiences – the activities of engaging in source use and historical inquiry – in the environments where it occurred (the historic site and the classroom). This methodology supplied a means to document the participants' own

perspectives, by listening to the authentic voices of children through their discourse and written work. It also provided a way to describe the complexity of variation in the children's conceptual understandings and experiences with using historic site texts.

Survey Research

A survey methodology was employed for two reasons: to provide a richer description of the participants' experiences and understandings and to generalize information from this sample to a larger population (Creswell, 2009; Fowler, 2009). In this study, the purpose of the survey methodology was to understand more about the fourth- and fifth-grade participants' concepts of the multiple texts in historic sites, source use knowledge, and motivation for using sources. This information was used to answer the research questions for the present study, but it also may be used to generalize information about later elementary school students' concepts, abilities, and motivations.

Additionally, the survey methodology allowed the collection of a variety of different types of information from a large sample in a short amount of time (Fowler, 2009). Although the phenomenographic methodologies described above provided a good means for understanding some aspects of the participants' experiences, it was necessary to use a separate approach for comprehending different aspects, such as the participants' likes, dislikes, and motivations. The information generated from the large sample made generalizing possible because of statistical reliability.

For this study, a survey methodology was an appropriate choice, because of the reasons just discussed. Further, because this is a mixed methods study, the survey research and phenomenographic methodologies worked well together, because they provided two different but compatible approaches to understanding the participants.

Research Questions

Three major research questions with subquestions were generated to guide this research. In these research questions, the term *multiple texts of historic sites* specifically refers to (a) objects, (b) built and spatial environments, (c) tour guide's words and other oral narrative communication, and (d) curatorial interpretation (labels and signage).

Question 1: What concepts do students have about the nature of the multiple texts within historic sites?

- Question 1.1: How do students identify and define the multiple texts of historic sites?
- Question 1.2: How do students define the reliability of the multiple texts of historic sites as sources for historical inquiry?
- Question 1.3: How do students understand the goals and skills for working with the multiple texts within historic sites?

Question 2: What skills and challenges do children have when using multiple texts to complete historical inquiry activities?

- Question 2.1: What are students' skills and challenges when using multiple texts within historic sites as sources for historical inquiry?
- Question 2.2: How do students make decisions about evidence and the use of evidence from historic site texts?
- Question 2.3: How might grade level be related to students' abilities to use historic sites texts as sources to support historical inquiry?
- Question 2.4: How do students describe their ability to reason about the reliability of historic site texts?

Question 3: How does students' participation in focused instruction about using

multiple texts within historic sites as sources for historical inquiry relate to their learning outcomes?

- Question 3.1: How does participating in focused instruction affect students' concepts about the nature of multiple texts within historic sites?
- Question 3.2: How does participating in focused instruction affect students' skills and challenges in using multiple texts within historic sites as sources for historical inquiry?
- Question 3.3: How does participating in focused instruction influence students' level of performance on two source use activities?
- Question 3.4: How does participating in focused instruction affect students' level of motivation, including perception of ability and value, for using multiple texts within historic sites as sources for historical inquiry?

Participants and Context

Participants

The participants were fourth- and fifth-grade students from a socio-economically and racially diverse public elementary school in the city of Jackson, Michigan. In 2006, the population estimate for Jackson was 34,554 (.34% of the total estimated Michigan population) (U.S. Census Bureau, 2010). Within the city population, people identified by the following racial categories: White (73.9%), Black (19.7%), Hispanic or Latino (4.0%), American or Alaska Native (0.6%), Asian (0.5%), Native Hawaiian and Other Pacific Islander (0%), and two or more races (3.7%). In Fall 2010, the local school district enrolled 5,960 students in K-12, with 68% eligible for free or reduced price lunch (Center for Educational Performance and Information, 2011).

Jackson has six public elementary schools and one elementary public school academy. From a list of the six elementary schools, two schools were randomly selected, and teachers from the two schools were invited to take part in the study. During the recruitment process, teachers were informed that participation involved the researcher providing four to five instructional sessions for their students and that teachers would be involved in a supportive teaching role during these sessions. Following the sessions, the teachers and students would participate in a field trip to a local historic site. After the field trip, the students would complete two in-class activities. No teachers from the first school volunteered to be part of the study, but one teacher from the second school was enthusiastic about the study and recruited her colleague.

The two fourth-grade classrooms from the selected school received their social studies instruction from Mrs. Hertel (a pseudonym). She had 32 years experience as a teacher, all at the elementary level and 12 years at the fourth grade level, the entire time during which she had taught social studies. Two fifth-grade classrooms received their social studies instruction from Mrs. Peterson (a pseudonym). She had 11 years experience as a teacher, all at the elementary level, 10 years of which were at the fifth-grade level (including social studies teaching). Both teachers were interested and invested in helping their students learn more about primary source use in historic sites. Students in these classrooms were recruited to take participate in the study.

The student recruitment process involved the teachers sending an informational letter about the study and the parent or guardian permission form home with the students. Students were asked to return the signed forms, whether or not their parents/guardians gave permission for them to participate. To encourage students to return their forms, a small gift (valued at around \$30) was offered to the fourth- and fifth-grade classes that returned their forms to the teacher the fastest. The two classes that came in second place were offered a small gift (valued at around

\$25). The teachers' diligence in collecting the forms resulted in an almost 100% return rate.

The final sample consisted of 100 students from two fourth-grade and two fifth-grade classrooms (Table 1). Student participants received parent/guardian permission to participate and personally assented to be part of the study. (Note: Some participants' parents/guardians gave permission for their children to participate only in certain aspects of the study, so the samples for some results sections below may not sum to 100.) All names for students given below are pseudonyms. The participants were members of four were intact classrooms, in which the students were team-taught their subjects by two teachers (Mrs. Hertel taught with another Grade 4 teacher, and Mrs. Peterson taught with another Grade 5 teacher). The students received social studies instruction four days per week in 50-minute blocks.

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Classroom identifier	Grade	Social Studies Teacher	Total Students	Participating students
Classroom A	4	Mrs. Hertel	29	28
Classroom B	4	Mrs. Hertel	28	28
Classroom C	5	Mrs. Peterson	22	21
Classroom D	5	Mrs. Peterson	25	23

Note. Participating students received parent/guardian permission to participate in the study and personally assented to participate.

The participants were between 8 and 11 years of age. The average age of the Grade 4 students was 9, and the average for Grade 5 students was 10. When asked to describe their gender, 45 (45%) students gave responses indicating female gender, 54 (54%) indicated male gender, and 1 (1%) did not give a response. An open-ended questionnaire item asked participants to indicate their race. The majority of students (81%) identified themselves as "American, Caucasian," "Caucasian (white)," or "White." Nineteen percent identified as another

race or multiple races, including "African-American" or "Black" (8 responses), "Asian" (3 responses), "Hispanic" (1 response), and "Mixed race" (6 responses). Almost all the participants had previous historic site and museum visiting experience: 93.7% of the participants indicated that they had visited a historic site, and 92.6% had previously visited a museum. When asked about their interest in learning about historic places, 28.0% replied that they were *always interested*, 38.0% were *usually interested*, 23.0% were *sometimes interested*, and 8.0% were *almost never interested*.

Research Study Groups

Participants were not randomly assigned to groups but rather remained grouped by classroom, a normal grouping method in this research context. Because of the time of day the participants' social studies classes were taught and the researcher's schedule, Mrs. Hertel and Mrs. Peterson's classrooms were selected as the instruction group classrooms. In the final sample of 100 participants, one fourth-grade (Classroom A) and one fifth-grade class (Classroom C) were assigned to the instruction group (49.0%). These students completed the pre-visit questionnaire, the in-classroom instruction, the historic site field trip, two source use activities, and a post-visit questionnaire. The remaining two classes (Classrooms B and D) served as the non-instruction group (51.0%). Students in the non-instruction group took part in all the same activities as the instruction group, except for the instructional sessions.

Sites of Data Collection

The study took place in multiple contexts, including the participants' classrooms, the school grounds, and a local historic site.

Classrooms and school grounds. Part of the study took place in the participants' classrooms (Appendix B), as the students participated in classroom instruction and activities with

the researcher. Both classrooms were cheerfully decorated and filled with books and instructional aids. The technology available in each room included the teacher's desktop computer, an LCD projector, document camera, and Internet access. The students were seated at their individual desks during some activities and moved about the classroom for others. The classroom teachers remained in the room and assisted the researcher in facilitating the instructional sessions. Additionally, during Session 2, the students worked outside while participating in an activity utilizing their school building and grounds.

Historic site. As part of the study, the participants visited the Ella Sharp Museum of Art and History (hereafter, "the Ella Sharp Museum" or "the historic site") in Jackson, Michigan. The Ella Sharp Museum is listed on the National Register of Historic Places, listed as a State of Michigan Landmark, and accredited by the American Association of Museums. The institution's website (http://www.ellasharp.org/exhibits-historic-site.html) provides this description of the site:

The Ella Sharp Museum of Art & History sits on a 10-acre campus that was once part of the 530-acre Merriman-Sharp farm. In her will, Ella Sharp expressed her wish that her home become a museum and that the majority of her property become a public park forevermore. Today on the Museum grounds, visitors are invited to tour Ella Sharp's 19th-century Hillside Farmhouse, the Dibble One-Room Schoolhouse, Eli Stilson's Log House and the Merriman-Sharp Tower Barn. Other exhibits down Farm Lane include a woodworking shop, doctor's office, general store and print shop. And the farm's original granary is now Ella's Granary Restaurant. (para. 1-2)

The goal of the visit was to help students use the site of the Merriman-Sharp farm, including the farmhouse (Figure 3), barn (Figure 4), and other original farm structures as a

source to explore the lives of farm children in Michigan in the mid- to late-nineteenth century. Participation in such activities was not designed to turn elementary school students into historians but rather to take an activity that many students are doing already (visiting historic sites) a step further by developing the students' skills and interest in using the intertextual historic site environment as a source for historical inquiry.



Figure 3. The Merriman-Sharp House at the Ella Sharp Museum of Art and History. Photograph by the author.



Figure 4. Facade of the horse barn at the Ella Sharp Museum of Art and History. Photograph by the author.

Procedures

Data Collection Instruments

Data collection included administration of the participant questionnaire, audio recordings of the instructional sessions, and collection of written student artifacts from the in-classroom sessions and the two post-visit activities. I developed materials for the in-classroom activities and post-visit activities from July to September 2010. Students completed a standard pre-visit orientation supplied by the Ella Sharp Museum, but all other materials were developed based on the literature described in Chapter 2 and readily available materials from places such as the National Park Service, the Smithsonian Institution, the Library of Congress, and several museums and historic sites.

Participant questionnaire. A 26-item questionnaire was administered to all student participants in the research study before the classroom sessions began for the instruction group and again (with the same items and format) after the field trips to the historic site (Appendix C). The questionnaire was based on literature related to primary source teaching (see Chapter 2) and on results of the researcher's work with elementary school-aged students who visited a historic site (Leach, 2011a) and a separate (unpublished) study conducted by the researcher in the summer of 2010, involving interviews of children in Grades 1 through 5 about their concepts of the nature of historic sites. A pilot of the questionnaire with four participants (ages 9-11) took place in August 2010, after which the questionnaire was revised.

The final two-part questionnaire included multiple choice and Likert-type items and was administered in a pencil and paper format. Part 1 asked three open-ended demographic questions (age, gender, and race) and two questions about the participants' historic site and museum visiting experience. It also included one question requesting that students rate their interest in

learning about historic places. Part 2 was designed to determine the participants' concepts of the nature of the multiple texts within historic sites; to assess their knowledge of using these sources; and to provide self-evaluations of their motivation, interest, and confidence in using sources.

The classroom teachers (Mrs. Hertel and Mrs. Peterson) first administered the questionnaire to all 100 participating students before the classroom instructional sessions began (referred to below as the "pre-test"). The questionnaires were completed by the students while in their regular classrooms during social studies class periods. Mrs. Hertel and Mrs. Peterson introduced the questionnaire to the students by saying it was part of the planned field trip to the Ella Sharp Museum. Directions on the questionnaire assured the students that there were no right or wrong answers and that the purpose of the survey was "to know what you think." The teachers were asked not to provide the students any help completing the questions except for defining words or helping students understand what was being asked in the questions, if necessary. To insure students' understanding of the questions and to aid students who had difficulty reading, the teachers read the questions aloud to the students as they completed the questionnaires together as a group. The students were given between 15 and 20 minutes to complete the questionnaires. The teachers administered the same questionnaire in the same manner, during the next social studies periods following the historic site field trips (referred to below as the "post-test").

Focused instruction audiotape and transcripts. The focused instruction sessions for the instruction group were designed to introduce new and reinforce students' existing concepts and skills related to historical inquiry and intertextual reading within the historic site environment. I developed four classroom lesson plans, which focused on helping students to understand the different types of sources available to aid in historical inquiry (e.g., objects,

buildings, people's words, and documents) and teaching them to evaluate these sources. Each lesson plan included instructions for a 35- to 40-minute classroom session including student activities. The content presented was based on works about historical methods (Wineburg, 1991, 1998), material culture methods (Prown & Haltman, 2000), historic preservation (Fitch, 1990), and teaching resources available from the Library of Congress (http://www.loc.gov/teachers/) and the Smithsonian Institution (http://www.smithsonian source.org/). The individual lesson topics are described in Appendix D. A practice teaching session using the lesson plans with four participants (ages 9-11) took place in August 2010, after which the lessons were revised. These lessons were further modified after consultation with the participating classroom teachers. The concepts related to each research question presented in the instructional sessions are presented in Appendix E.

One major component of the instruction was teaching students the *Describe - Analyze -Compare/Contrast* (D-A-C/C) method for evaluating multiple source types (Appendix F). This process was based in part on intertextual reading theory (Bråten, Strømsø, & Britt, 2009; Brit et al., 1999; Perfetti et al., 1999), source use for historical inquiry (VanSledright & Afflerbach, 2005; Wineburg, 1991), material culture analysis techniques (Prown & Haltman, 2000; Schlereth, 1980), and museum object analysis programs (Visual Understanding in Education, 2001). On encountering a source, students were asked to describe the source, including what type of source it is (document, object, place, someone's words, etc.), identification of who wrote, made, or spoke the source, and physical characteristics determined through observation. Analyzing was defined as looking more closely at a source and asking questions, such as *What do I learn from this source*? and *How does this source help me to answer my historical question*? The compare and contrast step emphasized the idea that historians rarely rely on one source to

answer a historical question, unless there is nothing else in the historical record that will help. Comparing and contrasting sources allows people to make judgments about what one source adds to the evidence from the other sources, thus allowing intertextual readings. Students were encouraged to ask questions: *Does this source agree or disagree with the other sources? Do I trust this source to give me correct information? What information does this source provide that the others don't?* The participants' use of this method, including asking these questions, was scaffolded during the classroom instruction.

Each instructional session was designed to allow for student oral participation and discussion. I audio recorded the students' interactions with their peers, teachers, and me in the classroom and on the school grounds with a digital audio recorder and a cassette recorder. The eight 45-minute audio recorded classroom sessions (four from each class) were transcribed into text documents for analysis (Appendix G). Information about the participants' concepts of the multiple sources within historic sites came from the classroom discussion data. Data about the participants' skills and challenges related to evaluating objects and buildings also came from the classroom discussion data.

Participant written artifacts. Artifacts produced during the instruction group's sessions and two source use activities completed by all participants were collected during the study.

Participant journals. The focused instruction sessions included writing activities, which students completed in a journal. The journals (3-prong portfolios containing 10 sheets of 8.5 by 11-inch wide-ruled paper) were supplied to the students by the researcher. The students took notes in their journals during activities. For example, in Session 3, I asked students to write their observations about two different historic site sources. At the conclusion of the study, I collected the journals.

Participant source use activities. In order to seek a balance between the desire for activities that reflected authentic historical inquiry (Barton, 2005), in which students would select and evaluate the historic site sources of their choosing, and the need to provide a standardized format for assessment, I developed two different activities for all the participants to complete, the Evidence Report Activity and the Source Based Question Activity. The primary focus of both activities was for students to use their observation and source analysis skills to answer the historical question "What was life like for farm children in the 1850s-1890s?" This question was based on the content of the sources the participants would encounter during the field trip. The activities reflected the D-A-C/C source analysis process taught during the instruction students' sessions.

The Evidence Report Activity was the standardized activity designed to assess the participants' abilities to evaluate sources intertextually (Appendix H). All students received the activity instructions and activity items, printed on a single sheet on 11 by 17-inch paper folded in half. In this activity, students were asked to look at photographs of four sources from the historic site: a 3-D stereoscope viewer, tour guide's words about getting water, the barn, and an "exhibit label" about schooling in the 1800s (adapted from a label from the site). Under each photograph, the students were to describe and analyze each source in writing. These terms were defined in the instructions. Finally, the students were asked to compare and contrast the four sources, which involved telling how each source helped them to answer the historical question and circling stars to indicate how reliable they found each source (4 stars = *very*, 3 stars = *medium amount*, 2 stars = *a little*, and 1 star = *not at all*). Following the group sessions and site tour at the Ella Sharp Museum, I directed the participants' work from this activity (the activity sheet) was collected

by me after the completion of the activity.

Like the Evidence Report Activity, the Source Based Question Activity (SBQA) assessed the participants' abilities to evaluate sources intertextually (Appendix I). In this activity, however, the participants selected their own sources to use in addressing the historical question. The SBQA was based on examples of document based questions, including several samples produced by Kate Gillan and teachers at the East Irondequoit (New York) Central School District, provided on the website "Teaching with Documents" (http://www.edteck.com/dbq/ testing/dbq.htm).

The two-page SBQA instructional sheet asked students to do three things. First, they were asked to look at their historic site notes and drawings from their journals and Evidence Report Activity. Next, the students made a list of sources they thought helped to answer the historical question ("What was life like for farm children in the 1850s-1890s?"), based on their notes from these activities, recollections from the visit, and any other sources, such as prior knowledge. Finally, they used their notes and list of sources to help them write a short essay (about two paragraphs) answering the historical question. The participants were asked to include these elements in their essays: "tell what life was like for farm children in the 1850s-1890s," "use information from your sources," and "sum up your ideas." Students wrote their lists and essays on blank paper provided by the researcher. I introduced and directed the participants' completion of the Source Based Question Activity in the school classroom, during the next social studies period after the historic site field trip. I collected the artifacts from this activity, including student notes and essays, when the activity as completed.

Though different in design, both the Evidence Report Activity and the Source Based Question Activity gave the participants opportunities to evaluate sources and to use sources

intertextually to address a historical question. Differences did exist in the types and amounts of source evaluation scaffolding provided on the activities (Bruner, 1986; van de Pol et al., 2010; Wood et al., 1976). On the first activity (the ERA), all students were provided with definitions of the source evaluation steps from the D-A-C/C method taught to the instruction group. The purpose of this scaffolding was two-fold: first, to reinforce the instruction for the instruction group students, and second, to provide a way to determine what level of source evaluation the non-instruction group students would be able to produce, even without the instruction. On the second activity (the SBQA), the participants were not specifically asked to use the steps of the D-A-C/C method or to include any specific evaluations of sources, other than the directions to "talk about sources in your answer" and to "use information from your sources" in their writing. In not providing scaffolding that specifically encouraged the use of the Describe, Analyze, and Compare/Contrast steps, potential differences between instruction and non-instruction groups students might be observed.

Role of the Researcher

I fulfilled two roles in this research study: teacher-researcher and traditional observerresearcher. As a teacher-researcher, I developed and tested the instructional materials used in this study. These materials were used for the instructional sessions for the instruction group and the post-visit activities for the instruction and non-instruction groups. Next, I worked with the instruction group students in their classrooms, providing four forty-five minute instructional sessions for each group before the historic site field trips. Finally, I arranged and facilitated the field trips and the post-visit activities for all students. As an observer-researcher, I transcribed data from the classroom and historic site sessions, developed coding schemes for the data, and analyzed data quantitatively and qualitatively.

My background in history, museum studies, philosophies of memory and material culture, and historic preservation informed my work on the research project (Appendix J). I am a social constructivist educator with a background in museum education, committed to understanding more about people's learning experiences in historic places. I believe that knowledge is not transmitted but rather learners construct their own knowledge by developing their individually held concepts in response to their environments, including engagement with other people. In this research study, I worked within the framework that memory and history are not fixed phenomena but rather are representations people construct in the present about the past. These perspectives shaped my interpretations of the data in this study.

Data Analyses

Data from the research study were analyzed using qualitative and quantitative methods. As stated above, the concurrent triangulation design allowed the qualitative and quantitative data were collected and analyzed independently. The results of these analyses were compared and used to inform interpretation of the other data type.

Qualitative Analyses

Data from the participants' discussions and activities were analyzed using qualitative methods. Audio recordings of the instructional sessions and student written artifacts from the instructional sessions (including the instruction group's journals and the two source use activities) were transcribed into text documents. These documents were then entered into *Atlas.ti* software for analysis. Some of the qualitative data were transformed into data to be analyzed quantitatively.

The data were examined and coded using systematic content analysis. Open coding was accomplished by naming and describing concepts suggested by the data and creating categories

from these concepts, based on the categories and patterns of categories (Bohm, 2000; Glesne, 2006). Additionally, categories addressing the research questions and categories arising from the data were created. Lists of codes were developed and refined to guide the analysis process and facilitate comparison with quantitative data. Concepts and categories were reviewed and refined throughout the process. Once the data were coded, enumerative data analysis was employed for many of the data, for example, the percentage of participants' who responses fit a particular category.

In addition to the systematic content analysis, theory based analysis was used to analyze the data from the classroom discussions and student artifacts. Theories of conceptual development, intertextual reading, and motivation (see Chapter 2) were used to guide and inform the interpretation of the study data. Categories reflecting the information gained from these theories were added to the content analysis categories. These theories were inherently useful and provided a contrast to the theory driven and directed by the data. This analysis is discussed in more detail in Chapter 4.

Finally, the participants' writing from the two source based activities was evaluated to determine the intertextual reading model to which the responses conformed: *documents' model*, *separate representation model, mush model*, and *tag-all model* (Britt et al., 1999) (see Chapter 2). From each of the four models in Britt et al., the main characteristics of each were used to create coding schemes, which was used to evaluate the participants' responses. An assistant and I read each of the responses and applied these codes to the essays: mush, separate representation, documents', or tag-all. This process is described more fully in Chapter 6.

Quantitative Analyses

Data to be analyzed quantitatively were entered into the Statistical Package for the Social

Sciences (SPSS). An alpha level of .05 was used for all statistical tests. Participants' responses on the questionnaires, including demographic and item responses, were analyzed descriptively with the software to show the percentage of participants in each category (e.g., students who believed objects are a reliable source of information about the past). Comparisons of the demographic data (especially study group membership and grade level) to the students' responses on particular items were accomplished using Pearson's chi-square tests (two-sided), paired *t*tests, and one-way between subjects analysis of variances (ANOVA) tests. Some of the questionnaire items were grouped together into categories to facilitate analysis (see Chapter 5). Additionally, to determine if changes occurred over time, the participants' responses on the first and second questionnaires were compared using repeated measures ANOVAs.

Some results of the systematic content analysis coding processes of the classroom discussion and participant artifacts were analyzed quantitatively. For example, descriptive analysis was used to determine the frequency with which certain concepts were mentioned and to identify correlations with other variables, such as study group or grade level. Transformed data from the qualitative analyses were evaluated using Pearson's chi-square tests (two-sided) and one-way between subjects ANOVAs.

The information from the quantitative analyses, together with the qualitative analyses, helped create a picture of students' experiences when working with multiple texts within historic sites as sources for historical inquiry. By analyzing these data together, the researcher was able to address the three guiding research questions (RQs) for the study: What concepts do students have about the nature of the multiple texts within historic sites (RQ1)? What skills and challenges do children have when using multiple texts to complete a historical inquiry activity (RQ2)? How does students' participation in an instruction program about using multiple texts

within historic sites as sources for historical inquiry change their learning experiences (RQ3)? The results of these analyses provided information that produced a clearer picture of the participants' overall experiences with using multiple texts for historical inquiry.

Research Hypotheses

Based on literature in the areas of children's primary source use and multiple source use, it was expected that participants in both the instruction and non-instruction groups would exhibit some of the types of skills and challenges inherent in all source use for historical inquiry (e.g., source citation, trustworthiness, comparison, and corroboration). Additionally, many of the studies of multiple source use were done with adult participants, but it was anticipated that the fourth- and fifth-grade participants would have at least similar, if not more, difficulties with the tasks. Both class discussions and artifact data were used as data sources, to make clearer the concepts and thought processes of the participants. Finally, it was expected that the participants' descriptions of their abilities to reason about the reliability of historic site texts might vary and depend on variables such as study group membership and grade level.

It was anticipated that participants in the instruction group would give definitions of these multiple texts that were more in line with experts' concepts than participants in the non-instruction group. Similarly, it was expected that instruction group participants would show more skill in using multiple texts as sources for historical inquiry than participants in the non-instruction group. Finally, it was anticipated that instruction group participants would show a higher level of motivation for using multiple texts within historic sites, including a higher level of perception of ability and value, than participants in the non-instruction group.

Delimitations and Limitations

This study relied on combining qualitative and quantitative methods to investigate

elementary school students' concepts of historic sites as primary sources and their experiences with using sites for historical inquiry and to investigate the effects of providing instruction in using historic sites as primary sources on achievement and motivation. With any mixed methods study, problems may occur, especially with comparing the results of qualitative and quantitative analyses. This requires additional awareness and the need to collect more data to address any discrepancies (Creswell, 2009).

To address reliability threats in the proposed study, the researcher monitored codes for shifts in meaning during coding. In the qualitative portion of this mixed methods study, checks for intercoder agreement for reliability (a Cohen's kappa level of at least 70.0%) were performed. Validity was addressed by using triangulation strategies, including triangulating of the qualitative and quantitative data from participants (Delamont, 2002). For the quantitative parts of the study, it was acknowledged that the non-random participant selection process may affect perceptions of generalizability. In this study, the aim was to use qualitative and quantitative data together, to create a complete picture of the phenomenon under investigation, within the acknowledged limitations.

The study took place in elementary school classrooms and at a local historic site. Certain challenges, therefore, resulted from collecting data in these two very different environments. At the schools, the researcher had to work within constraints related to school, teacher, and student needs. At the historic site, plans for on-site data collection had to balance the needs of the study with concern for curatorial protection of the site. Finally, as in any study with children, the pedagogical, social, and emotional needs of young participants required particular awareness.

Although doing this study in connection with the participants' visits to a local historic site gave the study ecologically validity, concerns did exist. In this study, it was desirable for

students to experience textual reading as it happened during the site visit, something which cannot be captured by anyone except the person who experiences it (e.g., experiences of the spatial environment), and to explore their readings of these individually experienced sources. Doing this study in conjunction with a field trip instead of providing the students with sources in a laboratory environment meant that the results were more consistent with the actual experiences of students who visit historic sites on field trips, thus making the activity reflect authentic historical inquiry (see Barton, 2005 for a critique of primary source packet activities). The need to preserve the validity the experiment, however, required some concessions. Thus, to address the validity concerns and to allow students freedom for inquiry, a solution aimed at having "the best of both worlds" was found by using two different activity types, as described above.

Furthermore, the use of student-produced written artifacts, such as activity worksheets and journals, as a data collection tool helped illustrate what the participants recalled from their experiences and provided a means to hear the authentic voices of children through their writing. One challenge in using written artifacts as data sources, particularly with participants of this age, is that the ability of children to express their thoughts in this form varies. The Michigan *Grade Level Content Expectations* for Grades 4 and 5 states that students will be able to write brief informational compositions with multiple paragraphs (Office of School Improvement, 2005). Asking students to write reflectively (often in journal format) is a common educational practice. Writing two- to three-paragraph essays as part of the post-visit activities is considered a grade level-appropriate expectation. The students' ability to express themselves in writing, however, was an acknowledged limitation in using this data collection method.

In the next chapter, the results of data from the instruction group's classroom sessions are presented. The data sources for these results are particularly engaging, since they captured the

voices and thoughts of children as they explored topics related to historic site sources and historical inquiry. In what follows, the participants' original spelling and grammar from the written activities were retained. (In some instances, the first words of sentences were capitalized and punctuation was added for clarity. Also, some students with learning or communications disabilities dictated their journal entries to the classroom teacher or paraprofessionals who assisted them in the classroom.) Likewise, grammar and speech patterns in dialogue from the classroom discussions were unedited. The reason for doing so was to remind readers that the participants were children, who were striving to express new and often complex ideas. Presenting the children's speech and writing as it naturally occurred allows the reader to experience the children's expression of language in the context of the activities and to appreciate their enthusiastic efforts in the overall learning experience.

CHAPTER 4: FOCUSED INSTRUCTION SESSION RESULTS

In four classroom sessions, the instruction group students were introduced to the concepts of asking historical questions, examining primary and secondary sources (objects, buildings, tour guide's words, and labels/signs) for evidence to address historical questions, and using sources intertextually to evaluate information and make decisions about the past. To scaffold the instruction students' practice of historical inquiry, they were taught the *Describe - Analyze – Compare/Contrast* (D-A-C/C) method. These emphases on historical inquiry and personal engagement in the process of inquiry were consistent threads running throughout all four sessions.

During each session, the students discussed content related to the session's particular big idea, and they practiced asking and answering historical questions and evaluating evidence from sources, by participating in class activities designed around examining objects, their school's built environment, and exhibit labels and tour videos. In the final session, students practiced evaluating "evidence reports" written by elementary school children, to critique their comparisons of multiple sources together to answer a historical question.

The participants' dialogue during classroom discussions and written materials produced during the sessions in their journals revealed their understandings of these concepts and provided information about their skills and challenges in using multiple sources for inquiry, addressing these research questions:

- Question 1.1: How do students identify and define the multiple texts of historic sites?
- Question 1.2: How do students define the reliability of the multiple texts of historic sites as sources for historical inquiry?
- Question 1.3: How do students understand the goals and skills for working with the

multiple texts within historic sites?

- Question 2.1: What are students' skills and challenges when using multiple texts within historic sites as sources for historical inquiry?
- Question 2.2: How do students make decisions about evidence and the use of evidence from historic site texts?
- Question 2.3: How might grade level be related to students' abilities to use historic sites texts as sources to support historical inquiry?
- Question 2.4: How do students describe their ability to reason about the reliability of historic site texts?

Forty-seven instruction group students, 28 in Grade 4 and 19 in Grade 5 (96% of the instruction group in the overall sample), participated in the four classroom sessions before visiting the historic site. (Some students did not have parent/guardian permission to have their data from the instructional sessions collected by the researcher.) The results and analyses below are based on data from these 47 students.

The Nature of Primary and Secondary Sources

One of the focuses in the first instructional session was on helping students understand the certain aspects of the nature of sources, including the function of sources to provide evidence for addressing historical questions. Since the students would be using both primary sources (objects and buildings) and secondary sources (tour guide's words, labels, and signs) during their visit to the historic site, defining the differences between the two types of sources was central to the discussion. During Session 1, *primary source* was defined by the researcher as "evidence from the past," and *secondary source* was defined as "writing or talking about primary sources," that is, commentary about primary sources. Participants' interpretations, and perhaps deeper understandings, of these terms, however, were made more apparent through a close analysis of their discourse surrounding these terms. During the discussion of primary and secondary sources, participants' conceptual understandings emerged, which were categorized in four themes: numeration, re-presentation, origin, and authenticity/realness.

Numeration

Understandings based on the concept of numeration centered on the ordinal relationship between the two source types. For example, when describing primary source, Brice (Grade 4) observed, "Primary means something about, it had something to do with the first source, like the first history." This definition was given prior to the researcher presenting the information that the word primary is defined as "first in order." When asked about secondary sources, Joshua (Grade 4) suggested, "Like it's the second thing in order." These answers were discussed during the first instructional session. No fifth-grade students gave a numerative response for primary or secondary source during their instructional session. (To discover how prevalent the numerative understanding and other concepts were among the sample as a whole, two open-ended questions were asked on the student pre- and post-tests. The results are discussed in Chapter 5.)

Re-presentation

Numerative understanding seemed to extend beyond the distinction between the two types; it also appeared to influence students' specific understandings of secondary sources. One concept revealed in the instructional session dialogue concerned the secondary source as a *re-presentation* of a primary source. Several aspects of re-presentation were observed in the discussions. First, a specific secondary source was considered to be the same thing as a specific primary source but just represented in a different way. For instance, the idea of the secondary source as a copy was prevalent. During the session, Ellen (Grade 5) suggested a secondary

source was "like it could be like a copy of a picture or something else" (Transcript 2). Ichiyo (Grade 4) observed a secondary source is "a photograph or picture of a primary source" (Transcript 1).

Related to the conceptualization of secondary source as copy is the idea that the secondary source loses authenticity by virtue of being a copy (Huyssen, 1995), as when several students discussed primary sources as being "better" than secondary sources. This concept of representing and changing an original into something lesser than the original was present in the students' dialogue as well. In response to the request for a definition of secondary source, Cody (Grade 4) asked, "Is a secondary source like making a cartoon?" (Transcript 1), and Lena (Grade 5) observed, "It is something that has been copied or [is] false" (Transcript 2), suggesting that secondary source is a representation of an original (primary source) that represents the substance of the original yet is not the original and potentially counterfeit. As a result, the copy is seen as less authoritative. During the discussions, fourth graders seemed to struggle more than the fifth graders with understanding that the concept of a secondary source as a copy is inconsistent with experts' concepts.

Finally, re-presentation was discussed as a means of gaining knowledge. Wyatt gave the example of a reenactment to define secondary source. He stated, "But they're like, we know some about the Civil War, but sometimes, lots of times there's reenactments to see what it was like" (Transcript 1). During the instructional sessions, both primary and secondary sources were continually emphasized as tools necessary for addressing historical questions, which are asked about the past, among other reasons, because we cannot directly experience the past. The notion that sources, particularly secondary sources, provide information through re-presentation is similar to the concept of secondary source as copy, but highlights a specific purpose for the copy.
In all the participants' definitions of secondary sources, re-presentation was always viewed as a removal from a primary source, not a commentary on a primary source (the actual definition).

Origin

The participants' concepts of sources also encompassed the idea of *origin* of sources, that is, knowledge of the genesis or provenance of sources. During the instructional sessions, many participants defined primary and secondary sources in terms of the origin of sources in the past. Particularly emphasized were the relationships of sources to the present, as part of the historical record, in terms of space and time. Students made spatial references to sources as being "something that was from the past" or "from somebody who was important" (Donovan, Grade 4, Transcript 1) and a rifle "from the Civil War" (Kevin, Grade 5, Transcript 2). Time references involved students describing sources' distances in time from the present. Some were nonspecific, such as Naoki's (Grade 4) statement that he "[has] some really old Japanese coins" and Lila's (Grade 4) sharing that she "[has] coins from that my grandpa's dad had from a long, long time ago" (Transcript 1). Other time references were specific, such as Dennis' (Grade 5) reference to "a World War 2 veteran" (Transcript 2).

The students' discussion emphasized the correct notion that primary sources often (but not always) must be related in time to the focus of a historical question. The dialogue did not reveal whether the students had a clear understanding that a source does not always have to be old (e.g., "from a long, long time ago") in order to be considered a primary source. In retrospect, reinforcing this point more directly during the instruction may have been beneficial.

Authenticity/Realness

Related to the concept of origin is the concept of authenticity. The instructional session discussions revealed that concepts of authenticity or realness were key to students' concepts of

primary and secondary sources, that is, the identity of sources as authentically historic or "true" artifacts. When asked the definition of primary source, Dennis (Grade 5) related, "Like, a primary source is like having a World War 2 veteran come in and talk to you about World War 2" and "Because he actually, like, experienced it" (Transcript 2). The authenticity of the person's experience, as rooted in a historical event, gave credence to the person as a source for information about history. Concern about judging the authenticity of sources is apparent in Katie's (Grade 5) question about whether a fake military uniform is a primary source. In response to this discussion about primary and secondary sources, she asked,

Katie: Um, what about, you said the guy came in and showed his uniform. What would it be if it was a fake uniform?

Researcher: If it were a fake?

Katie: Like if it was something that was supposed to look like it.

Researcher: Hmm, you know that's a good question. It really wouldn't be a primary source from the past if it wasn't part of the war, like if somebody just made it yesterday or something. So for our purposes, we could say it's probably not going to help us answer a question about history, so we probably wouldn't use it as a primary source for us. But if you were going to open up a museum of fake uniforms [participants' laughter], then maybe it could be a primary source. So it's a little bit tricky, but for us, we'll just say, no, that's probably not going to help us. (Transcript 2)

This question and the researcher's answer emphasized the need to establish authentic versus non-authentic artifacts during historical inquiry, something that is essential to the process. A little later in the session, on her own, this same student made a connection between the issue of source authenticity and active inquiry.

Katie: When you told us to answer the question, when you need to look at more than one thing.

Researcher: Mm-hmm. Right.

Katie: If you had a fake uniform and a real uniform, could you compare them? Researcher: Ooo, did everybody hear that? Okay, Katie said, 'If you had a fake uniform and then you had a real primary source uniform, could you compare those together?' I would say yes, that's a very good way that you could learn about history and to figure out which one is the right source from history and help you to learn. And we're going to talk a lot about comparing and contrasting in a few minutes. (Transcript 2)

In this discussion, both the student and the researcher are making a distinction between a "real primary source uniform" (one that had been established as coming from a particular time and place in history) and a "fake uniform" (one that had been made to look like the genuine artifact). For both, being able to say with certainty whether a uniform was "real" made it a primary source. Thus, realness was synonymous with potential use for historical inquiry.

The concept of realness also seemed connected to the concept of tangibility. Most of the examples the students provided for sources were tangible objects, such as coins, cartoons, guns, and uniforms. Students in both grades seemed to have an easier time conceptualizing material objects as primary sources than non-material things. For instance, during the session with the fourth grade class, the classroom teacher asked a question about whether a song is a primary or secondary source, which opened a very interesting line of discussion with the students. In the following section of dialogue, a student had just asked about whether Internet sources are primary or secondary.

Researcher: So that's a secondary source. Lots of the things you find online might be

primary sources, they show a document or something, but most of it is going to be writing or talking about it, so secondary.

Mrs. Hertel: How about singing about it?

Researcher: Singing about it?

Mrs. Hertel: Yeah, our kids learned a song about the Erie Canal.

Participants: [a few voices naming the song]: Fifteen miles.

Researcher: That is a great source for history. But here's the tricky thing...The song itself, like when somebody wrote the song, is that a primary source, because it came to us from the past?

Participants: [many voices]: Yeah.

Researcher: It is, so it's kind of a weird thing. The song itself is a primary source, but the words are talking about the Erie Canal, so that makes it a secondary source too. So it's kind of both, kind of a funny thing. (Transcript 1)

This discussion was difficult, first because it used as an example a source type that could be considered both primary and secondary, and second because it introduced an intangible source type: the human voice. Although it was not clear from the discussion whether the fourth-grade students really understood the potential duality of sources, at least they were introduced to the idea that primary and secondary sources may be non-material. In later classroom sessions discussed below, the students received instruction about tour guide's spoken words as a source. On the participant questionnaire (given before the instructional sessions started and after the historic site visit), most of the examples given by students in both the instruction and noninstruction groups were material examples. Additionally, the students used phrases like "the real thing" or "a real object" in their definitions of primary and secondary sources, emphasizing the

tangible. This tendency, however, was understandable, given the often greater physical accessibility of material evidence.

Though the need to establish authenticity through evaluation (including comparison) is necessary for historical inquiry, one element that the students' discussion did not include was the notion that "real" and "authoritative" are not the same thing. The realness of an artifact, that is, its authenticity, does not automatically translate into authority. Although a source may be authentic, it may not be authoritative when used as a source. For example, a letter written in the past, though genuinely historical, may not be authoritative as a source in a particular line of historical inquiry. This type of thinking requires another step toward evaluation of sources, something these students did not yet spontaneously do. Notably, extended discussion on this topic took place mostly with the fifth-grade students, indicating that this more sophisticated discussion about the identity of sources as authentic was more central to their thinking than that of the fourth-grade students.

Use of the D-A-C/C Source Evaluation Method

In addition to discourse about primary and secondary sources, the participants' discussion during Session 1 highlighted their understandings of the D-A-C/C evaluative techniques and their abilities to use them for learning information from sources to answer historical questions. **Describe**

Description appeared to be an easy concept for all the participants to grasp. Students at both grade levels immediately assumed that a central part of description involved identifying the physical characteristics of sources. For objects and buildings, students eagerly took part in sharing their observations of physical characteristics (color, size, shape, hardness, and texture), identity or function, and context (especially for buildings) of sources. For example, when asked

to describe the fireplace shown in a photograph of the Abraham Lincoln Home National Historic Site, Maria (Grade 4) observed, "Um, kind of looks like wood, and part of it underneath looks like cement" (Transcript 1). In the case of tour guide's words and labels, the participants' descriptions included far fewer physical characteristics and more restatements of factual information or relating historical narratives, such as in Adam's (Grade 4) assertion about a label describing the fireplaces in the historic Robie House (designed by Frank Lloyd Wright and completed in 1910): "The labol said, 'The cheme [chimney] is [made of] the same brick and limestone'" (Participant Journal).

Although description was the easiest of the D-A-C/C steps for the students to understand and practice, certain challenges existed. In making their observations, the students discussed possible ways to use their senses in describing sources. Although all five senses were mentioned during the sessions, the students' language of description focused almost exclusively on the senses of sight and hearing. For instance, Samuel (Grade 5) observed about the Lincoln home, "I think the house is made out of bricks, because you see like right here [indicates by pointing at the screen], it's just bricks" (Transcript 2). One example of the students describing senses other than sight and sound during the sessions occurred when they did the outdoor activity about their school building. During this activity, the students used touch to experience the multiple types of materials used in the building's construction.

Another area of challenge was helping students understand that description included identifying the source type and the writer, maker, or speaker (the originator) of the source. This additional layer, beyond that of physical description, appeared novel to the students, and performing this task required scaffolding, by use of prompts during the classroom activities and the design of the source use activities (see Chapter 6). During Session 1 in the fourth grade

classroom, the students worked through the process of determining the origin of a museum label by making educated guesses, as reflected in the following dialogue.

Researcher: But if you don't know for sure, you can always make some educated guesses, and you're allowed to do that, based on the evidence that you find. Here's a picture here, it's pretty small, so you might not be able to see it, but it's a label from a museum. Okay? How many of you have ever seen a museum label? You've been in a museum and you've seen these signs and things [students raise hands]? Okay, lots of people. Who makes these labels? Where do they come from? Who do you think makes these labels when you see them? Let's see, Beth?

Beth: A factory?

Researcher: Okay, it possibly could come from a factory. Where else could they come from? Daniel?

Daniel: From historians?

Researcher: Yeah, really good, people who work at the museum and know about history. So do you think they know kind of what they're talking about since they work at the museum?

Multiple participants: Yes.

Researcher: Okay, so we can guess that this label comes from somebody who works at a museum. Um, so you can make a guess like that, but sometimes you're not going to know. You're just going to have to make a guess, and if you base your guess on evidence, that's okay. That's what historians do. (Transcript 1)

The practice of identifying the source type and the writer, maker, or speaker of the source was difficult for some students, especially for sources other than objects or buildings. Many

students continued to be challenged by this task, even with scaffolding. Grade level made some difference in students' abilities. For example, when asked during the Session 3 in-class activity to identify the maker of a label about the Robie House, only 16 of the fourth-grade students (61.5%) correctly responded "museum worker" in their journals. Other students believed that Frank Lloyd Wright wrote the label (5 students) or a tourist (1 student). Four students (15.3%) left this question blank. In contrast, 16 fifth-grade students (84.2%) believed a museum worker wrote the label, and three students (15.7%) left this question blank.

When asked about the origin of tour guide's words about the Robie House (the students watched a video of a house tour during the activity), many fourth-grade students failed to understand the identity of the words themselves *as a source*, meaning the words came from the tour guide. Just over half of the fourth graders correctly identified the docent or museum worker as the source of the information (53.8%), with many (10 students, 38.4%) incorrectly attributing the words to Frank Lloyd Wright. Conversely, most students at the fifth-grade level seemed to grasp the idea that the docent *as a person* was the source of the words. All but one of the fifth-grade students (18, 94.7%) identified a docent or museum work as the source of the words. In a particularly interesting statement, one fifth-grade student observed, "A docent spoke for the house and Frank Loyd Wright built it," indicating a thoughtful and interesting understanding of the role of docent.

Analyze

The participants' understandings of analysis included interpretation of the information learned during the description process and hypothesizing or deduction from this interpretation. Explaining his concept of analysis, Wyatt (Grade 4) suggested, "Isn't analyzing to know what it is? I don't know how to say this, but um, like you can find an answer to it" (Transcript 1). This

definition is consistent with the idea that analysis involves "digging deeper" and trying to discern the originator's purpose, the intended audience, and possible meanings of what was noticed during description.

During the discussions and related activities, analytical interpretation of source information involved the participants comparing information from unknown sources to known sources or prior knowledge. Some analyses were made based on source attributes. For example, in one activity during Session 2, the participants evaluated an unfamiliar object (a kitchen tool used to stamp a pattern on bread before toasting), first individually and then as a group. Commenting on the shape of the tool, Ryan (Grade 4) observed, "It looks like bread" (Transcript 3). Analyses also were made according to known or hypothesized source function. Concerning the bread stamp, a fifth grade student suggested,

Joanna: It might be a cookie maker.

Researcher: Ooo, it might be a cookie maker. What made you think that?

Joanna: Because you can press it down. (Transcript 4)

These examples show the abilities of participants at both grade levels to analyze sources based on physical attributes and functions of the unknown source and known sources.

Additionally, participants were able to take the information they learned in the description step and use this information for hypothesizing or deduction to answer a historical question. In the following exchange, a fifth grade student acknowledged the need to look more closely at the object and then explained the process of deduction she might engage in based on potential evidence.

Researcher: So who made this source? How can we find out about that? Rachel, what do you think?

Rachel: You could look around on the chair, probably not a factory made it, since it was a long time ago. Maybe somebody like took wood and actually handmade it instead of making it in a factory. (Transcript 2)

Similarly, in the fourth grade session, Demarcus observed, "That it had a lot of handmade carvings and stuff on the wood," thus interpreting the carvings he saw as "handmade."

In another example, two fifth graders' evaluations of a chair in a photograph of the Lincoln home led them to draw conclusions to help them answer a question about what the Lincoln's living room was like when the Lincoln family lived there and reasons for this appearance.

Researcher: We want to know what the living room was like. What does this chair tell us? Let's go to Joanna. What do you think?

Joanna: That they had chairs.

Researcher: Yes, perfect. That they had chairs. Maybe this is the kind of chair they had. Kevin: That they might not have had too much wood.

Research: That they might not have had too much wood, and we can talk about that.

Maybe wood was really expensive..." (Transcript 2)

These fifth-grade students exhibited the process of looking more closely at sources and using the information from sources to construct deeper understandings.

Fourth-grade students showed the same ability to analyze by drawing conclusions, but they required more scaffolding than the fifth-grade students. One example of this scaffolding occurred during the students' evaluation of a photograph of the Lincoln home exterior.

Researcher: What else do we notice? Patrick?

Patrick: It kinda looks like people like to see out the windows.

Researcher: Okay. It has windows. How many windows does it have? Let's count. Participants and Researcher: 1, 2, 3, 4, 5, 6, 7, 8, 9.

Researcher: And you can't really see it, but they have more windows over here and more here and more in the back. Now, did Mrs. Hertel ever talk to you, like back in history, about how glass didn't always used to be as cheap as it is today? Have you ever heard that before? Glass used to be really super expensive in the past. So, if somebody had a house that had lots and lots of windows like this one does, what does that make you think? Robin, what do you think, if somebody's house had lots and lots of windows... Mrs. Hertel: What does it make you think about the people who were living there? Robin: They were rich or something.

Researcher: They were rich or something, yeah. They had lots of money. They could buy this, these expensive things. So, we can start learning a lot of things about the Lincolns just by sort of reading this building and looking at their house. (Transcript 3)

Although participants at both grade levels seemed able to take the next step beyond description to analysis, there were fewer examples of analysis than description (see "The Nature and Evaluation of Specific Source Types" section below). Some students at both grade levels had difficulty with this step, especially when using tour guide's words and labels as sources (even with scaffolding). For example, in the journal writing activity about evaluating tour guide's words, fourth-grade students provided no examples of deduction in their analysis of the source, and only 2 of 19 fifth-grade students responded with deduction. When asked to analyze a label in the same activity, no students at either grade level provided a deductive response.

Compare/Contrast

The process of comparing and contrasting, as the researcher presented it to the

participants in the D-A-C/C method, was intended to encourage intertextual readings of sources. The participants were asked to address source agreement, source trustworthiness, and content differences and similarities among multiple sources, as applied to answering historical questions. During the sessions, the researcher stressed the idea that people may learn more information from multiple sources than from one source, as in this puzzle analogy presented to the students.

Researcher: We all know that the puzzle pieces fit together, and they help you to see the complete picture once it's all put together. We can do the same thing with evidence. If we find more than one piece of evidence, we can see how they all fit together to give use a complete picture. Just looking at the rocking chair by itself that might not help us too much to learn about the Lincoln living room. We might have to look at some other things...

You can get more information from two sources than you can from one. If we start looking at more than one source, then we can start putting the complete picture together. You can also get different kinds of information from each source. Like say we learn a little bit from the rocking chair, maybe we could learn a little bit from the carpet, maybe we could learn a little bit from the fireplace. You can use information from one source to help you understand other sources a little bit better, so there are ways they kind of play off each other. And even though some sources are really different, you can still compare and contrast them. (Grade 4 Session, Transcript 1).

The participants' classroom discussion and writing in the journals during the instructional sessions revealed information about their conceptual understandings of comparing and contrasting, both how they align with and diverge from the concepts as presented by the researcher. For example, when asked to discuss the compare and contrast process, the students

appeared to have a good understanding of the *reasons* for comparing and contrasting, as presented in the D-A-C/C method. At the most fundamental level, comparing and contrasting was believed to be necessary because "They [the two sources] both give information. They say different things" (Penny, Grade 4, Participant Journal). Additionally, the notion of looking very carefully to find differences in sources was clear, as Faith (Grade 5) explained during a review of the D-A-C/C method in Session 2, "We observed the item, we looked at it very carefully and then we could, like, see when we compared and contrast two objects" (Transcript 4). She acknowledged that this is not always an easy process, continuing, "You could, sometimes you can, it's easy to find and tell the differences, and sometimes you gotta search."

During the sessions, the students' practice of comparing and contrasting focused on four areas: the citation of sources, evaluation of the nature of sources, reliability or trustworthiness of sources, and evaluation of source content. The ability to cite sources, something that is essential to expert historical practice (Britt et al., 1999; Wineburg, 1991), was evident in the students' discussion and writing. In Session 3, the participants watched a video of tour at the Robie House about the fireplace in the house's billiard room and examined a paper copy of an exhibit label about the fireplace (produced by the researcher with information from the Frank Lloyd Wright Preservation Trust website). When asked to compare and contrast these sources, Tim's (Grade 4) response included source citations connected to content. He asserted,

I think that the docent gave us slightly more information. The label tole me that the fireplace is made of brick and limestone, as did the docent. The docent tole me that there was a hole in the back of the room where you would dispose ashes from the fireplace, as the label didn't. (Participant Journal)

Similarly, fifth grader Corinna concluded, "The label told us that the playroom has a fireplace,

but the tour guide didn't. The tour guide didn't tell us that the playroom had a fireplace" (Participant Journal).

Participants also discussed their concepts of the nature of different source types while comparing and contrasting. The notion that all sources provide information – but that some provide more or better information – was present. Will (Grade 4) argued, "A docent and a label are the same because they both give you infermasen. A docent and a label are different because a docent gives you more infermasen" (Participant Journal). Some students focused on the origin of the sources when comparing and contrasting, as when Madison (Grade 4) suggested, "Both of the sources are different. Both of the sources were made by different people" (Participant Journal). This statement highlights the difference between sources as based on the maker or speaker. Further, the form a source takes, either tangible or intangible, was part of students' evaluations while comparing and contrasting, as Micah's (Grade 4) writing showcased, "They [label and tour guide's words] are different because one you read and the docent you listen to the Docent" (Participant Journal). As discussed above, the issue of tangibility may reflect students' beliefs about the way sources can or should be compared, as shown in Dennis' (Grade 5) statement about the label: "It shows evidence from the fact that it was real" (Participant Journal).

Students also mentioned the trustworthiness of sources, as Rachel stated, "We looked at it and made a guess of what it was and like how predictable, like how much we could count on it" (Transcript 4). Here, Rachel was referring to how the students were asked to rate the trustworthiness of sources to give information to answer historical questions, but always as part of comparing and contrasting with other sources or with prior knowledge, never sources own their own. Tim (Grade 4), whose citations of sources were discussed above, ended his Compare/Contrast comments with "I think they are both good sources" (Participant Journal).

Kara (Grade 4) evaluated the label and tour guide's words together and concluded, "The evidence the docent gives me might not be true" (Participant Journal). Many other students included similar rating comparisons in their writing and discussion. Whatever the reasons for or ultimate reliability of these students' judgments, they demonstrate that students at both grade levels were able to consider and decide about source reliability.

One of the most common examples of comparing and contrasting observed in the discussions and activities was evaluations of content differences and similarities among sources. For instance, during Session 1, the students participated in a group activity to practice comparing and contrasting multiple sources. They evaluated a photograph of the interior of the Lincoln home and a researcher-developed source, a "letter" written by a hypothetical visitor to the Lincoln home in 1858, designed to set up opportunities for comparisons when the letter disagreed in part with what the students would observe in the photograph. During this session, both fourth- and fifth-grade students referred to the letter's content, in contrast to what they observed in the photograph, as in this exchange with fourth graders:

Daniel: Well, it's [the letter] telling you, well, like what she saw when she was visiting the house.

Researcher: Right, exactly. And what did she see? What were some of the things that she saw?

Cody: By the chairs she saw a cooking stove.

Mrs. Hertel: Do you see it?

Researcher: Where, hmm, is there a cooking stove?

Multiple participants: No. (Transcript 1)

Again, when comparing the Robie House tour video and label, the participants referred to

content. Kara (Grade 4) recalled, "The label told us that the playroom has a fireplace, but the tour guide didn't. The tour guide didn't tell us that the playroom had a fireplace" (Participant Journal). This student related content knowledge from more than one source. The notion of building understanding on content knowledge from multiple sources was expressed perfectly by Hudson (Grade 5), who wrote concerning the label, "It adds to the docents words. Docent tells about the hole. Lable says four fireplaces" (Participant Journal). As seen in these examples, focusing on content as part of the Compare/Contrast step of the D-A-C/C method was linked to citation and source reliability, showing the connection between these aspects of the participants' understandings of the process of comparing and contrasting.

The Nature and Evaluation of Specific Source Types

Once the D-A-C/C method was introduced to the participants, they were encouraged to use these steps to analyze the various types of sources they encountered during the instructional sessions. During the classroom sessions, the participants encountered a variety of different source types, including objects, buildings, tour guide's words on video, and labels. The participants engaged in classroom discussions and in-class journal writing about each type of source. These data revealed various aspects of the students' concepts of the different source types and their skills and challenges related to evaluating sources using the D-A-C/C method when evaluating particular sources (Figure 5).

Objects

During the instructional sessions, the participants encountered a variety of objects, including objects the researcher brought into the classroom, objects the students brought from home, and historic objects via photographs, such as those from the Lincoln home and the Robie House. Students at both grade levels performed similar numbers of descriptive object

D-A-C/C step	Objects Grade 4 Grade 5		Buildings Grade 4 Grade 5		Tour Guide's Words Grade 4 Grade 5		Labels Grade 4 Grade 5	
Describe								
Maker or speaker	•	•	•	•	•	•	•	•
Physical characteristics	•	•	•	•				
Function	•	•	•	•	•	•	•	•
Context			•	•				
Content, factual information					•	•	•	•
Content, historical narrative					•		•	
Character or nature of source					•	•	•	•
Analyze								
Interpretation	•	•	•	•	•		•	•
Deduction or hypothesis	•	•	•	•		•		
Compare/Contrast								
Source citation	•	•	•	•	•	•	•	•
Reliability	•	•	•	•	•	•	•	•
Information or content	•	•	•	•	•	•	•	•

Figure 5. Instruction students' skills in evaluating sources using the D-A-C/C method. *Note*. • = Skill observed in students at particular grade levels during instructional sessions.

evaluations. Of the 15 evaluative statements about objects made during Session 1 by fourthgrade students, 8 were descriptive (53.3%). Fifth-grade students made 21 evaluative statements, and of these, 11 (52.4%) were descriptive.

When evaluating objects in the Describe step, participants at both grade levels were able to attempt to identify the author, maker, or speaker of a source, even if their responses were not correct. Students readily offered hypotheses about the function of objects, such as describing what they believed to be the function of the bread stamp. Although consideration of context is part of the description step, the activities employed objects that were, for the most, decontextualized (e.g., objects brought from home). As a result, the participants did not describe context for most of the objects they encountered during the sessions. Discussion of prior knowledge of factual information or historical narratives related to the objects evaluated was limited, except when the participants discussed the objects from their homes.

Fewer of the participants' evaluative statements about objects were analytic. One third of the fourth graders' statements about objects involved analysis. During the fifth graders' session, 38% of their statements were analytic. When analyzing objects, students engaged in discussions about the maker's purpose, the intended use for the object, and possible meanings of what was noticed during description. Analysis included comparisons to known items, based on interpretations of physical materials and function. For example, when discussing an object that looked like a flat iron, fifth grader Katie reported,

My grandma and grandpa actually do have an old iron. It's like this metal base and you take the handle and pour water in it and you hold it up to the fire so it will get hot. And it has like a wooden handle. (Transcript 2)

Deduction or hypotheses about objects based on observations from the Describe step was

difficult for some students, but in the discussions and journal writing, more deductive responses were included for objects and buildings than for tour guide's words and labels.

Comparing and contrasting objects occurred the least often during Session 1. One reason for this is that fewer opportunities were given for students to compare and contrast during the discussion and activities. In both classrooms, only two compare and contrast statements were made, but these examples show that some students at both grade levels were able to evaluate objects. As described above, in the example of comparing the interior photograph of the Lincoln home with the hypothetical letter source, students at both grade levels were able to complete this activity successfully. The participants also addressed source reliability, determined by comparing multiple objects. In the Lincoln activity, almost all participants agreed that what they observed in the photograph of the living room, incorporated with knowledge about the history of the objects in the room learned during the discussion, was more reliable than the letter.

Buildings

Allowing the participants to encounter and evaluate actual buildings during the instructional sessions was limited. The participants did one activity that allowed them to evaluate their school building, but due to travel restraints, their exposure to historic buildings as sources during the sessions was limited to photographs. The school building activity in Session 2 did allow students to experience building evaluation in an authentic manner (e.g., seeing and touching the materials, experiencing spatial aspects of the building, and so on).

Students' descriptions of buildings incorporated descriptions similar to those for objects, such as color, size, shape, materials, identity, and function. During Session 2 the students evaluated exterior photographs of the Swiss Re Building, a London office building, and the Lincoln home during a group activity. They described the shape of the buildings (e.g., "It kinda

looks like, like it's a rocket ship," Demarcus, Grade 4, Transcript 3) and the materials and designs of the buildings. Unlike objects, however, the students discussed the contexts of buildings, as in these fourth graders' comments about the London building. The students observed,

Unidentified participant 1: At the bottom of the building, it looks like it's on another building.

Researcher: Yes, it does, sort of. This is kind of like a foundation level [indicates on screen], and then it looks like maybe the street is way down here.

Participant 1: It looks like it's a lot taller than the other buildings.

Researcher: It's really very, very tall.

Unidentified participant 2: That's what I was gonna say. (Transcript 3)

To compare the participants' discussions by grade level, over half (11 of 17, 64.7%) instances of evaluation of buildings during the fourth grade Session 2 discussion were descriptive. During the Grade 5 discussion, the vast majority (17 of 20, 85%) evaluations were descriptive. Descriptions of materials, design, and building shape occurred in similar numbers for both grades, but fifth graders supplied four comments about context and fourth graders gave only one.

Participants' analyses of buildings involved both interpretation of the information learned during the description process and hypotheses and deduction from these interpretations. Students at both grade levels analyzed information from the buildings in similar ways, but had different numbers of instances of analysis based evaluations during Session 2. Fourth-grade students had more instances (6 of 17, 35.3%) than fifth grade students (3 of 20, 15%). For example, Grade 4 students deduced, from the amount of glass used in the Lincoln home and the price of glass in the nineteenth century, that the people who lived there "were rich or something" (Transcript 2). Several students used their understandings of the materials and design to interpret the London building as "modern." Further, the fourth graders hypothesized about possible uses of the Swiss Re Building based on its shape (e.g., a pickle factory or a paper factory). Similarly, fifth graders included deductions in their discussion of buildings, but the focus of their evaluations was slightly different than the fourth graders, moving away from the material aspects of the Lincoln home to drawing conclusions about the use of the property, as in the following exchange:

Jonah: That they have like that, it looks like a little shed.

Researcher: Okay, over here?

Jonah: Yeah.

Researcher: That's actually a barn, back behind there, so if we were to walk back...what would it tell you if somebody has a barn? Tommy, what does it means if somebody has a barn?

Tommy: They have, they were farmers. (Transcript 4)

A little later in the same discussion, Wayne observed,

Wayne: It looks like he has a big backyard.

Researcher: Okay, right. So the big backyard, that also lets you know that what? What did they use that for?

Wayne: Looks like they had some animals.

In Session 2, which focused on evaluation of buildings, the participants did not engage in the Compare/Contrast step to evaluate multiple buildings to address a historical question. Data about their citation of sources, evaluation of the nature of sources, reliability or trustworthiness

of sources, and evaluation of source content in the context of historical questions were not available for buildings.

Tour Guide's Words

Like the evaluation of buildings, the participants' exposure to tour guide's words as a source during the instructional session was limited to activities possible to complete within the classroom space and time available. Due to these restraints, the "tour guide" source was a one-minute video of a tour from Frank Lloyd Wright's Robie House about the fireplace in the billiard room (available online), which the students watched as a group in the classroom (Session 3). The students' discussion of tour guide's words as a source stemmed from this activity.

When evaluating this source, the participants' description focused on different areas than their description of objects or buildings. Physical characteristics, function, and context were not described. Instead, students related factual information, historical narratives, and information about the character and nature of the tour guide's words as a means of describing the source. Factual information included statements about what the tour guide related via the spoken word, for example, Darren (Grade 4) observed, "The docent said, 'Ther is an ashpit' in the Robie House" (Participant Journal). Factual information descriptions were the most common description-related incidents among fourth graders (14 of 22 incidents, 63.6%) but less common for fifth graders (6 of 17, 35.2%). Fourth-grade students also gave more descriptions of historical narratives than fifth-grade students (27.2% and 5.8%, respectively), including stories about the history of the house or the people who lived there.

Analysis of the tour guide's words was very limited compared to the analyses of objects and buildings. One fourth-grade student made a statement about the number of fireplaces ("They had a lot of fireplaces."), which may be considered interpretive. Only two fifth-grade students

drew conclusions from the evidence they discussed in the Describe step, both deducing that the fireplaces would keep people warm.

In the Robie House activity, the participants had the opportunity to compare and contrast tour guide's words about the fireplace with a label about the construction of fireplaces within the house. The participants were asked to answer a historical question about what the fireplaces in the Robie House were like. Within the boundaries of addressing this question, students at both grade levels discussed their beliefs about the character and nature of the tour guide's words as a source were included in the Compare/Contrast step. (Their discussions revealed that most students at both grade levels consistently cited the sources to which they referred.) For example, fifth graders related the following descriptions of the tour guide's words in their participant journals.

- "Living, not wood, no writing, talks... (Corinna, Grade 5)."
- "The docent tells facts and storys from the past that go with that object and other stuff" (Brice, Grade 4).
- "A docent and a label are the same because they both give you infermasen" (Will, Grade 4).
- "It will tell you all the guide can tell you when you ask a question" (Dennis, Grade 5).
- "A label and a Docent can both teach you something" (Joshua, Grade 4).
- "The docent says a lot of stuff that I can understand but the label kinda doesn't" (Tommy, Grade 5).
- [In contrast with the tour guide] "The label is very spcifict and never forgets" (Katie, Grade 5).

These statements revealed that the participants saw the tour guide as a living, personally

responding source of information. Information from this source also was viewed as changeable and limited only by the tour guide's ability to speak, personal knowledge, or memory constraints. Additionally, tour guide's words may be more understandable than a label.

The participants provided many evaluations of the reliability of the tour guide's words. For many students, evaluations of reliability hinged on the truthfulness of the speakers words. For example, Robin (Grade 4) suggested, "Evidence docent gives might not be true" (Participant Journal). Similarly, her classmate Kara surmised, "The difference between a lable and a docents words is a docents words may be true or false and a label couldn't" (Participant Journal), thus showing that she believed that there is a difference between the potential truthfulness of spoken and written words. Conversely, Wayne (Grade 5) asserted, "Tour guides have to know or else there not doing there job" (Participant Journal), indicating his belief that tour guide's words have reliability connected to knowledge. Other students rated the reliability of the sources using terms like "good" or "not good," such as Tim (Grade 4), who said about tour guide's words and labels, "I think they are both good sources" (Participant Journal).

Finally, students at both grade levels compared and contrasted information or content that came from the tour guide's words as a source. Some students focused on the amount of information given by the tour guide, based on general comparisons with another source. For instance, Will (Grade 4) stated, "A docent and a label are different because a docent gives you more infermasen" (Participant Journal). Other observations highlighted the physical limitations of labels, as opposed to spoken words, such as revealed in Faith's (Grade 5) observation: "The tour guide tells you more information because a label only has so much room to tell you about that place or thing" (Participant Journal). Statements related to specific content also were made, including Cody's response that explained the content each source supplied: "They both told about

the fireplace. They are differnt that the docent told about a hole in the floor and the lable that bricks are limestone" (Participant Journal).

Labels and Signs

Like their evaluations of tour guide's words, participants' description of labels highlighted factual information and historical narratives from the source. The participants evaluated a label containing information about the fireplace in the Robie House billiard room. Factual information statements from the label were described in 15 of 20 instances of description-related evaluations (75%) by fourth-grade students but only 5 of 14 description-related evaluations (35.7%) by fifth-grade students. As in their descriptions of tour guide's words, only fourth graders mentioned information related to historical narrative, such as Brice's discussion of how the label related, "What it's been threw. Why it was built. How it's ben threw it" (Participant Journal). The fact that fourth-grade students described historical narratives and fifth-grade students did not is of interest, because this may indicate an age-related preference for this type of information.

Instances of analysis of the label, including discussions about the maker's purpose and the intended use of the source, were limited at both grade levels to statements about how the label gave information. For example, Beth (Grade 4) wrote, "The label shares informasion" (Participant Journal). In all cases, discussions of how or why the label was intended to communicate this information were absent. Additionally, no students at either grade level engaged in deduction from the information found during the Describe step, to draw conclusions about the information and how it related to answering the historical question.

The participants' comparing and contrasting of the label source was similar to their evaluation of the tour guide's words, consisting mainly of relating content provided in the label. Regarding the character of the label as a source, the label's identity as a static source was viewed

as a potential drawback of using labels for information. Katie (Grade 5), for example, argued, "The Docent can give you more than one answer" (Participant Journal), and Naoki (Grade 4) stated, "The docent can give more info if the sign does not have it" (Participant Journal). Conversely, Faith (Grade 5) saw the label's static nature as a benefit, suggesting, "A label stays there and tells you the same thing so it can be studied longer" (Participant Journal). Further, Wayne's (Grade 5) assertion that "Most labels tell you what happend at that exact spot" seemed to indicate that a label's physical connection to a specific location lends it a documentary significance not found in tour guide's words.

Source reliability was a central theme for some students in the Compare/Contrast step. Many students at both grade levels stated that the label gave them either "more," "less," or "the same" information than the tour guide's words to address the historical question. In only one instance did a student evaluate the reliability of the label by making a blanket statement about the character of labels in general. As discussed above, Kara (Grade 4) believed that spoken words potentially may be untrue, but that labels do not share this characteristic. In her understanding of reliability, labels will always be a more reliable source than spoken words.

Intertextual Use of Sources for Historical Inquiry

Much of the information about the participants' concepts of intertextual use of multiple sources was learned from the discussions and journal writing activities about the Compare/Contrast step of the D-A-C/C method. Session 4, however, was devoted to allowing the participants to discuss and practice evaluating intertextual use of sources. During this session, the participants critiqued short "evidence reports" written by elementary-aged children about their visit to a historic site (Appendix K), to determine whether the writers followed the D-A-C/C method. This activity allowed the participants to see and evaluate examples of other students' writing about sources and provided the researcher an opportunity to informally assess the participants' understandings of the D-A-C/C method at the end of the instructional period for the instruction group. Grade level differences were observed among the participants in two areas: identification of sources and critiques related to writers' use of the method.

Identification of Sources

When asked to identify the sources used by the writer of Evidence Report 1, the students at both grade levels correctly identified the one source mentioned in the report – the building – although the writer obviously communicated information that must have come from other sources. With scaffolding, both groups of students were able to identify other possible sources (object, tour guide's words, or label) for Evidence Report 1, when the sources were not explicitly cited by the writer. In the fourth-grade classroom, this dialogue occurred:

Researcher: Look at John's [Evidence Report 1] again. He says, 'Years ago these people had ten children.' Where did he get that information?

Unidentified participant: Docents.

Researcher: But does he say that?

Multiple participants: No.

Researcher: No. It could've been from the docent; it could've been from a label. We don't know.

Madison: It could've been from a parent.

Researcher, Yes, who knows where he got it. But down here, look, Keisha [the writer of Evidence Report 2] actually says where she got her information from.

Similarly, the fifth-grade students were able to identify possible sources of information the writer provided but did not cite, as shown in an exchange with Faith and her classmate:

Researcher: Where'd he get that information?

Faith: Probably the tour guide or docent.

Researcher: Okay. Maybe from the tour guide or docent. Where else could he have gotten that information?

Unidentified participant: Maybe like a, maybe there was a paper with information on it.

When evaluating Evidence Report 2, identifying the source types was easier for both classes, since in this example the source types were clearly cited. Participants mentioned the building and specifically the "building outside" (exterior). They discussed how the writer described the windows, exterior brick, and the dining room ceiling. One fifth-grade student stated that the writer mentioned the age of the house. The discussion revealed that students at both grade levels were able to correctly identify the multiple sources in Evidence Report 2.

Besides the opportunity this activity gave the students to discuss source citation and the provision of a model for their writing on the source use activities, this activity revealed important information about the students' understandings of comparing and contrasting. When discussing Evidence Report 1, the fourth-grade students identified no specific examples of the writer comparing and contrasting sources in this example, which is correct, according to the definition of the Compare/Contrast step given during the instruction. Conversely, the fifth-grade students provided examples of what they interpreted as the Compare/Contrast step: The writer reports, that "there was no T.V. and no toy stores." In actuality, this is not an example of intertextual comparison/contrast of a particular set of historical sources, as presented in the D-A-C/C method. Rather, it is an example of comparing and contrasting individual sources (in this case, buildings or places) in the process of analysis. This misconception in the responses had to be corrected by the researcher.

Discussion

The discussions and classroom activities during the instructional sessions provided a variety of information about the participants' experiences related to using multiple texts as sources for historical inquiry. Some differences in participants' understandings and abilities between the grade levels were observed. Below, interpretations of the results highlighting the students' concepts, skills, and challenges are discussed.

Participants' Concepts of Source Types

The conceptual themes of numeration, re-presentation, origin, and authenticity were present in the discussion at both grade levels. For some students, the words *primary* and *secondary* appeared to get in the way of understanding the true difference between primary and secondary sources. These words seem to convey the sense of early versus later, rather than accurate definitions. During the classroom discussion with the fifth-grade students, numeration words did not seem to created points for confusion, rather, these students placed more emphasis on origin and authenticity. Data from the questionnaires, however, showed that students at both grade levels defined sources numeratively (see Chapter 5). Although numerative concepts are inherent in understanding the meanings of primary and secondary, it is essential that students be aided in moving their concepts beyond the numerative elements of these definitions.

A secondary source is correctly defined as a presentation of commentary on a primary source, leading to a new level of commentary and information. The discussion revealed, however, that many students conceptualized secondary sources as a different and lesser presentation of the same thing (e.g., photo, cartoon, or reenactment). The secondary source was seen as less true than the original and often perceived as potentially misleading or false, which supports Barton's (2005) finding that novices believe primary sources are more reliable than

secondary sources. Further, there appeared to be some sense that some students believe objects and events are primary and all words are secondary. The idea that secondary sources are commentary on primary sources seemed to be outside many students' understanding, even after the instructional sessions (see Chapter 5). The questionnaire data showed that while the percentage of fourth graders' re-presentation definitions of secondary sources rose on the second questionnaire, fifth graders' percentages fell, although neither change was statistically significant. These results indicate that at least some fifth graders changed their minds about the way they defined secondary source, but the results did not reveal how deeply they understand this concept.

The concept of defining sources in terms of understanding and highlighting their genesis and knowledge of provenance arose in the discussions, in both the fourth- and fifth-grade classrooms. The origin of a source in history, that is, its identity as part of the historical record, is what makes a source primary or secondary. Students appeared to have the understanding that knowledge of a source's origin gives the evaluator information through which to judge authority or reliability. This is an accurate reflection of historical inquiry, as long as the fact that historical origin alone does not convey authority is understood. Additionally, students must understand that historical age of a material object is not a sole indicator of a source being considered primary. Some students used age as a factor in determining whether sources were primary or secondary, with one student suggesting the impossibility of an extant artifact surviving to the present, making it secondary as a result.

The identity of sources as authentically historic or true artifacts were considered by students at both grade levels to be important for defining sources. Moreover, the notion that examination of sources is about being able to establish *authenticity* was part of the discussions. The need to consider and establish the authenticity or realness of sources appeared to be

appreciated by the students. Acting on the need to consider authenticity or realness and finding means through which to establish it, however, both hinge on the students' definitions of authenticity. From the concepts of authenticity and realness that arose from the discussions, coupled with the understandings of origin and re-presentation, it appears that many students may define *real* as accurate, authoritative, authentic, and possibly more tangible, and *not real* as not accurate, not authoritative, inauthentic, and possibly less tangible. As discussed above, authenticity/realness should not be conflated with authority, something that these data did not indicate whether the participants understood.

Participants' Use of Multiple Sources

Much of the participants' evaluation and decision making work with multiple sources in the instructional session discussions and activities was exhibited in their use of the D-A-C/C method. Combating what VanSledright and Kelly (1998) called "straight-forward information-retrieval tasks" (p. 260), in which students accept uncritically what they find in sources, the D-A-C/C method encouraged participants in the present study to engage sources critically. The results from the classroom discussions and activities showed that student these grade levels were capable of examining sources critically, a result which supports Barton (1997b) and VanSledright's (2000) findings in research studies with students at the same grade levels. Barton, however, pointed out the participants in his study tended to treat all sources equally. VanSledright (2002a), in another study, found that fifth-grade students had difficulty dealing with multiple sources of potentially conflicting evidence, including assessing validity and reliability. Although observations made in the present study indicated that the participants experienced the same challenges, the extensive use of scaffolding in this study (in the form of guided group activities and written materials) made a difference in the participants' consistency

in evaluating multiple sources. While it is acknowledged that the participants' assessments of validity, reliability, and other intertextual judgments may not have been correct in many cases, their nascent understandings that these processes are essential when dealing with sources and engaging in historical inquiry were observed in this study. Continued emphasis by the use of the same D-A-C/C method with multiple types of sources reinforced the need for a consistent evaluation approach across source types, something the participants in this study used successfully.

Certain steps of the method appeared easier for participants to learn and use, and other steps presented challenges. Description (the first step) had some aspects that seemed easy for the participants. Students at both grade levels were able to describe the physical characteristics, function, context, and content of sources. These skills, however, were related to the description of particular types of sources. When describing objects and buildings, students at both grade levels provided examples of physical characteristics, function, and context. For tour guide's words, labels, and signs, the students described factual information or historical narratives from the sources. This difference was not unexpected, given the physical differences in the types of sources and the design and context of the activities. Students may have, for example, given physical descriptions of a label or sign they encountered at a historic site (e.g., "a big sign"), if that information seemed relevant to the evaluation of that source. Further, the use of the students' senses in description was limited mostly to sight and hearing. This bias, especially toward a focus on sight, was expected and may have been encouraged inadvertently by some of the objects selected by the researcher. Helping students focus on engaging all their senses remained a challenge throughout the instructional sessions and during the museum visit, when there were many sources that students could not touch, smell, hear, or taste. Despite this

limitation, the abilities of students at both grade levels to engage in this aspect of description were high.

Conversely, however, the need to describe the source type and writer, maker, or speaker of source (the originator), a key aspect of description presented during the instructional sessions, provided more of a challenge for the participants. Completing this part of the description process seemed novel to most students, and scaffolding this part of the process was necessary. In VanSledright and Kelly's (1998) study, the authors found that students often failed to report the origins of source evidence, and the present study showed the same result. During the sessions, students needed to be reminded that description also meant stating the type of source and the originator of the source. With this scaffolding, most students at both grade levels were able to identify the source type and almost always correctly, using the terms taught during the instructional sessions (e.g., object, building, tour guide, and label).

During the discussions, identifying the originator was difficult for some students (such as when students stated that Frank Lloyd Wright gave the Robie House tour). Although they were not always correct, most students attempted to state what they believed about the originator. Source type seemed to make a difference, for example, in the object and building evaluation activities, most fourth-grade students had no difficulty with correctly identifying the originator of the sources. In the Robie House activity using tour guide's words and labels as sources, fourth-grade students had more difficulty than fifth-grade students did in correctly identifying the originator. As discussed above, this difference may be related to the more abstract nature of describing a speaker as "maker," something the older students were able to grasp more easily, perhaps due to developmental differences between the students at the two grade levels. Despite these differences, the most important finding here is that with scaffolding, students at both level

were consistently able to attempt to identify the source type and originator.

The process of analyzing sources as part of the D-A-C/C method also revealed additional student skills and challenges. Analysis involved interpreting information from the description process (e.g., attributes, function, and context) and hypothesizing or deducing from this information. Overall, students engaged in analysis less often than they did description, an anticipated finding (Leach, 2011a). The most likely reason for this difference is that analysis is a more complex cognitive task, especially when the subject matter of source evaluation became less tangible and perhaps more abstract (i.e., tour guide's words and labels).

The results showed that students at both grade levels were able to engage in both aspects of analysis, but again, source type made a difference. When examining objects and buildings, both fourth- and fifth-grade participants engaged in sharing deeper understandings of information and drawing conclusions based on information. With scaffolding, students were able to use evidence from these sources to support their own conclusions, something Barton (1997b) indicated was a challenge for the fourth- and fifth-grade participants in his study. In their examinations of objects, similar percentages of fourth and fifth graders gave analysis-based evaluations. When examining buildings, however, more than twice the percentage of fourthgrade student gave analytical statements. Finally, the participants' work with tour guide's words and labels during the Robie House activity showed that examples of deduction came only from the fifth graders, and students at neither grade level drew conclusions about the label. These results suggest that participants at both grade levels were capable of using both interpretation and deduction in the source analysis process, but this ability often was source type dependent. Determining students' abilities, especially related to how they draw conclusions from the evidence they find in spoken and written sources, needs more attention.

Comparing and contrasting was presented in the sessions as intertextual readings of sources. Participants were asked to address source agreement, source trustworthiness, and content differences and similarities among multiple sources, in the context of answering historical questions. Students at both grade levels understood the need and purpose for comparing and contrasting sources, as shown in the discussion, for example, the students who expressed the idea of "looking at everything together" and looking very carefully, to find differences. Most of the students at both grade levels were able to make comparisons when guided. Again, scaffolding the students' in the Compare/Contrast step helped to remind them to compare and contrast and to incorporate the various aspects of this step into their source evaluations, including citation of sources, assessments of reliability and trustworthiness, and evaluations of source information or content.

Citation also is an integral part of comparing and contrasting. Students at both grade levels understood and participated in the guided process of source citation, as shown in the discussion and activities. When discussing and writing about objects and buildings, the students introduced evaluations with phrases such as "the rocking chair" and "the house." The participant's ability to cite sources was especially evident in the journal writing activity in which the students compared and contrasted the Robie House tour guide's words and the label, with examples like "the tour guide said" and "the label tole me" common among students at both grade levels.

Students at both grade levels engaged in comparing and contrasting of information or content from sources. The students were able to compare two sources and judge whether content information was consistent, as shown in Lincoln house activity. In the Robie House activity, the students included factual information about the two sources they were comparing. Including

historical narrative in the writing, however, occurred exclusively among the fourth-grade students. This finding may indicate that the younger students were more interested in the historical narratives (stories) provided in the sources or that they were more interested in narrative in general. Given the importance of historical narrative in the presentation of information at historic sites, these students' attention to this information is important. The reason for the fifth graders' inattention to historical narrative when comparing and contrasting was not clear from these data, but it is something worth exploring.

The need to evaluate sources by assessing reliability or trustworthiness appeared to be accepted by students in both grades. The notion that some sources express more or better information than others surfaced in both the students' discussions and writing activities. Through the use of scaffolding (guided discussion and a numeric rating system), the participants were prompted to judge the reliability of the sources they examined. Comparison of the Lincoln living room photograph and the hypothetical letter (which contradicted the photograph) introduced the students to the idea that at times sources may not agree. As shown in the results from the classroom discussions and activities, students at both grade levels were able to rate the reliability of the sources they used. Although one of the instructional session goals was to help students understand that the reliability of sources can only occur in the context of comparison, the results do not show how deeply they understood this concept.

Students' decisions about some sources, such as the Robie House tour guide's words and label, were based on the students' perceptions of truthfulness of the source. In one case, a participant suggested, "Evidence docent gives might not be true." In another case, a participant asserted that tour guide's words may or may not be true, but labels are always true; evaluations of reliability thus hinged on the truthfulness of the speakers words. When the participants
examined objects and buildings, however, their evaluations of truthfulness appeared to be encapsulated within the judgments of authenticity or realness. A real military uniform, then, was a true source. Although the continuum VanSledright (2002a) described, ranging from "naïve trust to overgeneralized suspicion" (p. 1104), probably was present in the students' conceptual understandings of evaluating reliability, the results from the discussions and activities indicated a general more middle of the road approach by the students at both grade levels.

The participants' abilities to suggest potential sources for comparison to establish reliability in the activities, beyond what was suggested by the researcher, differed by grade level. Fourth-grade students seemed less able than fifth-grade students were to conceive of possible additional sources for comparison. For example, in the guided Lincoln house activity, a fifthgrade student suggested looking for content about historical availability of popcorn (the letter source indicated that the Lincoln's and their guest ate popcorn) to compare and use in establishing the reliability of the letter. Perhaps with additional scaffolding in the discussion the fourth-grade students might have made more suggestions, but this suggestion making occurred spontaneously among the fifth-grade students.

The participant critiques of Evidence Reports 1 and 2 showed that students in both grades were able to apply their understandings of the D-A-C/C method to judging others' intertextual use of sources for historical inquiry. For the Describe and Analyze steps, the students were able to support the their ratings examples from the writing. The students' discussion of the Compare/Contrast step, however, called attention to an important challenge.

The challenge that was observed during this activity (and later during the source use activities, see Chapter 6) was that many students confused the act of comparing sources during analysis (e.g., the writer of Evidence Report 1 compared and contrasted because he stated that

there was no T.V. and no toy stores) with *intertextual* comparison and contrasting, as just described above, during the Compare/Contrast step of the D-A-C/C method. In some ways, the tendency to confuse these processes was related to grade, with fourth graders more likely to have this misconception. Moreover, for Evidence Report 2, participants at neither grade level gave detailed explanations for the Compare/Contrast step. Since this piece of writing was a composite piece, compiled by the researcher to show the ideal in the process of comparing and contrasting, the participants' inability to identify good examples of comparing and contrasting further indicates their misconceptions about this evaluative step.

The reason for this phenomenon may be that like analysis, comparing and contrasting are more complex cognitive tasks, in which case the participants evidently needed more instruction and practice in this area. Additionally, the number of aspects to this step may have placed a larger cognitive load on the participants. Their difficulty may be related to the presence or absence of scaffolding (as seen in the second source use activity in Chapter 6). Without scaffolding (e.g., written instructions listing each D-A-C/C step and their meanings), students may have become overwhelmed by the process and neglected to Compare/Contrast using the method they were taught and were able to use during the classroom discussions and activities. Another possible explanation may be purely semantic, meaning that changing the name of the last D-A-C/C step to something like "judge the sources" or "weigh the evidence" might eliminate this misunderstanding. Whatever the reason, the participants evidently needed additional instruction in the Compare/Contrast element of source evaluation.

In the next chapter, the results from the student questionnaires are presented. Since most of the participants in the study completed both a pre- and post-visit questionnaire, these results provide an interesting look at the students' concepts and abilities as a whole. Further, integration

of the results with information from the classroom discussions and activities helps to demonstrate how particular conceptual understandings identified in the instruction group were observed in the entire student sample.

CHAPTER 5: PARTICIPANT QUESTIONNAIRE RESULTS

The participant questionnaire was administered to all participants in the research study before the classroom instruction began for the instruction group and again after the field trips to the historic site. These pre- and post-tests were used to assess the participants' concepts of the multiple texts within historic sites, their knowledge about how these texts may be used for historical inquiry, and their motivation (including perceived ability and value) to do so. Administering the same questionnaire before and after the instructional sessions allowed comparisons to determine whether participation in the instructional program was associated with changes in the participants' concepts. The questionnaire contained items that addressed the following research questions:

- Question 1.1: How do students identify and define the multiple texts of historic sites?
- Question 1.2: How do students define the reliability of the multiple texts of historic sites as sources for historical inquiry?
- Question 1.3: How do students understand the goals and skills for working with the multiple texts within historic sites?
- Question 2.4: How do students describe their ability to reason about the reliability of historic site texts?
- Question 3.1: How does participating in focused instruction affect students' concepts about the nature of multiple texts within historic sites?
- Question 3.4: How does participating in focused instruction affect students' level of motivation, including perception of ability and value, for using multiple texts within historic sites as sources for historical inquiry?

All participants who received parent/guardian permission and gave their assent completed

the questionnaires. Of the 100 students who participated in the study, 95 completed both the preand post-tests. Forty-nine students (51.6%) were in the instruction group, and 46 (48.4%) were in the non-instruction group. Fifty-three (55.8%) were Grade 4 students, and 42 (44.2%) were Grade 5 students. The results and analyses below are based on this sample.

Data Analyses

To conceptualize the questionnaire data more effectively, three categories for data analysis were created: Source Concepts, Source Use Knowledge, and Motivation.

Source Concepts Category

The Source Concepts category was designed to determine the students' concepts of what sources exist within historic sites, definitions of primary and secondary sources, how people can learn from them, the reliability of sources, and students' beliefs about the intertextuality of sources. This category included six open-ended and multiple choice items (Items 7-10 and 12-14), which were entered into SPSS for analysis. For the open-ended responses on Items 7 and 8, an assistant and I examined the participants' responses and coded the 20% of the sample. This initial coding resulted in an intercoder agreement level of .71 (Cohen's kappa). A discussion and resolution process refined the coding scheme before completing this analysis.

Response frequencies were compiled, showing the percentages of students who held various beliefs about sources, source definitions, and intertextual comparison of sources. The numbers of participants giving particular responses were compared by study group (instruction or non-instruction) and grade level (Grade 4 and Grade 5) using Pearson's chi-square tests (2-sided) to identify relationships between participant characteristics and concepts of sources. Additionally, paired *t*-tests showed potential differences between participants' pre- and post-test questionnaire responses.

Source Use Knowledge Category

The Source Use Knowledge category assessed the participants' knowledge of elementary concepts about the nature of learning about history and the use of historical sources to answer historical questions. Six four-point Likert-type scale items were included (Items 15-19 and 22). The choices *strongly agree, agree, disagree,* and *strongly disagree* were included on these items. Additionally, the students were given a choice of *not sure*. The reason for presenting the items this way was to encourage the students first to make a choice on the four-point scale but also to include a way to express that they truly were not sure about the question or did not know the answer. In this study, it was as important to understand the students' types and levels of uncertainty as their certainty. Descriptive information, including frequencies and particular data patterns, were included.

Chi-square tests (two-sided) were conducted to determine whether the variables study group and grade level were related to differences in pre- and post-test scores. Paired *t*-tests were used to identify relationships between participant characteristics and some variables. These analyses provided a sense of the participants' knowledge before the classroom sessions for the instruction group and for all students after the field trip to the historic site.

Motivation category

The motivation category provided information about the students' interest in and motivation for examining sources. Items included in this category reflect elements from the *Expectancy x Value = Motivation theory* (as articulated by Brophy, 2004), which states that the effort learners' will put forth in doing a particular activity is a function of how well they expect to do on the activity multiplied by how much they value the activity. The motivation category included questionnaire Items 20, 21, and 23 from the pre- and post-tests, about the participants'

confidence in their agency to examine sources for information about history, their perceived ability, and how much they valued these activities (including interest, learning potential, and enjoyment). A Cronbach's alpha test was conducted to calculate the reliability coefficient of these six items, $\alpha = .745$ (n = 95).

To assess the individual elements of the theory, the participants' expectancy and value scores were calculated for both the pre- and post-test. To reflect the definition of effort motivation as reflected in the Expectancy x Value theory, the participants' expectancy and value scores were multiplied to produce their motivation score. Repeated measures ANOVAs were used to examine differences in pre- and post-test motivation scores and potential relationships among the variables study group and grade.

The results from the Source Concepts, Source Use Knowledge, and Motivation categories are presented below.

Source Concepts Category Results

This category expressed the participants' concepts of the various texts within historic sites. Within this category, three areas were examined: the identity and nature of historic site texts; reliability and intertextuality of historic site texts; and concepts of learning from these texts. Differences in the participants' concepts by study group and grade level were explored.

Identity and Nature of Historic Site Texts

Item 9 on the questionnaire was designed to elicit information about the participants' concepts of specific texts within historic sites. The students selected the type of things they believed to be sources available at a historic site to help someone learn about history: objects, buildings, tour guide's words, written documents, photos, signs, videos, hands-on activities, and open-ended category, which allowed students to suggest additional types of sources. Learning

students' beliefs about what they considered to be sources and what they do not was fundamental to understanding their beliefs about the intertextuality of sources.

The participants' choices on the pre-test showed what they thought were kinds of sources available at historic sites, before any contact with the researcher and the visit to the historic site (Figure 6). These concepts were based on their prior learning and experiences, and for most students, this included visiting a historic site (89%) or a museum (92%). Selecting certain source types on the pre- and post-tests generally was not associated with a particular study group or grade level, so the participants' data together as a whole are presented here. (See Appendix L for the complete data.) The sources selected by about half the participants included objects and photographs (each selected by 74.7% of the participants), written documents (58.9%), and signs (49.5%). The remaining sources (buildings, tour guide's words, videos, outdoor spaces, hands-on activities, and "other" sources) were selected by less than 49% of the participants.

On the post-test, which occurred after the classroom sessions for the instruction group and the historic site visit, differences existed in the participants' beliefs about the types of sources available at a historic site. Increases were observed for all the different source types except "other." Participants almost universally identified objects (93.6%) and buildings (92.6%) as sources at historic sites. Buildings had the largest increase at 46.3% over the pre-test percentage. Other large increases included tour guide's words, which rose to 89.4%, and signs, which rose to 70.8%. The percentage of students choosing photos remained similar and high (85.1%). Smaller increases were observed for documents, outdoor spaces, and hands-on activities. The number of students who selected videos remained similar. In general, the sources selected the most reflected the types of sources that the students encountered most often during the historic site visit.



Figure 6. Percentage of participants identifying specific historic site sources. (n = 95).

In addition to the source types provided in the multiple choice item, the participants proposed a wide variety of potential sources available at historic sites. Their responses provided a window on their thinking about sources. Students suggested different types of objects, including models of bones and bone structures, a log cabin, deerskin blankets, paintings, posters, and old tools and games. One fifth grader's response seemed to indicate a good knowledge of museums and historic sites: "Books, maybe experiences, and perhaps some food and artifacts, displays, markings, and environments, statues, surroundings." Some students mentioned things that were conceptual, such as dates, location, art, history, and research. Others discussed people as sources, describing "other tourists," "story tellers," and notably, "historic people." Of particular interest is the students' mention of historic narratives as sources, such as general "stories" and the specific example "who died at this house." These often detailed and descriptive responses showed that most of the suggestions were consistent with what are actually available as sources at historic sites. They also provide evidence of the breadth of the participants' expectations about the kinds of sources they believe will help them learn about history.

Primary and Secondary Sources

During the classroom sessions with the instruction group, students were introduced to the ideas that both primary and secondary sources exist and that they both have functions related to historical inquiry. Because all the participants would encounter both primary and secondary sources during the historic site visit, it was important to understand their concepts of these different source types. Furthermore, because the sessions with the instruction group revealed particular themes related to definitions of primary and secondary sources – *numeration* (ordinal relationship), *re-presentation* (copy of an original), *origin* (knowledge of origin/provenance of a source), and *authenticity* (realness) (see Chapter 4) – exploring the students' definitions served to

confirm the prevalence of these conceptual understandings among the students in the sample as a whole. Finally, the changes between the students' responses between the pre- and post-tests demonstrated what students believed at the beginning of the research study and what they believed at its conclusion.

Two open-ended items (Items 7 and 8) on the pre- and post-tests asked for the participants' definitions of primary and secondary sources. As during the instruction group's discussion, a variety of aspects surfaced within the participants' responses. Because of this variation, it was difficult to label their answers as either merely right or wrong. Instead, the participants' responses were coded according to the conceptual themes identified in the classroom discussions (numeration, re-presentation, origin, and authenticity) and an "other" category to allow for additional types of responses. Further, some students provided no response, which was useful in determining students' levels of uncertainty about the definitions.

Numerative responses. On the pre-test, numerative answers were given as a definition for primary source on the pre-test by 23.5% of all participants (Table 2), demonstrating that this was a common conception. Examples of numerative definitions included "the first source," "the first one," and "something original." When examined by study group, similar numbers of instruction students responded this way. Grade level comparison, however, showed a large difference in the number of fifth graders (over half) responded numeratively. Although these numbers fell on the post-test, about 15% of students continued to provide a numerative definition for primary source. None of these differences was statistically significant. Students also provided numerative definitions for secondary source, but the percentage of those who did so were much lower than for primary source (about 10% on the pre-test and 6% on the post-test) (Table 3). Neither study group nor grade level made a difference in the way the participants

defined secondary source on the pre- and post tests.

Response Theme	All	Non-instr.	Instruction	Grade 4	Grade 5
Numerative, pre	23.5	27.5	19.1	1.8	52.4
Numerative, post	15.3	19.6	10.6	10.7	21.4
Origin, pre	10.2	2.0	19.1	3.6	19.0
Origin, post	24.5	9.8	40.4	23.2	26.2
Authenticity, pre	9.2	7.8	10.6	3.6	16.7
Authenticity, post	14.3	5.9	23.4	14.3	14.3
Re-presentation, pre	3.1	5.9	0.0	1.8	4.8
Re-presentation, post	0.0	0.0	0.0	0.0	0.0
Other, pre	2.0	3.9	0.0	0.0	4.8
Other, post	12.2	7.8	17.0	7.1	19.0
No answer, pre	52.0	52.9	51.1	89.3	2.4
No answer, post	33.7	56.9	8.5	44.6	19.0

Table 2. Percentage of Participants Who Defined "Primary Source" in Terms of ParticularConceptual Themes on the Pre- and Post-Tests

Note. n = 95.

Table 3. Percentage of Participants Who Defined "Secondary Source" in Terms of ParticularConceptual Themes on the Pre- and Post-Tests

Response Theme	All	Non-instr.	Instruction	Grade 4	Grade 5
Numerative, pre	10.2	15.7	4.3	0.0	23.8
Numerative, post	6.1	7.8	4.3	8.9	2.4
Origin, pre	4.1	2.0	6.4	1.8	7.1
Origin, post	9.2	5.9	12.8	8.9	9.5
Authenticity, pre	1.0	2.0	0.0	0.0	2.4
Authenticity, post	1.0	0.0	2.1	0.0	2.4
Re-presentation, pre	19.4	19.6	19.1	3.6	40.5
Re-presentation, post	16.3	13.7	19.1	12.5	21.4
Other, pre	13.3	9.8	17.0	5.4	23.8
Other, post	36.7	19.6	55.3	26.8	50.0
No answer, pre	52.0	51.0	53.2	89.3	2.4
No answer, post	30.6	52.9	6.4	42.9	14.3

Note. n = 95.

Origin responses. Whether framed as spatial or temporal, origin-related definitions of primary source and secondary source were observed, especially on the post-test (24.5% of participants overall). Some participants' examples highlighted origins in time ("a place, thing, or a human that lived a long time ago"), space ("an object or building from the past"), or combined both time and space ("a[n] item from the past or from a historic site"). The unifying feature of origin-related definitions was that participants focused on knowledge of the genesis or provenance of sources.

The pre-test results revealed that few non-instruction group students gave an originrelated definition for primary source (2.0%) but that nearly 20% of instruction students did. On the post-test, the percentage of non-instruction students increased only slightly, but the percentage of instruction students responding this way more than doubled to 40.4%, a significant difference, χ^2 (1, 95) = .36, *p* < .000. When examined by grade level, significantly more fifth graders than fourth graders gave origin-related definitions on the pre-test, but this gap closed between the grades on the post-test.

Overall, fewer students gave an origin response for the definition of secondary source. On the pre-test, low numbers of non-instruction and instruction group students defined secondary source this way. The post-test results showed the percentages doubling for both groups, but the numbers of students remained low. When examined by grade level, more fifth graders than fourth graders provided an origin-related definition on the pre-test, but again, these numbers were low. Similar low numbers of students at each grade defined this way on the post-test. No statistically significant differences were seen in the participants by study group or grade level.

Authenticity/realness responses. The concept of authenticity or "realness" was defined in Chapter 4 as the identity of sources as authentically historic or "true" artifacts. Although few

students overall provided definitions of primary and secondary sources based on authenticity, this was still a concept that surfaced among the participants' definitions. Authenticity was more often the basis for definitions of primary source than for secondary source.

On the pre-test, 9.2% of all participants gave an authenticity-related definition for primary source, with few students in either the non-instruction or instruction groups doing so. The post-test results showed the percentages of non-instruction students' responses falling to 5.9% and instruction students' responses increasing 23.4%, with instruction students more likely to give an authenticity-based definition on the post-test, χ^2 (1, 95) = .25, *p* = .013. Interestingly, although fifth-grade students started out more likely to provide an authenticity-based definition for primary source on the pre-test, on the post-test both grades were equally likely to define primary source this way. Very few students defined secondary source in authenticity-based terms on either test.

Re-presentation responses. Although some students defined primary source using representation-based definitions, this conceptual theme appeared most often in definitions of secondary source. In the re-presentation-based definitions, the secondary source was viewed as a removal from something else (i.e., from an unnamed "original" or primary source). Examples included "a secondary source is a copy of a source" and "a secondary source is something made of its original like a song." When discussing secondary sources in this way, the secondary source was defined as a copy, not a commentary on a primary source, the actual definition. This conceptualization was evident on both the pre- and post-tests.

On the pre-test, 19.4% of all participants defined "secondary source" as a re-presentation. Similar numbers of non-instruction and instruction group students answered this way. When examined by grade level, very few fourth graders (3.6%) gave a re-presentation answer, but

many fifth graders did (40.5%), a statistically significant difference. Post-test responses indicated a slight drop in the number of non-instruction students who defined "secondary source" as a re-presentation (to 16.3%), but the number of instruction students responding this way stayed the same. More interesting were the changes by grade level on the post-test. Fourth graders who gave this type of definition increased to 12.5%, while the number of fifth graders declined sharply from 40.5% to 21.4%, although these changes by grade level were not statistically significant. These data showed that re-presentation definitions were the most common conceptual theme for secondary source definitions.

Other definitions. Many students provided definitions for primary source (2% on the pre-test and 12.2% on the post-test) and secondary source (13.3%, pre-test and 36.7%, post-test) that did not fit the conceptual themes. One of the most common types of "other" definition was defining by example. For instance, students wrote that a primary source was "like a book written about the past" or "The Declaration of Independence." Many more students defined secondary source by example, especially on the post-test. Some examples included, "a social studies book" and "an iPod Touch" (definitions were coded as examples, even if they were not correct). Additional types of "other" responses included giving definitions, such as a secondary source being a commentary on a primary source (given by six students, all in the instruction group). For secondary source definitions on the post-test, instruction group students were more likely to give "other" definition than non-instruction group students, $\chi^2(1, 95) = .37$, p < .000, as were Grade 5 students, $\chi^2(1, 95) = .24$, p = .018.

No response. As described above, it was important for this study to note when the participants seemed to be unable to answer or exhibited conceptual understandings inconsistent with the concepts of experts. When asked to define primary source and secondary source on the

questionnaires, many students did not provide any response. On the pre-test 52% of participants did not give a definition of primary source. Non-instruction and instruction group students failed to answer at a similar rate. When considered by grade level, a high percentage of fourth graders did not provide a response (89.3%), χ^2 (1, 95) = .86, p < .000, but few fifth graders failed to respond (2.4%). On the post-test, the number of students overall who did not give a definition for "primary source" dropped to 33.7%. The percentage of non-instruction students who did not answer remained similar to the pre-test rate, but the number of instruction students who did not answer fell, revealing a significant difference between the groups, χ^2 (1, 95) = .51, p < .000. When examined by grade, the number of fourth graders not able to provide a response on the post-test was reduced by more than half, but a significant difference between the grades still existed, χ^2 (1, 95) = .27, p = .008, even with the number of fifth graders who did not provide an answer increasing (inexplicably) almost eight-fold on the post-test.

Some students also failed to provide a definition for secondary source (52% on the pretest and 30.6% on the post-test). Non-instruction group students omitted responses more often than their instruction group peers, $\chi^2(1, 95) = .51$, p < 000. Fourth graders were more likely than fifth graders to omit a definition on both the pre-test, $\chi^2(1, 95) = .86$, p < .000, and the post-test, $\chi^2(1, 95) = .3$, p = .018.

Learning from Historic Site Texts

Different types of texts within historic sites may be explored in multiple ways to learn information about history. The participants' responses to Item 10 showed what they believed about the ways people might learn from each of eight sources types: objects, buildings, outdoor spaces, tour guide's words, written documents, photos, signs, videos. The choices included *ask someone who knows about history, use the senses, carefully study the source,* and *compare the* *source to other sources*. Participants were permitted to select more than one option for each source. In most cases, study group and grade level made no difference in the likelihood of participants selecting the particular methods through which they believed people might learn from different types of sources at historic sites. The data for the participants as a whole, therefore, are considered below.

On the pre-test, *study* was selected as a learning method most often, followed by *ask someone, use senses*, and *compare* (Table 4). For objects, most participants (74.7%) selected studying the source. When asked how someone might learn from buildings, the majority of students thought it was a good idea to study the object (56.8%) or to ask someone (52.6%). The senses were considered a good method for learning about outdoor spaces (58.9%). To learn from tour guide's words, asking someone who knows about history was the most often selected (62.1%). When considering how one might learn from written documents and photographs, similar percentages of students suggested studying the sources (61.1% and 62.1%, respectively). Many of the participants asserted that using the senses was a way to learn from videos (54.7%). The participants most often suggested studying as a method to learn from signs (46.3%).

On the post-test, participants again chose *study* the most, but *use senses* came next, followed by *ask someone*, with *compare* remaining the least often selected method. Again, the most often selected method for learning from objects was studying (76.6%). For buildings, studying the source (73.4%) continued to be the most suggested method and by a higher percentage of students. Using senses remained the most often selected method for outdoor spaces (64.9%). For tour guide's words, using senses (67%) became the most often chosen method. For documents (77.7%), signs (70.2%), and videos (68.1%), studying the source was selected most often. Many participants also selected studying the source for photos (78.7%).

Source type	<u>%</u>	<u>% Ask</u>		senses	<u>%</u> S	tud <u>y</u>	% Compare	
Source type	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Objects	57.4	64.9	45.3	66.0	74.7	76.6	53.7	69.1
Buildings	52.6	70.2	34.7	60.6	56.8	73.4	27.4	53.2
Outdoor spaces	36.8	48.9	58.9	64.9	32.6	53.2	32.6	38.3
Tour guide's words	62.1	59.6	38.9	67.0	23.2	33.0	26.3	44.7
Documents	46.3	56.4	32.6	46.8	61.1	77.7	40.0	51.1
Photos	49.5	64.9	38.9	56.4	62.1	78.7	49.5	59.6
Signs	40.0	45.7	35.8	45.7	46.3	70.2	40.0	56.4
Videos	35.8	54.3	54.7	59.6	46.3	68.1	35.8	44.7
Mean %	47.6	58.1	42.5	58.4	50.4	66.4	38.2	52.1

Table 4. Percentage of Students Suggesting Learning Methods from Sources on the Pre- andPost-Tests

Note. n = 95.

Differences between the pre- and post-tests for Item 10 indicated that the percentages of participants who selected particular methods for learning from the eight historic site texts increased for all four method categories except for tour guide's words, *ask*. Five source methods had increases of at least 20% to 24%, including objects, *use senses*; buildings, *use senses*; outdoor spaces, *study*; signs, *study*; and videos, *study*. Two source methods had increases of 25% but less than 29%: tour guide's words, *ask* and buildings, *use senses*.

Reliability of Sources

In Item 12, participants described how much they trusted each type of source to provide "the best information about history." They rated the same sources as in the "Learning Methods" section above. A reliability value was chosen for each source, based on circling one to four stars. One star meant *you don't trust the source at all*, two stars meant *you trust the source a little*, three stars meant *you trust the source a medium amount*, and four stars meant *you trust the*

source a lot. For the sample as a whole, the lowest mean rating was 2.12, and the highest was 3.23 (Figure 7). (See Appendix M for complete table of data.)

When the participants' pre-test responses were examined by study group, the noninstruction group students' ratings of reliability ranged from 2.07 to 3.23. Non-instruction group students believed documents, objects, photos, and tour guide's words to be the most reliable sources. Outdoor spaces and signs were deemed the least reliable. Instruction group students' ratings ranged from 2.02 to 3.06. These students had similar ratings as the non-instruction group in some cases, but they gave a high rating of trustworthiness only for documents. Like the noninstruction group, instruction students rated signs and outdoor spaces the lowest. According to the means, no sources were thought to be completely unreliable by either study group.

On the post-test, non-instruction students rated six out of nine sources as highly trustworthy: objects, photos, documents, buildings, tour guide's words, and videos. Outdoor spaces continued to be rated the lowest, and asking family/friends decreased from 2.67 to 2.3. Only signs were in the mid range. On the post-test, instruction group students' ratings ranged from 1.96 to 3.19. Document remained highly trusted, and objects and buildings moved from a mid to a high level of trust. Ratings for photos, tour guide's words, and videos remained similar on the pre- and post-tests. Outdoor spaces were rated at the lowest level of trustworthiness again, and ratings for ask family/friends decreased sharply by .78. Signs rose from a very low rating to 2.56 (+.54).

Paired *t*-tests were conducted, to determine if differences existed in the participants' reliability ratings on the pre- and post-tests for each kind of source by study group membership. The only statistically significant change for the non-instruction group was their level of trust in buildings, t(41) = 2.54, p = .015. For the instruction group, three significant changes in



Figure 7. Means of participants' source reliability ratings.

the students' levels of trust were observed: objects, t(48) = 3.37, p = .001; buildings, t(47) = 2.82, p = .007; and signs, t(46) = 3.13, p = .003, all of which figured largely in the instructional sessions for their group.

The participants' reliability ratings also were examined by grade level. On the pre-test, Grade 4 students' ratings ranged from 2.16 to 3.12. These students believed documents, tour guide's words, and asking family member or friend to be the most reliable, and signs and outdoor spaces to be the least reliable. Grade 5 students' ratings spanned from 2.08 to 3.18. Fifth graders similarly assessed documents to be the most reliable, but unlike the fourth graders, they listed objects and photos in this category. Like the fourth graders, fifth graders also considered signs and outdoor spaces to be the least reliable, but they added asking family/friend as a least reliable source. No students in either grade assessed any source completely unreliable on the pre-test.

On the post-test, the fourth graders' reliability ratings ranged from 2.16 to 3.23. Grade 4 students gave buildings, objects, documents, and photos among highest ratings, and outdoor spaces and ask family/friend among the lowest ratings. Fifth-grade students also gave buildings, objects, documents, and photos among the highest ratings, adding tour guide's words to the sources with the highest ratings. Like the fourth-grade students, outdoor spaces and ask family/friend were given the lowest reliability ratings. No students in either grade believed any source to be completely unreliable on the post-test.

The post-test revealed changes in the range of the participants' reliability ratings, when examined by grade level. The fourth graders' rating ranges (2.16 to 3.12 on the pre-test and 2.16 to 3.23 on the post-test) stayed about the same, but the post-test range was slightly larger (+ .11). Similarly, the fifth graders' range changed from 2.08 to 3.18 on the pre-test to a broader range of 2.08 to 3.35 on the post-test, showing an increase in the range by .17. It is interesting that the

lowest end of the ranges remained the same for both grades on the pre- and post-tests, although the fourth-grade students' starting mean was slightly higher in both cases.

Paired *t*-tests demonstrated that differences existed in the participants' reliability ratings on the pre- and post-tests for each kind of source by grade level. Fourth graders' ratings of the reliability of buildings, t(47) = 3.94, p < .000, and objects, t(51) = 2.11, p = .039, rose significantly. Conversely, their rating of the reliability of asking a family member or friend dropped from high reliability to low, t(49) = 2.541, p < .000. No other significant differences were observed at this grade level. For the fifth-grade students, changes in their ratings of objects, t(39) = 2.06, p = .046, and tour guide's words, t(39) = 2.19, p = .035 increased significantly, while their ratings of asking family/friend, t(38) = 2.06, p = .046 decreased.

Intertextuality of Sources

On questionnaire Items 13 and 14, the participants were asked to consider the nature of sources as intertextual. Item 13 presented a scenario to the students, in which a girl "wants to use two sources of information together (an old photo and an old document) to answer one question about history." The students selected from responses that indicated whether they believed additional or different knowledge or understanding might be gained from comparing sources, whether having too much information might cause confusion, if the two sources were too different to compare, and whether disagreement should be a concern. When responses on the pre-test were compared by study group, around three quarters of instruction and non-instruction students believed that more information may be gained from looking at two sources than one (Table 5). Likewise, similar percentages of students in both groups thought that different types of information could be gained from each source type. Responses to the question about whether the girl might use information from one source to help her understand the other source better

were more dissimilar. In the instruction group, only about 47% of students chose this answer, while about 60% of non-instruction students selected the same answer. Few students agreed that a photo and a document are too different to compare, indicating that most students conceptualized diverse source types as able to be compared. Regarding the potential for confusion caused by too much information, instruction and non-instruction students' beliefs were alike, with slightly less than half of the participants from either group agreeing. Finally, about 70% of instruction students but only about 53% of non-instruction students acknowledged that the two sources might disagree and that this was a reason why they should not be compared. No correlations by study group with the students' responses about these intertextual concepts were observed on the pre-test.

Beliefs about intertextual	Non-instr.		Instruction		Grade 4		Grade 5	
use of sources	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Can get more information from sources	72.3	82.6	76.6	78.7	79.2	83.0	68.3	77.5
Can get different information from sources	76.6	71.7	74.5	85.1	81.1	88.7	68.3	65.0
Can use information sources to understand each other	59.6	60.9	46.8	72.3	56.6	75.5	48.8	55.0
Sources may be too different to compare	14.9	34.8	14.9	19.1	9.4	26.4	22.0	27.5
Confusion may be caused by too much information	46.8	37.0	42.6	27.7	49.1	34.0	39.0	30.0
Sources might disagree and should not be compared	53.2	56.5	70.2	80.9	66.0	73.6	56.1	62.5

Table 5. Percentage of Participants Indicating Particular Beliefs about Intertextual Use of Sources

Note. n = 95.

On the post-test, some changes in the participants' responses occurred. Slight increases and decreases occurred in the percentages of both instruction and non-instruction students who

agreed that more information may be gained from looking at two sources than just one, but still over three quarters of students in both groups believed this statement to be true. When asked whether they believed different information might be obtained from each source type on the post-test, the number of non-instruction students who agreed decreased (but remained just over 70%), and the number of instruction students who shared this view increased to about 80%. No differences existed between the study groups in their likelihood to assert that a person might use information from one source to help her understand the other source better. On the item that asked whether a photo and a document are too different to compare, the percentage of instruction students who agreed remained the same (19.1%), but the non-instruction students who agreed rose to 34.8%. Further, the percentages of students whose beliefs about potential confusion caused by too much information decreased for both groups. Finally, the number of students in both groups who acknowledged that the two sources might disagree and that this was a reason why they should not be compared rose, significantly for the instruction group, $\chi^2(1, 93) = .26$, p = .011. No other significant differences were observed between the study groups on the other variables in this category.

When the pre-test results were compared by grade level, some differences between fourth- and fifth-grade students responses were observed. About 80% of fourth graders and near 70% of fifth graders stated that more information may be gained from looking at two sources than one. A larger percentage of fourth-grade students (81.1%) than fifth-grade students (68.3%) believed that different types of information could be gained from each source type. When asked whether using an additional source might help someone to understand a source better, more fourth graders (56.6%) agreed than fifth graders (48.8%). Differences of about 10% existed between the fourth- and fifth-grade students who thought that the two sources may be too

different to compare (9.4% versus 22%, respectively), that confusion may be caused by too much information (49.1% and 39%), and that sources might disagree and therefore should not be compared (66% and 56.1%).

When the post-test responses were compared by grade, Grade 4 students were more likely than their Grade 5 counterparts to believe that different information could be gained from each source and therefore should be compared, $\chi^2(1, 93) = .29$, p = .006, and that using more than one source can help someone understand both sources better, $\chi^2(1, 93) = .22$, p = .038. Grade 5 students were more apt to believe that the source may disagree and should not be compared, $\chi^2(1, 93) = .26$, p = .013. No other significant grade level differences appeared on the post-test.

Item 14 addressed students' beliefs about the nature and function of disagreement. Given a scenario that the girl in Item 13 has two sources that disagree, the students were asked to choose appropriate responses to this challenge, including ignoring the disagreement, understanding the disagreement, finding new sources that don't disagree (avoidance of disagreement), and realizing that no source can give more correct information than another. The participants were permitted to select more than one answer. As on Item 13, the students' responses first were compared by study group and grade level, and then paired *t*-tests were conducted to examine potential changes between their answers on the pre- and post-tests.

The pre-test showed that very few students in either group believed disagreement that arises from intertextual comparison should be ignored (Table 6). These numbers rose slightly on the post-test, but not significantly. On the pre-test, the majority of students in both groups agreed that intertextual comparison was something that should be done to help understand disagreement, and these numbers increased slightly for the non-instruction group. Conversely, the percentage of instruction students who thought comparison would help someone understand

Pagnongag to Digagrapment	Non-instr.		Instruction		Grade 4		Grade 5	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Ignore the disagreement	10.6	10.9	2.1	6.4	5.7	11.5	4.8	4.8
Try to understand the disagreement	59.6	65.2	80.9	72.3	71.7	63.5	71.4	76.2
Realize no source's info is more correct than another's	34.0	37.0	27.7	27.7	34.0	25.0	28.6	38.1
Find new sources that do not disagree	34.0	21.7	68.1	53.2	41.5	40.4	61.9	31.0

 Table 6. Percentage of Participants Indicating Particular Beliefs about Responding to

 Disagreements among Sources

Note. n = 95.

disagreement decreased to 72.3%. Although this decline was not statistically significant, it indicates that some instruction students' understandings of this aspect of intertextuality were changed. The concept that no source can give more correct information than another was shared by 34% of non-instruction students and about 28% of instruction students on the pre-test, and these percentages remained similar on the post-test. The suggestion that a solution to source conflicts is to "find new sources that don't disagree" was met with less agreement by non-instruction group students on the post-test than on the pre-test, but the number of instruction students who agreed rose significantly, χ^2 (1, 93) = .36, p = .002.

When the participants' pre-test responses to Item 14 were examined by grade level, few students in either grade believed that ignoring disagreement is an acceptable action. About 71% of students in both grades suggested trying to understand the disagreement. A much lower number, about one third or fewer, agreed that no source's information is more correct than another's. Finally, when asked if it might be better to find new sources that do not disagree, rather than compare two sources with an apparent disagreement, about 40% of fourth graders and

about 60% of fifth graders thought this was a good idea.

On the post-test, again, very few students in either grade chose the option to ignore the disagreement. The majority in both grades suggested that trying to understand disagreement was a good idea, but while the percentage of fifth graders supporting this idea rose slightly, the percentage of fourth graders declined. The same type of changes occurred when the students were asked if they should try to realize no source's information is more correct than another's, but the percentages of students agreeing was much lower in both grades (25% in Grade 4 and 38.1% in Grade 5). One of the biggest changes happened in students' responses to the suggesting that they find new sources that do not disagree: The percentage of fourth-grade students who agreed remained about the same, but the percentage of fifth-graders decreased by 61.9% to 31%.

Source Use Knowledge Category Results

The Source Use Knowledge category tested the students' knowledge of how sources may be used for historical inquiry. This category contained six items (Items 15, 16, 17, 18, 19, and 22) from the pre- and post-tests. Students were asked to state their level of agreement with these statements:

- Item 15: Historical sources give correct information about what happened in the past since they were made in the past.
- Item 16: No one today can know about the past since they were not there.
- Item 17: Some historical sources provide better information about the past than other sources.
- Item 18: All historical sources give correct information.
- Item 19: Historians can examine sources to see if they provide information about history.

• Item 22: I think examining historical sources is a good way to learn about the past.

Each question was scored as either correct or incorrect. (On Items 15, 16, and 18 *disagree* and *strongly disagree* were considered correct responses. On Items 17, 19, and 22 *strongly agree* and *agree* were correct.) Since the percentages of correct responses by study group and grade level were nearly the same, and no statistical difference were found between the participants' responses by grade level, only the data for the study groups is presented below (Figure 8). (For complete data for all participants, see Appendix N).

Participants appeared to have the most difficulty responding correctly to Item 15. On the pre-test, few students answered this question correctly on the pre-test, and 35.5% left this question blank or selected *not sure*. On the post-test, fewer students overall did not give a definite answer, but only 14.9% of instruction students and 8.7% of non-instruction students answered correctly on the post-test. This item had the lowest number of correct responses for all the items in this category.

On Item 16, the number of students overall answering correctly was higher, but the percentage of non-instruction students answering correctly decreased to 67.4%. Instruction students answering correctly rose to 93.6% on the post-test, an increase of about 30%, a significant difference from the non-instruction group, $\chi^2(1, 95) = .33$, p = .001.

Similar high numbers of students (over 75%) answered Item 17 correctly, with increases over their pre-test percentages. A comparable pattern occurred on Item 18, but the overall percentage of correct answers was lower on the post-test (52.2% for the non-instruction group and 74.5% for the instruction group). This difference in the groups was significant for Item 18, χ^2 (1, 95) = .23, *p* = .026. Responses on Items 19 and 22 remained high (about 85%) and about the same for the non-instruction group on both the pre- and post-tests. Conversely, instruction





group students' percentages of correct responses rose to over 90% on the post-test for these items, but the differences with the non-instruction group were not significant.

As stated earlier, the participants' levels of uncertainty in answering the questions on the pre-and post-tests was of interest, because they give some indication of the degree to which the content matter was unfamiliar to participants. Changes in levels of uncertainty between the tests, even for students who provided an incorrect answer, showed how many participants' chose to answer *strongly agree*, *agree*, *disagree*, or *strongly disagree* on the post-test, instead of *not sure* or leaving the question blank, as they did on the pre-test. In some cases, membership in the instruction or non-instruction groups and student grade was correlated with decreased uncertainty. On three of the six test items in this category, paired *t*-tests indicated that the number of students who moved from uncertain to providing certain, though not necessarily correct, responses were more likely to be in the instruction group: Item 15 ("Historical sources give correct information about what happened in the past since they were made in the past"), *t*(94) = 3.09, *p* = .003; Item 18 ("All historical sources give correct information"), *t*(94) = 2.25, *p* = .027; and Item 19 ("Historians can examine sources to see if they provide information about history"), *t*(94) = 2.68, *p* = .009.

Motivation Category Results

To reflect the definition of effort motivation as reflected in the Expectancy x Value theory, the participants' expectancy and value levels were examined. To assess their expectancy levels, Items 20, 21, and subquestion 23B were each valued at three points, for a total of 9 points (Appendix O). The total of points for each participant's responses on these items comprised the expectancy score. To assess the value levels, three subquestions from Item 23 (A, C, and D) asked about the students' reactions to consider this scenario: "Pretend your teacher asks you to examine sources...to learn about history." The items were each valued at three points, for a total of 9 points. The value score consisted of the total number of points for these items. Multiplying the expectancy and value scores produced the effort motivation score.

The participants' motivation scores on the pre-test ranged from 0 to 81 (individual expectancy and value scores ranged from 0 to 9). Overall, the mean on the pre-test was 29.16 and 32.19 on the post-test (Table 7). A repeated measures ANOVA showed a statistically significant difference between the pre- and post-test scores of the instruction group students F(1, 91) = 6.59, p = .012 (Figure 9). Additionally, motivation scores increased for students based on their grade level. Grade 4 students had greater increases in their scores than Grade 5 students, F(1, 91) = 6.46, p = .013 (Figure 10).

Table 7. Participants' Mean Motivation Scores

Test	All		Non-instr.		Instruction		Grade 4		Grade 5	
1650	М	SD	М	SD	М	SD	М	SD	М	SD
Pre-test	29.16	19.14	26.73	19.17	31.81	18.96	29.43	19.48	28.81	18.92
Post-test	32.19	22.15	25.33	18.79	39.64	23.28	36.41	23.57	26.57	18.94

Note. n = 95.

Because the motivation score was the result of multiplying the expectancy score and the value score, it is important to note what these scores were on the pre-test and how they changed on the post-test. For students in both study groups and grade levels, their value scores were always higher than the expectancy scores (Table 8). In most cases, expectancy scores increased between pre- and post-test. One exception was for the Grade 5 students; their expectancy scores fell slightly on the post-test. Value scores increased for all students, except for the fifth graders, whose mean scores decreased by 0.57.



Figure 9. Differences in the instruction and non-instruction groups' mean motivation scores on the pre- and post-tests.



Figure 10. Differences in Grade 4 and Grade 5 students' mean motivation scores on the pre- and post-tests.

	Ī	Expectan	cy Score		Value Score				
Participants	Pre-	Pre-test		Post-test		test	Post-test		
	M	SD	M	SD	M	SD	M	SD	
Non-instruction	4.49	2.21	4.55	2.35	5.14	2.73	4.82	2.58	
Instruction	4.7	2.25	5.51	2.25	6.38	2.26	6.55	2.69	
Grade 4	4.43	2.05	5.2	2.14	5.95	2.65	6.23	2.92	
Grade 5	4.81	2.43	4.76	2.6	5.45	2.49	4.88	2.33	

Table 8. Mean Expectancy and Value Scores on the Pre- and Post-Tests by Study Group andGrade Level

Note. Expectancy and value scores ranged from 0 to 9.

Discussion

The results above revealed the participants' definitions and identifications of multiple sources and their skills and challenges in using sources, including assessing reliability, areas which reflect the focus of the research questions guiding this study. Further, some correlations with participation in the instruction group instructional program and grade level were shown to be present. Below, the findings from the main categories from the participant questionnaire (Source Concepts, Source Use Knowledge, and Motivation) are discussed.

Source Concepts Category

The participants selected various types of sources they believed were available at historic sites for learning history, provided definitions for *primary source* and *secondary source*, made suggestions about how people might learn form historic sites, and answered questions about source reliability and intertextuality. Their initial choices on the pre-test and later choices on the post-test provide information about the ways students conceptualized these sources. What is most interesting is how these concepts changed for the students on the post-test.

In their selection of the types of texts available at historic sites, at the outset, nearly threequarters of the participants chose objects and photos and nearly three-fifths selected documents. For the majority of students, these sources were considered available at historic sites for learning history. All the other sources were chosen by less than half of the students. This may mean that students were not as sure about these sources or perhaps students did not know if they would be found at historic sites.

The number of students who selected each source increased on the post-test, except for the "other" category. Students' certainty about objects and photos as sources increased, and buildings, tour guide's words, signs, and documents all rose to levels over 75%. In some cases, the increases were quite large, such as with tour guide's words and buildings, indicating a major shift in students' thinking about these sources. Only three sources – outdoor spaces, videos, and hands-on activities – remained around 50% or lower. The post-test choices were consistent with what is available at historic sites, and these changes showed that students gained in ways that are valid in terms of learning at historic sites. The sources that were selected most often (objects, buildings, and tour guide's words) are those that are the most salient when visiting a historic site, students did not consider these as important for learning history as other sources. Furthermore, participants may have had difficultly conceptualizing something non-concrete like an activity as a source.

No study group differences were observed except in one category (instruction group students were more likely to choose objects as a source). Thus, the instructional sessions for the instruction group did not seem to be associated with selecting particular source types. Instead, all of these increases, especially those for signs, tour guide's words, and buildings, do appear to reflect all students' awareness of the types of sources experienced at the historic site and the influence of the site experience. Additionally, grade level made no difference in the participants'

beliefs about sources types at historic sites. From this information, it may be concluded that fourth- and fifth grade students have similar beliefs about what sources they might find at historic sites.

Although almost all the responses in the "other" category were given on the pre-test and response numbers did not increase on the post-test, this category interesting because it supplies insight into students' beliefs about what sources they expect to encounter at historic sites and what sources they consider to be useful for learning about history. Objects related to history were mentioned, such as bones, log cabins, and old tools. Because it is consistent with what may be found at historic sites, this information probably reflects information learned during students' previous visits to sites or museums. Emphasis on the history and the historical method, evidenced by their use of words like "artifact," "research," and "dates" also may reflect previous museum visiting experiences or social studies instruction. Students' discussion of narratives ("stories" and "story tellers") indicates knowledge and value of transmission of historical narratives, particularly in oral form.

Some of the participants' concepts of historic sites were reflected in their definitions of primary and secondary sources. Their definitions aligned with the numerative, re-presentation, origin, and authenticity/realness conceptual themes raised in the students' discussion during the instructional sessions. The appearance of these themes in the students' responses on the questionnaire reinforces the presence of these beliefs in the participants.

The students' definitions of primary source included the four aforementioned themes. On the pre-test, study group did not make a difference in the likelihood of providing answers with the themes, except that instruction students gave origin-related answers more often. Instruction students also were more likely to define by example. On the post-test, instruction students were
more likely define with origin- and authority-related responses, but no other study group-related differences occurred. A grade level difference, however, did exist with the fifth graders. Fourth graders failed to give a response on the pre-test more often than fifth graders. The number of fourth-grade student who did not provide a response (pre- or post-test) for primary source, coupled with the results from "no response" on the secondary source definition, suggested that Grade 4 students started out behind and remained behind their Grade 5 counterpoints in their ability to respond to the request for an open-ended definitions of primary source more often than did their study group counterparts. These results indicate that the instructional sessions appear to have made a difference in the instruction group's abilities to give definitions (even if they were not correct) and to give definitions consistent with the origin and authenticity themes, which of the four themes, are most consistent with experts' thinking about primary sources.

Participants' definitions of secondary source included all four conceptual themes, except that authenticity seldom occurred. The re-presentation theme surfaced in the students' definitions of secondary sources more than in the primary source definitions, which was expected according to the instruction students' discourse in the classroom sessions. On the pre-test, both study group and grade level made a difference, with more non-instruction and fourth-grade students not providing an answer. On the post-test, instruction students and fifth graders gave "other" answers, including examples and correct definitions, more often. Again, non-instruction and fourth-grade students were more likely to not respond. No differences in the study group or grade levels occurred in the likelihood of four conceptual themes to be present in students' definitions of secondary source on the post-test. Although the percentages of responses including the themes were low, they do show the presence of the themes, as in the participants'

primary source definitions.

More students defined secondary source by example than by using any of the conceptual themes – almost one quarter of the participants. Although some of the students' examples were incorrect, it is interesting to note that many students attempted to answer using examples, rather than attempting a descriptive definition. (Very few students gave a correct descriptive definition of secondary source [i.e., a commentary on a primary source], and all six of these were in the instruction group, three in Grade 4 and three in Grade 5). This may be because the students felt uncertain about a descriptive answer or because they believed they could define better by using an example, but the data do not make the reason clear.

In addition to identifying and defining sources, the participants' identified what they believed to be the best methods for learning from historic site texts, including *ask someone who knows about history, use senses, carefully study the source,* and *compare the source to other sources.* Students were permitted to pick multiple methods for each source type. The percentages of students choosing each method showed increases between 2% to 26%, except for learning from tour guide's words, which decreased slightly. This indicated more students selected more of the different method types on the post-test than on the pre-test; in fact, far fewer students left checkboxes blank on the post-test.

On the both the pre- and post-tests, *carefully study the source* was selected most often method for all source types, except outdoor spaces and tour guide's words. The majority of students recommended using the senses for learning from outdoor spaces and tour guide's words on the post-test. On the pre-test, *ask someone* was suggested most for learning from tour guide's words, but this shifted to *use senses* on the post-test. Interestingly, on the pre-test participants advised using the senses to learn from videos but changed to *carefully study the source* on the

post-test. It is clear from these results that the majority of participants believed studying sources and using the senses to be the best methods for learning from these sources. *Compare the source to other sources* was the least selected method by all students on both the pre-test (35.8%) and post-test (52.1%). Furthermore, the data also indicated no differences between participants in the particular study groups or grades.

It is especially telling that *compare source* was the least selected method overall (based on the mean of the percentages, even by instruction group students. This suggests that fewer students were confident about selecting comparison as an effective means for learning about sources. Students' apparent lack of familiarity with intertextual comparison of sources is consistent with other data discussed above. Of course, because instruction students received instruction about intertextual comparison, it is surprising that significant differences were not seen for the instruction group, but this reality points to the need for additional instruction. These findings also revealed that fourth- and fifth-grade students have similar conceptions of methods of learning from sources.

The participants' concepts of the reliability or trustworthiness of the historic site texts they deemed useful for learning about history changed from pre- to post-test. Participants' ratings of source trustworthiness on the pre- and post-test showed similar changes for both study groups. At the outset, instruction and non-instruction students viewed documents as highly trustworthy, and these ratings were consistent with the prior high regard for documents as sources. The non-instruction group rated photos highly as well. On the post-test levels of trust in general rose, but for the non-instruction group, only the change in buildings was significant. Instruction students' ratings of objects, buildings, and signs were significantly higher, again pointing to a connection with the instructional sessions, including the fact that the sessions did

not emphasize documents, videos, and hand-on activities as much as the other sources. Further, it should be noted that for both groups, the highest mean ratings of trust and related standard deviations were comparable, indicating that both groups were similarly judicious in their ratings. Because no variations were seen in students by grade level, it may be inferred that students' judgments of source trustworthiness are similar for both grades.

All sources listed on the questionnaire were trustworthy sources for learning history, and the fact that no sources were selected as *should not use* reflects this understanding. Variance in the participants' ratings of sources and shifts between the pre- and post-tests showed that they believed some sources were better for learning history than others. The classroom sessions for the instruction group focused largely on the role of buildings, objects, signs, and tour guide's words as good sources for learning about history, and thus appears to have been a factor in the ratings changes by these students. The non-instruction group's high rating of buildings on the post-test is most likely related to the students' experiences at the historic site. Likewise, the tour guide's words remained a trustworthy source. These results reflect the power of the historic site experience to change students' concepts about the types sources that not only were available able historic sites for learning history but also were deemed by the students to be trustworthy.

No matter what sources are evaluated, they must be examined and understood in the context of other sources (Wineburg, 1991), in other words, intertextually. In some ways, the participants' seemed to have a fairly good understanding of some aspects of intertextuality. Even on the pre-test close to three-quarters of all students indicated that using more than one source provides additional and different kinds of information, and these numbers remained similar on the post-test. This indicates that students know the value of using more than one source in learning history, which may have been learned in a variety of ways and learning contexts. On

the pre-test, most believed that different kinds of sources, like an object and a photo, can be compared. On the post-test, however, this belief changed significantly for non-instruction group students, with one third of students asserting that comparison should not be attempted. The number of instruction students with similar beliefs remained the same (18.4%). This change for the non-instruction group is puzzling, because the reason for this change is not apparent. It may be that students, faced with being asked to compare sources at the historic site during the on-site activity, were confused about this process, given that they had not received the instructional sessions about comparing sources. Alternately, they may have believed that just these two types of sources – photo and object – were too difficult to compare. Why the number instruction students, who received the instruction, did not change their thinking is worth questioning as well. Only three instruction students maintained their belief that the source should not be compared on the post-test. The remainder included different students who changed their answers on the post-test. Again, perhaps the instructional sessions encouraged these students to be more thoughtful about whether a photo and object, specifically, might be compared.

At the outset, students seemed to question whether information from one source might be used to understand another source better, that is, intertextual comparison. More instruction group than non-instruction students believed this was possible, but numbers for neither group exceeded about 61%. On the post-test, this number rose significantly for the instruction group, pointing to a relationship with the instruction, since this was a key element in the sessions. Results for the related question about the potential for confusion caused by having too much information showed that fewer students in both groups believed this to be an issue on the posttest, but these changes were not significant. These data indicate that all students needed instruction in this aspect of intertextuality.

The number of students in both groups who believed that potential disagreement was enough to prevent comparison increased, although not significantly. Nearly 58% of noninstruction students (an increase of about 6%) and 80% of instruction students (an increase of about 13%) believed this was true, meaning the increase in the number of instruction students was more than double the number of non-instruction students. It is unclear whether students, especially those in the instruction group, answered this way because they misinterpreted the question to mean that checking this box meant that they were acknowledging that disagreement does often exist, a topic that was addressed repeatedly in the instructional sessions. This reason may account for the change.

Over 60% of students, on both the pre- and post-tests, believed that disagreement should not be ignored. The rate of non-instruction group students' affirmative responses increased slightly on the post-test (from 60.9 to 64.4%), but the instruction group students' affirmative responses decreased (from 81.6% to 73.5%). Although this change was not significant, it represents a small number of students who thought ignoring disagreement was an acceptable solution. These results indicate that misunderstanding about appropriate ways to address disagreement still existed for some students, even after the instructional sessions.

Also interesting was that on the post-test, 51% of instruction group students (as opposed to 20% of non-instruction students) asserted that if a person's sources disagree, she should find new, non-conflicting sources. These post-test percentages represent a 16.3% decrease for the instruction group and a 12.6% decrease for the non-instruction group. Initially, it was hypothesized that on the post-test, more instruction students should have disagreed with this statement and that the decrease should have been significant. Upon review of the results, it was acknowledged that this question may have been confusing for students and interpreted in

multiple ways (e.g., Does it mean to avoid conflict by getting new sources, or does it mean that non-conflicting sources must be used for corroboration?). Alternately, the results may reveal that one-half of the instruction students believe finding non-conflicting sources to be a good solution to the problem.

When the responses to questions about intertextuality were compared by grade, there were few differences, and none pointed to potential differences in instructional needs. The data suggested that fourth- and fifth-grade students have similar understandings of intertextuality, as reflected in these pre- and post-test items. Explorations of the data from the two source use activities (see Chapter 6) inform this conclusion.

Source Use Knowledge Category

The participants' responses in this category revealed their knowledge about using sources for learning history and answering historical questions. The subject matter of these questions appeared to be unfamiliar to many students. On three of the six items in this category, at least one third of students provided incorrect responses. On the remaining three items, the majority of students provided correct responses. These pre-test responses suggest that for many students the content being tested was novel enough to allow for learning and potential improvement on the post-test.

No significant grade-level differences were observed on the post-test, but instruction students were more likely to give correct responses on the post-test for the questions contemporary people's ability to know about history and the potential for historical sources to give correct information about the past. These results suggest a relationship with the material the instruction students learned in the instructional sessions.

Moreover, on three of the six items, instruction students' uncertainty levels in answering

these Source Use Knowledge questions appeared to be reduced in some cases, as evidenced by a significant increase in the students who at attempted a response on the post-test after answering *not sure* or leaving a question blank on the pre-test. Although this change in certainty on the post-test may be related to familiarity with the questions, a relationship to the instructional sessions cannot be ruled out. Further, on two of six items, students in the instruction group were more likely change from an incorrect to a correct response. (These questions were about historical sources giving correct information and historians examining sources, two topics covered extensively in the instructional sessions.) One of the primary objectives for this research project was to increase or enhance the participants' confidence in their abilities to discuss and work with historical sources, so reductions in levels of student uncertainty helped meet that goal.

Motivation Category

Motivation scores were the product of the participants' expectancy and value scores (Expectancy x Value = Effort motivation) (Brophy, 2004). They reflected the participants' confidence in their agency to examine sources for information about history, perceived ability, and activity value, including interest, learning potential, and enjoyment. Motivation scores increased significantly between the pre- and post-tests for the instruction group and Grade 4 students, meaning that these students' motivation for historical source use activities increased. This increase demonstrates that the classroom sessions for the instruction students were associated with this change for instruction students.

Examining the individual expectancy and value elements within the motivation category highlighted several noteworthy outcomes. First, although expectancy scores rose for most participants, the mean fell slightly on the post-test for the Grade 5 students. Despite this one difference, overall most students' belief in their agency and confidence in their ability to examine

historical sources to learn about history increased. The results indicated that fourth graders' expectancy scores were lower than fifth graders' at the outset, and their scores exceeded the fifth graders' on the post-test. This large change in the expectancy scores of instruction group students (+ 0.81) and fourth graders (+ 0.77) revealed a change in the way these students were thinking about their own abilities to work with sources. It also accounts for much of the change in the Grade 4 students' overall motivation scores. The ability to feel confident about one's ability to perform a task and probable success in doing is important for interest development and subject matter engagement (Brophy, 2004; Hidi & Renninger, 2006). These changes in the students' beliefs may help them to continue to develop their interest in using sources for historical inquiry and to foster continuing confidence in their own agency to use sources.

Value scores increased on the post-test for instruction group and Grade 4 students but decreased for non-instruction and Grade 5 students. The increase in value scores for these students shows that these students were interested in using historic site sources to learn about history, believed they might learn about history from sources, and thought they would enjoy the activity. Students' belief in the usefulness of historical sources for learning about history may prompt future interest and trust in this learning process. Additionally, a person interested in some content or activity may be motivated to continue participation based on the enjoyment she or he receives from participation (Brophy, 2004). The mean value scores showed that most of the students indicated their beliefs about enjoying using historical resources either stayed the same or decreased. These results indicate that all students may need more instruction to help them explore reasons why examining sources and visiting historic sites may be of value to them, including the values presented in the questionnaires, which were consistent with reasons scholars find value in these activities. The students' own personal values of using historic site sources for

historical inquiry were not assessed on the questionnaires, but this is something that would be useful to explore in a future study.

The participants' concepts, skills, and knowledge just discussed will be useful to guide interpretations of the results from the student source used activities presented next in Chapter 6. By exploring the participants' actual use of historic site sources, this chapter provides more information about the ways the participants think about sources, how they choose sources to use for historical inquiry, how they assess reliability, and their abilities to use sources intertextually. Chapter 6 is similar to Chapter 4, in that it includes the written words of students, thus allowing the reader to hear the authentic voices of children as they worked with historic site sources.

CHAPTER 6: SOURCE USE ACTIVITIES RESULTS

To assess the participants' source evaluation skills and their intertextual use of sources, the students took part in two source use activities. The "Evidence Report Activity" (ERA) (Appendix H) and "Source Based Question Activity" (SBQA) (Appendix I) allowed the students to use a variety of historic site texts for historical inquiry. Both activities addressed these research questions:

- Question 2.1: What are students' skills and challenges when using multiple texts within historic sites as sources for historical inquiry?
- Question 2.2: How do students make decisions about evidence and the use of evidence from historic site texts?
- Question 2.3: How might grade level be related to students' abilities to use historic sites texts as sources to support historical inquiry?
- Question 2.4: How do students describe their ability to reason about the reliability of historic site texts?
- Question 3.2: How does participating in focused instruction affect students' skills and challenges in using multiple texts within historic sites as sources for historical inquiry?
- Question 3.3: How does participating in focused instruction influence students' level of performance on two source use activities?

As described in Chapter 3, the ERA and SBQA differed by the approach the students were asked to take in evaluating sources. In both activities, students used historic site sources to address the historical question "What was life like for farm children in the 1850s-1890s?" One main difference between the activities was that on the ERA, the students were given four sources

to evaluate, and on the SBQA, students selected their own sources. Another difference, related to the level of scaffolding provided for the activity, was that on the ERA the students were supplied with instructions that asked them to use the Describe - Analyze - Compare & Contrast (D-A-C/C) method for source evaluation, and the SBQA did not include this scaffolding (see Chapter 3 for detailed explanation). The demand for the students to generate their own sources coupled with the lack of the D-A-C/C scaffolding made the SBQA a more complex and cognitively demanding task. As described in Vygotsky's work (1978), assessing what learners are capable of achieving with and without assistance from a more knowledgeable other illustrates the learner's zone of proximal development. Using scaffolding, in this case, supplying the D-A-C/C method information on the ERA, showed what the participants were capable of achieving with this assistance. The lack of scaffolding on the SBQA served to show first, what students might achieve without this scaffolding and second, whether the instruction group students would use the source evaluation skills they learned in the classroom sessions when not specifically prompted to do so. The results from both activities, therefore, illustrated what the students were capable of doing under these different conditions.

One of the primary methods for determining the participants' abilities to work with sources in both activities was evaluation of the participants' intertextual reading models, as described in Britt et al. (1999). Each of the four models the authors described highlights different relationships between individual texts and intertextuality. The models illustrate how readers understand and acknowledge individual text attributes (in the present study, as evidenced through use of the Describe and Analyze steps of the D-A-C/C method), how they make connections between individual texts (as shown in their used of the Compare/Contrast step of the D-A-C/C method, which is equivalent to fitting the intertextual documents' model), and how they

integrate this information into mental models of the texts.

It should be noted that the skills that exemplify each of these four intertextual models are learned skills. The models were developed through examination of students' intertextual reading of history texts. In the discipline of history (and other scholarly disciplines), the ability to read multiple texts and compare them is essential to building knowledge. As described above, evaluation of historical texts (sources) does not occur in a vacuum; the authority and reliability of texts is established through comparison and corroboration of multiple texts and judgment of new information against personal prior knowledge of the subject matter (expertise). For nonexpert students of history, as most elementary school students are, Britt et al.'s (1999) documents' model encapsulates the skills necessary to evaluate historical texts successfully: source identification, integration of prior knowledge, intertextual comparison of sources. These skills, however, do not come naturally to most readers and must be taught. For instance, although a reader may very well remember the textual source of some historical event, she may not acknowledge the source when discussing the text or believe it is important to do so. In the discipline of history, however, it is important to do so, and students of history are taught these skills as part of the discipline.

In the present study, the research questions focus on the participants' abilities in using multiple texts from historic sites as sources for historical inquiry. One evidence of successful intertextual use of sources is the reading of sources in a manner consistent with the documents' model, something that was specifically addressed in the instructional sessions for the instruction group. The skills and challenges of the participants, therefore, were judged against this "good reader's model of multiple-text learning in history" (Britt et al., 1999, p. 220). Although this model was developed through work with older students and adults, it was useful for identifying

and describing children's progress toward this ideal for multi-textual history learning. Thus, even nascent exhibition of the skills necessary to the documents' model in the participants' writing is worth noting.

Students who received parent/guardian permission and gave their assent completed the source use activities. Ninety-seven students completed the ERA. Of these, 48.0% were members of the instruction group and 52.0% were in the non-instruction group. Over half (57.7%) were in Grade 4 and 43.2% were in Grade 5. Ninety-four participants finished the SBQA. Forty-five students (47.9%) were in the instruction group, and 49 (52.1%) were in the non-instruction group. Fifty-four (57.4%) were Grade 4 students, and 40 (42.6%) were Grade 5 students. The results and analyses below are based on these individual samples.

Data Analyses

Evidence Report Activity

To evaluate the participants' source evaluation and intertextual evaluation of sources to answer a historical question, a preliminary coding scheme was developed based on the instructions for the Evidence Report Activity, including categories for source evaluation (description, analysis, comparison/contrast). Each participant's responses on the ERA were read and assigned codes. The smallest unit of analysis was the single word. Some units were doublecoded, such as when a participant both described a source and analyzed it. Some students incorporated brief discussions of source reliability within their descriptions, and these were coded as "mentions source reliability." After coding an initial sample of 20 transcripts (approximately 20%)of the total number , the coding scheme was examined and refined to make descriptions of categories clear and to reduce redundancies (Appendix P). Intercoder agreement with an assistant, after this initial coding of the sample, had a Cohen's kappa of .71. A

discussion and resolution process refined the coding scheme before completing this analysis.

Once the coding process was completed, data from the codes were imported into SPSS. For some codes, it was possible to have more than one occurrence in a student's responses, such as description, analysis, and so on (codes 1-7 and 13-21). The total number of units coded in one category (e.g., source description) was tallied for each student. From these data, descriptive data, including the mean number of responses in each of these coding categories, was calculated. The means were compared with the variables study group and grade level using one-way ANOVAs. Additionally, some of the variables were transformed to nominal form to allow comparisons using Pearson's chi-square tests (2-sided).

The students' ratings of the reliability of each source in the activity (stereoscope, tour guide's words, barn, and label) were analyzed descriptively. The mean ratings for each study group and grade level were calculated. Additionally, one-way ANOVAs were conducted to determine whether students' study group or grade were associated with giving higher ratings.

Finally, the participants' ERA responses were evaluated to determine the intertextual model to which the responses conformed: mush model, separate representation model, documents' model, and tag-all model. From each of the four models in Britt et al., the main characteristics of each were used to create a coding scheme, which was used to evaluate the participants' ERA responses (Appendix Q). An assistant and I read each response and applied these codes: mush, separate representation, documents, or tag-all (see Appendix R for examples of essays to which the codes were applied). In the initial coding phase, the intercoder reliability had a Cohen's kappa level of .45. After discussion and resolution, the kappa level was .76.

Source Based Question Activity

In the Source Based Question Activity, the participants were asked to choose at least four

sources they thought would help them to describe what was life like for farm children in the 1850s-1890s, based on what they recalled from the historic site visit and their notes and drawings from the site. The students listed their sources and then wrote essays to answer the question, in which they were supposed to talk about their sources.

The SBQA was analyzed in the same manner as the ERA. Each of the participants' responses on the SBQA source types were categorized and assigned codes (Appendix S). The smallest unit of analysis was the single word. Some units were double-coded, such as when both description and analysis were evident in a students' response. Additionally, the coding process helped determine which intertextual reading models the students' essay responses fit. The intercoder reliability kappa level for the initial coding phase in which 20% of the SBQA data were coded was .35. After a discussion and resolution process, the kappa level rose to .83.

Evidence Report Activity Results

In the Evidence Report Activity, students evaluated four sources from the historic site (stereoscope, tour guide's words, barn, and label) using description, analysis, and intertextual comparison and contrast (Figure 11). They also rated the reliability of the individual sources.

COMPARE AND CONTRAST





Figure 11. Writing from Wyatt's (Grade 4, instruction group) Evidence Report Activity.

Analyses of the students' writing showed various levels of understanding related to source evaluation using the D-A-C/C method, perceptions of source reliability, and evidence of intertextual models in their activities.

The participants' open-ended responses on the ERA varied in length. The overall word count ranged from 0 to 88 words, and participants wrote between 0 to 8 sentences. The mean word and sentence counts for the entire sample, the study groups, and grades are shown in Table 9. Although one-way ANOVAs showed no difference between word count and sentence count by study group, Grade 5 students wrote more words, F(1, 96) = 27.73, p < .000. Analysis of their writing showed fifth graders wrote longer, more complex sentences, as was anticipated. Table 9. Word and Sentence Counts from the Evidence Report Activity

Counts	All		Non-instr.		Instruction		Grade 4		Grade 5	
Counts	M	SD	M	SD	M	SD	M	SD	M	SD
Words	34.4	20.5	32.2	18.3	36.7	22.5	42.7	20.5	23.1	14.1
Sentences	3.0	1.6	2.84	1.5	3.2	1.7	3.5	1.3	2.4	1.7

Note. n = 97.

Source Evaluation

In their analysis of the four individual sources in the ERA, almost all students provided descriptions of one or more sources (Table 10). The mean number of instances of description for all students on the four sources was 3.98. Almost all participants were able to describe one or more of the sources. A slightly lower, but still high, percentage of students analyzed one or more of the sources. Less than 10% of participants incorporated comparison and contrast in the evaluation of the sources part of the activity.

Evaluation method	All	Non-instr.	Instruction	Grade 4	Grade 5
Describe	91.8	86.3	97.9	96.4	85.7
Analyze	88.8	90.2	87.2	85.7	92.9
Compare/Contrast	8.2	7.8	8.5	5.4	11.9

Table 10. Percentage of Participants Who Used D-A-C/C Methods in the Evidence Report Activity

Note. n = 97.

The data were examined to determine whether study group membership or grade level were associated with describing, analyzing, or comparing/contrasting the sources. Instruction students were more likely to include description in their source evaluations, $\chi^2(1, 98) = .21$, p = .036. No other study group or any grade level correlations were observed.

Below, the participants' use of the D-A-C/C method for each source type is discussed. In this section, students were asked to describe and analyze each source. (A few students also included comparison and contrast in this part of the activity.) The participants' use of description and analysis varied for each source, which provides insight into the ways they chose to evaluate the sources and types of challenges they appear to have encountered during the activity. (Note: In what follows, the number of students using description and analysis may not add up to the number of students in the sample because some students left sections blank or did not describe and analyze)

Stereoscope. This source had the lowest number of students use only description than any of the other three. Of those who described and/or analyzed the stereoscope, almost twice the number of students used "analysis only" for this source than used "description only" (Figure 12). Anita (Grade 4, non-instruction) provided an excellent example of analysis: "The first thing the 3D picture viewer problube ment somtimes they got to play." More use of analysis may have



Figure 12. Percentage of participants who used D-A-C/C methods for specific sources in the Evidence Report Activity. (n = 97).

resulted because many students seemed to be unsure about the purpose of this object, leading to speculation about its use, which was coded as analysis. This result seems to be related to the students' need to identify this object, and thus comparing it with a familiar object helped. Further, almost as many participants (42 students, fairly evenly divided between the study groups and grades) used description and analysis together as those who used either description or analysis alone. Few students left this column blank. Neither study group nor grade level made a difference in students' likelihood to describe or analyze the stereoscope.

Barn. More students (46) used "description only" than "analysis only" (20 students). Study group did not make a difference in students' likelihood to describe or analyze the barn, but grade level did. Fourth graders were more likely to describe, χ^2 (1, 98) = .36, p < .000, and fifth graders were more likely to analyze, χ^2 (1, 97) = .43, p < .000.

Nineteen students both described and analyzed the barn. Maggie's (Grade 4, noninstruction) evaluation was a good example of description and analysis. She wrote, "The barn help me learn about they way life like back then and that they used it for milking the cows." Doyle's (Grade 5, non-instruction) writing showed analysis, not only of the barn but also of the characteristics of this type of source:

A barn is a great place for cows and horses. Barns can tell alot about whats gone on in there. There could be carvings on the walls stuff hanging. It could be a realy cool place to learn about whats gone on in there but it can't speack or right signs to tell you exactly what happend.

Although the number of students who described and analyzed the barn was higher than the number who used these evaluations for the tour guide's words or the label, this number was less than half the number of students who both described and analyzed the stereoscope. These data

indicated that, in general, analyzing the barn as a source either was something participants chose not to do or may have been more difficult for them to do than analyzing the stereoscope. Neither study group nor grade level was associated with using both description and analysis. No students compared and contrasted sources in their evaluation of the barn.

Tour guide's words. Like the barn source, the majority of participants (62 students) used "description only" for this source. Much of this description took the form of relating the content of the tour guide's words, including factual information and historical narratives. For example, Toby (Grade 4, instruction) stated, "The tour guide said it was very hard work every day. Different lives most the time." Fourth-grade students were more likely to describe the tour guide's words, χ^2 (1, 98) = .54, p < .000, and fifth-grade students were more likely to analyze, χ^2 (1, 98) = .35, p < .000. Study group made no difference.

Only 23 students (about one third) used analysis, either on its own (14 students) or together with description (9 students). Brian's (Grade 4, non-instruction) discussion of the tour guide's words included analysis, with his deeper level of interpretation of factual information about farm children in history caring for animals: "The tour guide showed us that we don't need to take of animals like farm kids did." The number of students who used both description and analysis together was the lowest number for any source except the label. Study group did not make a difference in which students used both, but the nine students who did were all fifth graders, χ^2 (1, 97) = .37, p < .000. One participant compared and contrasted for this source.

Label. Thirty-two students used "description only," and 31 used "analysis only" for this source. In description without analysis, students just provided their observations about the source without drawing any conclusions about what their observations mean, such as when Elise (Grade 4, non-instruction) wrote, "I learned on this label that kids had a one room school and it

started in the 1860s." In analysis without description, the students obviously had to consider certain pieces of information from which draw conclusions, but they omitted the information about the source to which their conclusions were linked. For example, when Corinna explained, "But we don't drop out of school to do farm work, because we need learning more than a farm," she was responding directly to the information in the label and analyzing it. Students in both groups and grades were as likely to describe the label, but Grade 5 students analyzed more often than Grade 4 students, χ^2 (1, 97) = .43, p < .000.

Compared to the other sources, fewer participants (7 students) used both description and analysis in this category, the lowest number for any source. Elise's classmate Jenny's response provided both description and analysis: "The label told me that we don't go to school in a one room school house." Three students compared and contrasted, all highlighting the differences between their lives and the lives of children in the past, but using sources from their prior knowledge, not the sources in the activity. For the label source, most participants used either description or analysis alone. One-fifth of the participants (21 students) left this column blank on the activity, more than any other source. Grade 4 students were more likely than their Grade 5 counterparts to leave this evaluation question blank, $\chi^2(1, 97) = .35$, p < .000.

Source Reliability

The participants rated the reliability of each of the sources from one to four stars (4 = *very reliable*, 3 = *medium amount*, 2 = *a little*, and 1 star = *not at all reliable*) (Table 11). According to the mean ratings for each source, no source was considered *not reliable at all*, and most sources had mean ratings higher than 2.3 stars. Overall, participants gave the barn the highest reliability rating (M = 3.07). The participants found the stereoscope and label to be the least reliable. When examined by study group, the data showed that instruction group students gave higher reliability ratings to all the sources than non-instruction group students, although only the difference in ratings for the barn were significant, F(1, 96) = 4.8, p = .031. Comparing students by grade revealed that Grade 5 students gave lower reliability ratings for all sources but the label. Though lower, the differences in these means were not significant.

Source	All		Non-instr.		Instruction		Grade 4		Grade 5	
Source	M	SD	М	SD	М	SD	М	SD	М	SD
Stereoscope	2.34	1.15	2.18	1.16	2.51	1.14	2.36	1.24	2.32	1.04
Barn	3.07	1.19	2.82	1.42	3.34	.82	3.16	1.20	2.95	1.18
Tour guide	2.67	1.16	2.60	1.26	2.74	1.05	2.70	1.22	2.63	1.09
Label	2.34	1.55	2.30	1.59	2.38	1.51	2.27	1.57	2.44	1.57

Table 11. Participants' Mean Ratings of Source Reliability

Note. n = 97.

Interestingly, the "reliability hierarchies" of sources resulting from the participants' ratings look remarkably similar, regardless of study group or grade. Both study groups and grade levels gave the barn the highest rating, followed by the tour guide's words. Instruction group and Grade 4 students rated the stereoscope as third most reliable, with the label last. Non-instruction group and Grade 5 students put the label in third place, followed by the stereoscope.

In addition to the star ratings the participants assigned to the sources, some students discussed the reliability of sources in the ERA. For example, Doyle (Grade 5, non-instruction) wrote, "Tour guides words are great advice and facts. There usualy dependibly but sometimes its false information." About 30% of the participants mentioned reliability about the sources in their writing. Of these, similar percentages were in the non-instruction group (31.4%) and the instruction group (27.7%). When examined by grade level, a higher percentage of fifth graders (42.9%) than fourth graders (19.6%) mentioned reliability, a statistically significant difference,

$$\chi^2(1, 98) = .25, p = .012$$

Intertextual models in the ERA

Ninety-eight students completed the ERA. Of these, 57.1% had a mush model, 35.7% had separate representation model, 4.1% had documents' model, and 0% had the tag-all model (Table 12). Few (3 students) did not complete the writing in this section.

Table 12. Percentage of Participants Using Intertextual Models in the Evidence Report ActivityEssays

Intertextual model	All	Non-instr.	Instruction	Grade 4	Grade 5
No answer	3.1	5.9	0.0	3.6	2.4
Mush	57.1	72.5	40.4	53.6	61.9
Separate representation	35.7	17.6	55.3	37.5	33.3
Documents'	4.1	3.9	4.3	5.4	2.4
Tag-all	0.0	0.0	0.0	0.0	0.0

Note. n = 97.

When examined by study group, the data showed that almost three quarters of noninstruction students had the mush model, while about 40% of instruction students' writing fit this model. Peter's (Grade 4, non-instruction) writing fits the mush model: "Their life was harder. They had to do a lot of chores. No bathrooms. No electric. They used lanterns." He integrated multiple sources of information but does not identify the source of this knowledge or discuss how the information is relevant for answering the historical question.

Over half of the instruction students had the separate representation model, but only 17.6% of non-instruction students did. In the separate representation model, the reader identifies individual source attributes or relevance but does not integrate information from the multiple sources. Hudson's (Grade 5, instruction) essay reflects the separate representation model. He wrote, "The three D thing is like a magnifiying glass for kids back then. Lables can tell what

they acualy did back then. The barn is a building that they could of used."

Less than 5% of all participants' writing fit the documents' model. This model was observed infrequently in both study groups and at nearly the same rate. Students' whose writing fit this model integrated information *from* and *about* each individual source and combined this information with prior knowledge, in order to understand information from the multiple sources. Laura's (Grade 4, non-instruction) writing is an example of what was coded as the documents' model. She wrote,

I think the 3D picture viewer gave us good information on what kids did a long time ago because they did not have computers to look at their pictures. The tour guid gave us a good explanation on what the water buket was. The barn was a good place to look for information because there were lots buggys and farming tools. The exibit lable was like a summary of what they think she did.

Although this example is short (as were most of the essays), this student identified her sources, and described and analyzed at least some of them. The reliability of the sources was assessed: "The 3D picture viewer gave us good information" and "The barn was a good place to look." The student integrated prior knowledge by stating that children in the past " did not have computers to look at their pictures." The entire response attempted to answer the historical question about what life was like for farm children in the 1850s-1890s.

To determine whether participation in the instructional sessions made a difference in the instruction students' performance on this source use activity, chi-square tests were conducted. Instruction group students were more likely than non-instruction group students to have a separate representation model on the ERA, $\chi^2(1, 98) = .39$, p < .000, and non-instruction students were likely to have a mush model, $\chi^2(1, 98) = .32$, p = .001. No other correlations

with the variable study group were seen.

To reveal how grade level might be related to students' abilities to use historic site texts as sources to support historical inquiry, the essays also were analyzed according to participant grade level. In the Evidence Report Activity, similar numbers of students at both grade levels provided no answer. Additionally, the numbers of students in each grade whose writing fit the mush, separate representation, or document models were similar. When examined by study group within the grade level, however, some interesting differences were identified (Table 13). Among the fourth-grade students, fewer instruction students' writing (42.9%) fit the mush model, compared to 64.3% of non-instruction group fourth graders. Twice as many (50%) of the instruction students had the separate representation model compared to 25% of non-instruction group students. For fourth graders, however, study group made no statistical difference in the likelihood of having a particular model type, except that separate representation came close to significance for the instruction group, χ^2 (1, 56) = .26, p = .055. At the fifth-grade level, 82.6% of non-instruction group students' essays fit the mush model versus only 36.8% of instruction group fifth graders.

Intertextual model	Gra	ide 4	Grade 5		
Intertextual model	Non-instr.	Instruction	Non-instr.	Instruction	
No answer	0.0	7.1	0.0	4.3	
Mush	42.9	64.3	36.8	82.6	
Separate representation	50.0	25.0	63.2	8.7	
Documents'	7.1	3.6	0.0	4.3	
Tag-all	0.0	0.0	0.0	0.0	

Table 13. Percentage of Participants Using Intertextual Models in the Evidence Report ActivityEssay By Group within Grade

Note. Grade 4 non-instruction (n = 28), Grade 4 instruction (n = 23), Grade 5 non-instruction (n = 28), and Grade 5 instruction (n = 19).

Source Based Question Activity Results

In the Source Based Question Activity (SBQA), the participants were asked to select at least four sources they thought would help them answer the historical questions about what life was like for farm children in the 1850s-1890s, based on what they recalled from the historic site visit and their notes (Figure 13). They were asked to choose at least four sources but told they could choose more if they wished. Students were asked to describe their sources (e.g., house, picture of Ella's father, exhibit label) and label them with the source type (e.g., building, object, label).



Figure 13. Katie's (Grade 5, instruction group) list of sources from the Source Based Question Activity.

The students then wrote essays to answer the historical question, in which they were supposed to reference and discuss their sources. The participants' responses on the SBQA varied in length. The overall word count ranged from 0 to 235 words, and participants wrote between 0 to 22 sentences. The mean word and sentence counts for the entire sample, the study groups, and grades are shown in Table 14. One-way ANOVAs showed no difference between word count and sentence count by study group, but Grade 5 students wrote more words, F(1, 93) = 19.18, p < .000, and more sentences, F(1, 93) = 30.24, p < .000. Fifth graders wrote longer, more complex sentences than fourth graders.

Counta	All		Non-instr.		Instruction		Grade 4		Grade 5	
Counts	M	SD	М	SD	M	SD	M	SD	М	SD
Words	69.9	37.8	68.9	43.1	70.8	31.7	56.5	25.3	88.3	44.4
Sentences	5.7	4.1	5.4	4.2	5.9	4.0	3.9	2.3	8.1	4.9

 Table 14. Word and Sentence Counts from the Source Based Question Activity

Note. n = 94.

Source Selection

The participants selected a variety of sources, based on what they experienced during the historic site field trip (Table 15). During the activity, no suggestions were made to students about the types or specific examples of sources they should choose; students were free and encouraged to select whatever sources they thought would best help them to answer the historical question. Many of the sources chosen reflected specific events that occurred while the students were at the historic site, including the museum educator's demonstration of how laundry was done by the Merriman-Sharp family (using a laundry tub, hand agitator, and homemade lye soap) and discussions of objects pointed out during the house tour. In total, there were 380 instances of source selection by the students, with a mean of four sources per student. Eighteen students (19%) selected more than four sources, and fourteen students (15%) selected fewer than four. Grade level and study group made no difference in the number of sources selected.

All of the students were able to consider the sources they experienced at the historic site and choose sources they believed would help them answer the historical question in the activity. Overall, a high number of participants selected objects (86%) and buildings (71%). Almost half of the students selected tour guide's words as a source (45%). Only two participants chose labels/signs as a source. Within the "other" category, six students (6.5%) chose sources including the historic property map given to the students during the field trip (2 students),

Source name	Source type	% Participants selecting
Tool, farm	Object	35.8
Tool, laundry (e.g., bucket, agitator)	Object	24.2
Furniture, house	Object	24.2
Transportation	Object	23.2
Тоу	Object	18.9
Well	Object	13.7
Tool, kitchen (e.g., stove, icebox)	Object	9.5
Soap (e.g., production process, use)	Object	5.3
Tool, other (e.g., medicine, wire)	Object	4.2
House	Building	52.6
Barn	Building	44.2
Building, other (e.g., outhouse, museum)	Building	24.2
Tour narrative	Tour guide's words	45.2
Label/sign	Label/sign	2.2
Other	Other	6.5

Table 15. Sources Selected by Participants in the Source Based Question Activity

Note. n = 94.

bedrooms in the house (1 student), the pear orchard (1 student), outdoor spaces (described as "the neighborhood" by 1 student), and, interestingly, "life experience, self made" (1 student).

Non-instruction and instruction group students were equally likely to select the various source types (object, building, tour guide's words, label/sign, and "other" category) (Figure 14). Chi-square tests showed no correlations between the selection of particular source type and study group membership. Examining the data by grade level, however, revealed that fourth-grade students were more likely than fifth-grade students to select buildings, χ^2 (1, 98) = .23, p = .03, and tour guide's words, χ^2 (1, 98) = .42, p < .000, as their sources for the Source Based Question Activity.



Figure 14. Percentage of participants by group and grade mentioning particular source types in the Source Based Question Activity. (n = 94).

Source Evaluation

Not all of the participants who completed the Source Based Question Activity used the steps of the D-A-C/C method in their evaluations of the sources they selected. Among the participants, 41.8% described, 32.7% analyzed, and 5.1% compared and contrasted within their evaluations of the self-selected sources (Table 16). When examined by study group, about the same percentage of students in the non-instruction and instruction groups provided at least one instance of description. More students in the instruction group provided analysis than did students in the non-instruction group. About the same percentage of instruction and non-instruction students compared and contrasted (e.g., compared a selected source to another selected source or a source for which they had prior knowledge) in their source evaluations. No differences were observed in the students' likelihood to describe, analyze, and compare/contrast according by study group membership.

Table 16. Percentage of Participants Using D-A-C/C Methods in the Source Based Question Activity

Evaluation method	All	Non-instr.	Instruction	Grade 4	Grade 5
Describe	41.8	41.2	42.6	30.4	57.1
Analyze	32.7	29.4	36.2	19.6	50.0
Compare/Contrast	5.1	5.9	4.3	0.0	11.9

Note. n = 94.

When examined by grade level, more Grade 5 students (57.1%) than Grade 4 students (30.4%) used description, a significant difference, χ^2 (1, 98) = .27, p = .007. A similar large difference occurred in the percentage of students who analyzed (50% in Grade 5 versus 19.6% in Grade 4), χ^2 (1, 98) = .32, p = .001. No fourth graders compared and contrasted, but 11.9% of fifth graders did, which also was a significant difference, χ^2 (1, 98) = .27, p = .007. Within the

grade levels, study group membership made no difference.

Source Reliability

After choosing their sources for the Source Based Question Activity, the participants used one to four stars to describe the level of reliability the sources had, as they did in the Evidence Report Activity. One star meant *I should not use this source at all*, two stars meant *this is a least best source*, three stars meant *this is a medium-best source*, and four stars meant *this is one of the best sources*. The participants drew stars next to the names of their sources to indicate the reliability level.

When the number of stars connected to each source type was calculated, the majority of students considered both objects and buildings highly reliable (between 3 and 4 stars). Tour guide's words were believed to have a medium level of reliability (2 to 3 stars). Signs and labels were considered either low or medium level in reliability (1 to 2 stars). These levels of reliability for each type of source are consistent with the findings from the post-test scores on the participant survey (see Chapter 5).

Overall, 52% of students gave either 3- or 4-star ratings for all the sources they selected (coded as "high" rating), and 39.8% of students included 0-star to 2-star ratings among their ratings (i.e., for one or more sources, but not necessarily all) for their chosen sources (coded as "low" rating). About 8% of students did not rate their sources. When analyzed by study group membership, 45.1% of non-instruction group students gave all high ratings to their sources, and 43.1% gave low ratings to some of their sources (Figure 15). About 12% did not rate any of their sources. In the instruction group, 59.6% of students provided all high ratings, and 36.2% provided low ratings. Only 4.3% did not rate their sources. When analyzed by grade level, 58.9% of fourth graders gave all high ratings, while 35.7% gave low ratings. 5.4% did not rate



Figure 15. Percentage of participants giving "high," "low," and "no" source reliability ratings on the Source Based Question Activity. (n = 94).

their sources. Among fifth graders, 42.9% gave all high ratings, and 45.2% gave low ratings. 11.9% did not rate their sources.

An interesting occurrence was that about 40% of the students chose sources that they themselves rated as either a *least best source* or *I should not use this source at all*. Of the 380 instances of source selection during this activity, 59 (15.5%) were given a low rating. Objects received the highest number of low ratings, followed by building and tour guide's words. None of the students who discussed labels or signs or "other" sources gave them low ratings. Students in both groups and both grade levels were just as likely to include sources they rated as "low" within their source evaluations in the Source Based Question Activity. Chi-square tests indicated that no correlations existed among student ratings and either study group or grade level. Just over half of the participants (52%) rated all their chosen sources as either *medium-best* or *best* source.

Along with the star ratings, a small number of students (7) discussed the reliability of the sources they chose in their writing on the SBQA. In one of the most detailed discussions, Tommy (Grade 5, instruction) wrote,

All the sources that I saw weren't really reliable except the washtub/the bathtub. Also I'm gonna tell you a source I thought wasn't reliable at all, the apple peeler. Some sources like the sythe were medium amount on telling me stuff. It also tells me that they didn't have really good tractors back then.

As in this example, most of the students discussed reliability in terms of the sources' own character as "good" or "bad." In only one case did a student discuss the reliability of her sources in relation to her other sources, when describing the house as "one of the best sourses" (Avery, Grade 4, non-instruction). Of the students who wrote about source reliability, five were in the

non-instruction group, and two were in the instruction group. Two were fourth graders, and five were fifth graders. No correlations with either study group or grade level were observed.

Intertextual Models in the SBQA

Of the 94 students who completed the SBQA activity, 61.2% had a mush model, 25.5% had separate representation model (10.6% cited only one or two sources but had a strong enough connection to the content provided in the essay to be considered separate representation), 4.1% had documents' model, and 0% had the tag-all model (Table 17). Close to 10% of the students did not complete the writing in this section, almost three times the number of students who did not complete the writing on the Evidence Report Activity. When the writing of the instruction and non-instruction groups was compared, the results showed that similar percentages of students in each study group fit the mush, separate representation, and documents' models. When chi-square tests were conducted, no differences in the participants were noted by study group membership.

Intertextual model	All	Non-instr.	Instruction	Grade 4	Grade 5
No answer	7.1	9.8	4.3	5.4	9.5
Mush	63.3	64.7	61.7	83.9	35.7
Separate representation	25.5	21.6	29.8	10.7	45.2
Documents'	4.1	3.9	4.3	0.0	9.5
Tag-all	0.0	0.0	0.0	0.0	0.0

Table 17. Percentage of Participants Using Intertextual Models in the Source Based Question Activity Essays

Note. n = 94.

When examined by grade level, more than twice the number of fourth-grade students' writing fit the mush model than that of fifth-grade students, χ^2 (1, 94) = .5, *p* < .000. Four times

the number of fifth grade students had a separate representation model, χ^2 (1, 94) = .39, p < .000, and although the percentage was small (9.5%), fifth graders' essays were more likely to fit the documents' model than their fourth grade counterparts, χ^2 (1, n = 94) = .24, p = .018. When the study group differences were examined within the grade levels, it was found that the percentage of Grade 4 instruction and non-instruction group students exhibiting each model type were almost identical (Table 18). Among Grade 5 students, more non-instruction students had the mush model than instruction students did, and more instruction students exhibited the separate representation model than non-instruction students. None of these differences, however, was statistically significant.

 Table 18. Percentage of Participants Using Intertextual Models in the Source Based Question

 Activity Essay By Group within Grade

Intertextual model	Gra	de 4	Grade 5			
Intertextual model	Non-instr.	Instruction	Non-instr.	Instruction		
No answer	3.6	7.1	5.3	13.0		
Mush	85.7	82.1	26.3	43.3		
Separate representation	10.7	10.7	57.9	34.8		
Documents'	0.0	0.0	10.5	8.7		
Tag-all	0.0	0.0	0.0	0.0		

Note. Grade 4 non-instruction, n = 28. Grade 4 instruction, n = 28. Grade 5 non-instruction, n = 23. Grade 5 instruction, n = 19.

Comparisons of Intertextual Models between the ERA and SBQA

The intertextual models the participants' Evidence Report Activity and the Source Based Question Activity writing fit reflected their levels of skill related to engaging with multiple sources, as defined within the four Britt et al. (1999) models. Part of the reasoning for using an activity without the D-A-C/C method scaffolding (the SBQA) was to determine whether the instruction group students would use the D-A-C/C method, the use of which was reflected in
their intertextual model, if they were not specifically asked to do so. Thus, comparisons across the two activities are informative. These comparisons were made with the acknowledgement that the two activities differed slightly in design and the cognitive demands placed on the participants. Ninety-four students completed both source use activities, and the models reflected in their writing are examined below.

Same Model

Close to half the participants (44 students, 46.8%) retained the same model between the ERA and SBQA. Of these, 59% were in the non-instruction group and 41% were in the instruction group. By grade level, 63.6% of fourth grade students kept the same model, while 36.3% of fifth-grade students did. For those who retained the same model, it is important to note which model was retained most often and by whom (Table 19).

 Table 19. Percentage of Participants Retaining Intertextual Models between the Evidence Report

 Activity and Source Based Question Activity

Intertextual model	All	Non-instr.	Instruction	Grade 4	Grade 5
Mush	77.3	88.5	61.1	89.3	56.2
Separate representation	22.7	7.7	38.9	10.7	37.5
Documents'	0.0	0.0	0.0	0.0	0.0
Tag-all	0.0	0.0	0.0	0.0	0.0

Note. n = 44.

When the same model was retained, a much higher percentage of students kept the mush model than the separate representation model (77.3% versus 22.7%, respectively). Non-instruction group students were more likely exhibit the mush model on the ERA (see above) and more likely to retain it, χ^2 (1, 44) = .32, p = .034. Fourth-grade students also retained a mush model more often than fifth-grade students, χ^2 (1, 44) = .38, p = .011. On the ERA, 35.7% of all

participants exhibited a separate representation model. Of those who kept this model on the SBQA, a much higher percentage was in the instruction group, χ^2 (1, 44) = .38, *p* = .011), and in Grade 5, χ^2 (1, *n* = 44) = .32, *p* = .035. None of the four students who had a documents' model on the ERA maintained the model on the SBQA.

Change to a More Complex Model

As discussed in the section on Intertextual Reading Theory in Chapter 2, the participants' progress toward attaining the documents' model was considered movement toward a more complex, desirable model for multitextual learning. Of the 50 participants (53.2%) whose models changed between the activities, 22 (44%) moved to a more complex model (e.g., from mush model to separate representation or from separate representation to the documents' model). When examined by study group, the data showed that more non-instruction students than instruction students moved to a more complex model, but this difference was not statistically significant. Analysis by grade level showed that fifth-grade students were more likely to change to a more complex model than their fourth-grade counterparts, χ^2 (1, 54) = .52, *p* < .000. Within the grade levels, neither instruction nor non-instruction students were more apt to change their model to a more complex one.

Among the students whose models increased in complexity, a change from the mush model to separate representation was the most common (16 students, 72.7%). Of these, a similar number were in the non-instruction and instruction groups, but greater number of fifth graders (13 students) moved from mush to separate representation than fourth graders (3 students). When examined for correlations between study group, grade level, and this model change, none were found. Other changes to more complex model were observed for a very small number of students: no model to mush model (2 students), mush to documents (2 students), and separate

representation to documents (2 students).

Change to a Less Complex Model

Twenty-eight students (56%) changed to a less complex model on the SBQA from the ERA. Ten students were in the non-instruction group, and 18 were in the instruction group. No difference was observed between the participants according to their study group membership. Three times the number of students who moved to a less complex model were in Grade 4, compared to those in Grade 5 (21 students and 7 students, respectively), a statistically significant difference, χ^2 (1, 54) = .52, p < .000.

The most common change was from the separate representation to the mush model (22 students, 44%). Sixteen of these were instruction group students, and six were in the non-instruction group, with instruction students more likely to change models in this manner, χ^2 (1, 54) = .33, p = .018. When examined by grade level, the data showed that more than three times the number of fourth-grade students changed from separate representation to the mush model than fifth-grade students (17 versus 5), χ^2 (1, 54) = .45, p = .001. Other changes exhibited by the students included the documents to mush model (4 students), separate representation to no model (2 students), and mush to no model (4 students).

Attainment of the Separate Representation Model

One of the main goals of the instructional sessions was helping students move toward the documents' intertextual reading model. Based on the students' prior learning experiences in the area of historic site source use and the limited classroom time for instruction, expecting students to exhibit the documents' model was unrealistic. Nevertheless, teaching the instruction students to use the D-A-C/C method (which included all the elements of the documents' model except prior knowledge) and providing all students scaffolding including this method on the ERA gave

them the tools to move toward reaching a documents' model. Four students' writing fit the documents' model on the ERA, but no students reached this goal on the SBQA. On both the ERA and SBQA, however, many students attained the separate representation model, the model immediately below the documents' model in complexity, which illustrated their abilities in this area.

Overall, 35.7% of students exhibited the separate representation model on the ERA, and 25.5% did so on the SBQA. On the ERA, more instruction group students than non-instruction students had this model (17.6% and 55.3%, respectively). On the SBQA, the percentages were lower, but instruction students still exhibited the model more often than non-instruction (21.6% and 29.8%). When examined by grade level, similar percentages of Grade 4 (37.5%) and Grade 5 students (33.3%) had the separate representation model on the ERA, but Grade 5 students surpassed their Grade 4 peers on the SBQA (45.2% and 33.3%, respectively).

Discussion

The participants' performance on the Evidence Report Activity and the Source Based Question Activity highlighted many of the participants' skills and challenges making decisions about evidence (as shown in use of the D-A-C/C method and choosing sources), their abilities to reason about source reliability, and their intertextual use of sources (as identified in their intertextual reading models). Differences among the participants according to study group and grade level were observed in some cases. Comparisons of participant performance on the two activities revealed information about the participants' abilities.

Source Evaluation

In the two source use activities, the students' writing shows that most students in both study groups and grade levels were able to describe, analyze, and compare/contrast (to a certain

extent) during the source evaluation portions of the activities. (Comparison/contrast was not required on the source evaluation portion of either activity.) Large differences existed, however, in the numbers of students who exhibited the D-A-C/C steps on the ERA and those who did on the SBQA. On the ERA, almost all students described but only 41.8% did so on the SBQA, a 50% difference. Similarly, almost 90% analyzed sources on the ERA, but only about 33% analyzed on the SBQA, for a difference of about 57%. Few students compared and contrasted on the two activities.

On the ERA, instruction students were more likely to provide description, but no other differences were observed by study group or grade level. On the SBQA, no differences were observed in the students' likelihood to describe, analyze, and compare/contrast according by study group membership. When examined by grade level, however, fifth-grade students were more likely to describe and analyze than fourth-grade students.

These results, coupled with the fact that almost all students were able to describe and analyze on the ERA, mean that most students appeared capable of providing description and analysis, even without instruction. This supports my findings in Leach (2011a), in which thirdgrade students (without any type of instruction) showed a high ability to describe. The participants in that study were able to analyze as well, but at a much lower rate than observed in the present study.

That such a low number of students (less than half), including instruction students, provided description and analysis on the SBQA points to a connection with the withdrawal of the source evaluation scaffolding on the SBQA. When the participants did not have instructions specifically asking them to employ the steps of the D-A-C/C method, many did not use the steps. Further, since both the instruction and non-instruction groups completed the ERA, which

included the D-A-C/C steps, it cannot be determined whether the non-instruction students would have performed as well on the second activity without exposure to the scaffolding on the ERA. This limitation, though, was anticipated and accepted as a means to determine how instruction group students would perform on the SBQA (whether they would apply the D-A-C/C method).

Fifth-grade students were more likely to provide description and analysis on the SBQA than fourth-grade students. Within this grade level, however, no differences according to study group were found. The fact that fifth graders did more describing and analyzing, may be related to their grade level and thus different exposures to academic experiences and subject matters in which drawing conclusions (analysis) was practiced.

In their evaluations of the four sources on the Evidence Report Activity, description and analysis were used more often by students in particular grades. For most of the sources, Grade 4 students tended to be more likely to describe, and again, Grade 5 students were more likely to analyze. Description and analysis were not more likely to be used by students in either study group, which reinforces the finding from above that receiving instruction did not seem to make a difference in the participants' abilities to describe and analyze the sources.

Furthermore, participants' description and analysis of sources using seemed linked to particular source types. More students used description for tour guide's words than for any other source, probably because the content that may be described from tour guide's words are the historical narratives or factual information, which were related by a large number of students. The label, however, for which the descriptive information would be largely the same as for the tour guide's words source, was described about half as often as the tour guide's words. One reason for this result may be that using the label as a source was difficult for some students, since one fifth of the participants left this column blank on the activity, more than any other source.

Although as a whole, students analyzed less than they described, the stereoscope and label were analyzed most often. When description and analysis occurred together, the stereoscope was the source for which this occurred most often, followed by the barn. All these results indicate that the type of source made a difference in the evaluation methods the students used. Further, instruction group students, who were exposed to the idea of using description and analysis for all types of sources, did not do so more consistently or more often than their non-instruction group peers.

Source Selection

On the Source Based Question Activity, all students were able to consider the sources they experienced at the historic site and choose sources they believed would help them answer the historical question in the activity, which is an encouraging finding. There were no participants who found this process to be an impossible task. During this activity, most students selected at least three sources. How well the students appeared to understand the task of selecting sources, as it related to the actual use of sources intertextually for answering a historical question is a related issue, is discussed below.

The types of sources participants chose showed the attention they paid to the various types of sources available within the historic site. Objects (86%) and buildings (71%) garnered similar high levels of attention, which was expected (see Leach, 2011a). Since objects and buildings were a major part of the students' experience at the historic site, including being the main focus of the site tours and gallery sessions, it is not surprising that the majority of students chose objects and buildings as sources for the SBQA. This level of selection of objects and buildings showed that these were the types of sources the majority of students believed were most appropriate for answering the historical question. Fourth graders were more likely than

fifth graders to select buildings as a source, but no difference was observed between the instruction and non-instruction group students on this factor.

Almost half of the students (45.2%) included tour guide's words as a source on their SBQA lists, which means that many students considered the information they received from the tour guide to be a useful and appropriate source for addressing the historical question. One point that should be noted is that almost all the students discussed information that came from the tour guide (historical narratives and factual data) in their essays, but many did not attribute this information to the tour guide source. The majority of the students' writing in the essay portion of the SBQA included recounting the tour guide's historical narratives and data about the site (e.g., the chores that children had to do, the original plan of the farm, and so on). This result demonstrates how important a source the tour guide's words were for the students, whether they formally listed the source or not.

Regarding study group and grade level differences for selecting this source, the only difference revealed was that fourth-grade students were more likely to cite tour guide's words as a source in the SBQA. Again, these data revealed no apparent reason for this outcome. The qualitative data from the instructions group's instructional sessions, however, showed that fourth-grade students especially provided historical narratives about the sources they evaluated (see Chapter 4), suggesting that these students may be more interested in or pay more attention to tour guide's words, which often include historical narratives. Finally, the fact that many students discussed tour guide's words in their writing but did not list them as a source affected this outcome. If all students who discussed tour guide's words had cited them as a source, the percentage would have been close to 90%.

Label evaluation challenged the students more than any other source. On the ERA, one

fifth of the students left the label column blank, and on the SBQA, a label source was selected by only 2.2% of participants. When students evaluated the label on the ERA, in general, they either described or analyzed, but not both. Of the two evaluation types, description probably was easier for many students, although the step of identifying the originator of the source seldom occurred. For those students who provided analysis only, it may be that they were unsure about what kind of description to provide for a label, especially non-instruction group students. Fifth graders analyzed labels more than fourth graders, but fifth graders did more analysis over all and especially on the SBQA. One probable reason for the low number of students who selected labels as a source for the SBQA is that few labels appeared within the historic house, and the barn had no labels. Another reason may be that remembering the specific text of a label well enough to discuss it as a source on the activity may have been an issue, although the students were encouraged to use their field notes to complete the activity.

This issue of remembering may be related to the idea of cognitive load, which learners experience while doing various tasks. For example, as discussed above, Britt et al. (1999) suggested that the tag-all model places a high cognitive load on readers, meaning that it includes multiple elements that readers must constantly monitor and evaluate during the act of reading. Using scaffolding tools to help students manage these elements may benefit them. For example, during the instruction group's sessions, cards with the D-A-C/C steps printed on them were used in the classroom to remind students of the steps. Furthermore, finding the best ways for individual students to document their sources while at historic sites for later use may enhance their ability to evaluate sources, as some students may work better from notes, whereas others prefer visual information, such as photographs.

Moreover, the high number of sources and variety of source types encountered when

experiencing a historic site may affect learners' abilities to work with sources. For instance, Stahl et al. (1995) observed that the number of sources participants used was related to the consistency of their mental models of the historical information. In that study, reading more than two sources did not improve the consistency of their models, suggesting that using multiple sources is a difficult task. The very nature of historic sites as multitextual compels visitors to navigate a complex textual terrain. This fact was one of the primary reasons for this study; by helping students improve their ability to identify the sources available at historic sites and to construct concepts of sources in line with experts' concepts, students might focus their attention on navigating and evaluating these multiple sources together.

Source Reliability Ratings

The ability of the students to discuss judge the reliability of all types sources (as in the Compare/Contrast step of the D-A-C/C method) in the Evidence Report Activity and Source Based Activities demonstrated that children of this age were indeed capable of doing so, as has been suggested may occur in the later elementary years (VanSledright, 2002a; VanSledright & Afflerbach, 2005). Although the instruction group was exposed to the idea that they should assess the validity of sources in comparison/contrast with other sources and not in isolation, these data did not reveal how deeply they and their non-instruction group counterparts understood this, the majority of participants agreed that people can use information from multiple sources to understand each other (Item 13 on the Participant Questionnaire). The ability to judge source validity correctly and consistently was probably just developing for these students, but the data show that some skill was present in these participants.

Although they were not specifically asked to do so, about 30% of the participants mentioned reliability about the sources in their writing on the ERA and SBQA. The ways

students discussed the reliability of their sources in their writing on the ERA and SBQA were consistent with the ways they discussed source reliability in the instructional sessions and on the participant questionnaire. On the Evidence Report Activity, the participants' ratings of reliability the four objects aligned, for the most part, with the general participants' ratings of source types on Item 12 of the questionnaire (see Chapter 5). Additionally, the ratings were very similar across study groups and grade levels. The barn, a building, and tour guide's words were both given high reliability ratings. The label was viewed as less reliable than these sources, which was also consistent with the questionnaire data. Where the ERA ratings diverged was for the stereoscope, an object, which should have received a high reliability rating. One explanation for this difference may be the students' difficulty in determining what this object was (as described above), and thus the students may have been less likely to find the object reliable because of their inability to state its identity or function.

In general, the language students used to talk about reliability was consistent with the results from the instruction group's instructional sessions, in which the students evaluated the dependability of sources or the truthfulness of tour guide's words or labels. Fifth grader Doyle's discussion about how the tour guide's words may be true or false reflected the way many students wrote about the reliability of tour guide's words and labels. For both activities, no study group or grade level was more likely to include writing about source reliability, except that fifth graders did so more often than fourth graders. Despite these findings, what is interesting is that very little writing occurred about the reliability of objects and buildings, that is, tangible objects. When students assessed the reliability of these sources in their writing, they more often used descriptors like "good" or "bad," not language indicating they thought the source was potential "lying" or "false." This finding is consistent with Barton's (2005) finding that novices believe

primary sources are more reliable than secondary sources.

The participants' selection of their own sources for the SBQA highlighted some particular issues related to reliability. About 40% of the participants considered their self-selected sources as unreliable to use as evidence to answer the historical question. Further, of the 38 participants who gave one or more of their sources low ratings, only 11 students actually discussed these low-rated sources within their short essays as part of the SBQA, with 7 doing so within the context of a separate representation model (in which they mentioned the source by name and compared it with others to address the historical question - see below. This number represents over one third of the students who used this model.). None of these students discussed the reliability of these low-rated sources – or any of their sources – in the narrative text of their essays.

Students' reasons for including sources they considered to have low reliability were not evident in these data, but this phenomenon definitely reveals a challenge for these students when evaluating sources. Since about 40% of the participants self-selected what they asserted to be unreliable sources, it would be interesting to know why they chose them. One explanation may be that the students truly did find these sources unreliable but felt compelled to use them because other better sources of the same type were not available. Since, however, 44 out of 59 of the low-rated sources were objects (hundreds of which were available for use as sources), this seems unlikely. An alternate explanation may be that the students failed to apply the star rating system as designed, that is, they applied it as a subjectively interpreted continuum rather than using the definitions for each rating as stated in the activity instructions (e.g., 1 star = *I should not use this source at all*). If this were the case, then the students who gave high ratings to some of their sources and low ratings to other sources viewed the low-rated sources as simply "not as reliable"

as the other sources, although still reliable. This explanation seems more plausible. Regardless of the explanation for this phenomenon, it is evident that the participants were challenged by the task of selecting reliable sources for use as evidence to answer a historical question.

A small number of participants (9 students, 5 instruction group and 4 non-instruction group or about 10% of the study sample) rated the buildings they chose as having a low reliability level. The fact that buildings received fewer numbers of low ratings than objects (12 versus 44 ratings or just over 25%) among the participants who assigned any low ratings, is aligned with the level of reliability ascribed to buildings by students in the post-test questionnaire. That almost an equal number of instruction and non-instruction students gave buildings low ratings reflects the fact that students in both study groups were just as likely to give these ratings.

Though a small number of students gave the historic site buildings low ratings on the SBQA, these participants' beliefs about the reliability level of these particular buildings as sources are of concern for several reasons. First, buildings (including the historic house and barn) are central to the historic significance of the site. Why some students did not find these particular buildings to be appropriately reliable as sources for answering the historical question asked in the activity is not certain. Second, low reliability ratings may reflect students' beliefs about the utility of buildings as primary sources for answering historical questions. Although, as discussed above, both instruction and non-instruction group students rated buildings among the most reliable of the source types on the post-test, translating this belief into practice, that is, the actual use of buildings as a source for addressing a historical question, may have prompted difficulty for some students. Barton (2005) emphasized the difficulty students of this age may have with applying the evidence they themselves find to supporting their own conclusions, which

may have been the case here. Alternately, as stated above, the students may have applied the ratings system as a subjectively interpreted continuum, wherein buildings were seen as less reliable than objects.

Unlike some of the other sources, tour guide's words received very few low reliability ratings (3 out of 44 low ratings). Because 45.2% of students chose tour guide's words as sources in this activity, this small number of low ratings is encouraging, given that tour guide's words should ordinarily be viewed as a highly reliable source. In the post-test, non-instruction group students generally rated tour guide's words as having a medium level of reliability, and instruction group students rated them high authority; both ratings were coded as "high" reliability in this analysis. The participants' ratings of the reliability of tour guide's words in the SBQA, therefore, were consistent with the participants' beliefs on the post-test.

Intertextual Reading Models in the ERA and SBQA

The four intertextual reading models (Britt et al., 1999) observed in the participants' writing on the ERA and SBQA helped to illustrate their abilities to use evidence for historical inquiry. Teaching students to attain the documents' model was one of the goals of the instructional sessions. (The steps of the D-A-C/C method are encapsulated in the documents' model, along with the incorporation of prior knowledge.) Thus, the models in students' writing when examined by study group and by grade level showed important differences.

More students' writing fit the mush model than any of the other models, around 60% on both activities. Non-instruction and fourth-grade students were likely to have a mush model on the ERA. On the SBQA, there was no difference by study group membership (because many instruction group students also had this model on the SBQA), but the grade level difference remained. The mush model was marked by the integration of information into the reader's

understanding without citation of sources, meaning that many non-instruction students and fourth graders were challenged to attribute the origins of the information they conveyed in their essays. These students attempted to answer the historical question with information from sources, but they did not supply any documentation for this information. It was anticipated that fewer non-instructional group students' writing would fit this model, because they were not exposed to the notion of source citation. The grade level difference may be related to younger students being less able to understand the written directions of the activities.

The separate representation model, in which the reader presents and cites information from multiple sources but does not make connections between the individual texts, was the second most common model (25% of students overall). Because students using this model cited individual sources, this model revealed more complexity in the students' abilities to work with sources intertextually. Instruction group students were more likely than non-instruction group students to have a separate representation model on the ERA, but there was no study group difference on the SBQA. Since more instruction group students had this model on the ERA but then the number decreased on the SBQA, this indicates a relationship to the level of scaffolding provided on the second activity. The students were not reminded of the D-A-C/C method (withdrawal of scaffolding) on the SBQA, and this may have been a factor in this change in intertextual model. When grade level was considered, there was no difference in the students on the ERA, but on the SBQA four times the number of fifth-grade students (45%) than fourthgrade students had a separate representation model. In this case, the grade level difference may be related to older students being more able to understand and follow the activity directions, a skill that benefited them even without having participated in the instruction. To help more students be able to produce writing that fits this model, it is essential that the students understand

that simply supplying information from their sources is not enough; they also must document the sources of the information. Having this skill is useful, not only in studying historic site sources and history in general, but also in all academic areas.

As was anticipated, only a small number of students' writing fit the documents' model. In this model, the writing had to include source attributions, along with integration of information among the individual sources and prior knowledge. On both activities, less than 5% of essays fit this model. No differences between the study groups or grade levels were observed on the ERA, but grade level did make a difference on the SBQA, with fifth graders' essays more likely to fit the documents' model. Because the essays were so short, writing that was coded as documents' model exhibited these traits in a succinct and nascent manner. Although these results suggest that these students probably have not learned to read historic sources with a documents' model consistently (although this may be the case), they do demonstrate that attaining a documents' model was possible for students in fourth and fifth grade. With scaffolding and practice, students at these grade levels should be able to develop their skill to the documents' model level.

Regarding the differences in the participants' models between the ERA and SBQA, the results showed that of the 50 (53.2%) participants whose models changed between the activities, 44% moved to a more complex model, about 56% changed to a less complex model. Study group membership made no difference in the students' likelihood to change models, either to a more or less complex one. Grade level, however, did make a difference, with fifth graders more likely to move to a more complex model and fourth graders more apt to shift to a less complex one. Again, the most plausible explanation for these results is that fourth graders were more adversely affected by the change in the level of scaffolding on the second activity than fifth graders.

Forty-four students (46.8%) retained the same model between the two activities. Of these, more students retained the mush model (about 77%) than the separate representation model (about 23%), with non-instruction group students and fourth graders more likely to do so. Retaining the mush model shows no development of skills evidenced by a move to the separate representation or documents' models. For those students who kept the separate representation model, statistically higher percentages were in the instruction group and in Grade 5. Although many students in the instructional group moved from the separate representation model to the mush model, it was encouraging to see that some instructional students retained this model. Again, this shows that some students either learned or developed their intertextual source use skills to the level that they consistently cited their sources and integrated information intertextually on both activities. Since a correlation to membership in the instruction group, the instructional sessions did make a difference. Additionally, grade level also was a factor in retaining the separate representation model, possibly because fourth graders needed the withdrawn scaffolding more than fifth graders.

The results indicated that the separate representation model was the most complex model used most often in the students' writing. The fact that it appeared as often as it did is an encouraging finding, because this shows that students of these grade levels are capable of using and retaining this intertextual model in their use of multiple sources. For all the students in this study, reaching and attaining the level of skill associate with the separate representation model was a good outcome.

In the final chapter, the outcomes of the research study as a whole are considered. The participants' discussions, source concepts and knowledge, motivation, and intertextual use of sources provided multiple "ways in" to understand their thinking. The lessons learned from the

study and where to go forward from here in developing more understanding about this topic are discussed.

CHAPTER 7: CONCLUSION

The purpose of this research study was to explore fourth- and fifth-grade students' use of the multiple texts within historic sites for historical inquiry. Within this broad goal, I sought to learn more about the participants' concepts, abilities, and motivation to use historic site sources. The results of this study and the accompanying discussions in the previous chapters provided information that addressed each of these areas. Below, conclusions based on this work are presented.

The first section of this chapter addresses responses to the research questions that guided this dissertation: participants' concepts of multiple historic site texts (Research Question 1), their skills and challenges in using multiple texts (Research Question 2), and the relationship of participating in the classroom instructional sessions to using these texts (Research Question 3). The second section describes the significance of the study for researchers and educators. Finally, the third section discusses the limitations of this study and directions for future research.

Responses to the Research Questions

In this section, the research questions are addressed by highlighting the key findings of the study: (a) varying degrees of difficulty in concepts existed, (b) students' skills and challenges were related to both study group and grade level, (c) the importance of scaffolding and pre-visit preparation, and (d) need for theorization in the areas of intertextual reading and primary and secondary source terminology.

Challenges in Concept Development Existed

The ideas the participants encountered during the study reflected varying degrees of difficulty. Participants used this information to construct new concepts and modify existing ones. The results of the study showed which ideas were easier and which were more difficult for

the students to understand. One of the most fundamental yet simpler ideas was the connection between sources and the production of history. The notion that history results from using evidence to answer historical questions, at least in the context of the study activities, was one that most students seemed to comprehend without difficulty. How well this understanding might transfer to students' evaluations in other historical activities, such as reading their social studies books or watching history programs on television, is uncertain. This study showed, however, that students of these ages were capable of understanding this concept.

Another relatively simple idea for the participants was the identity of the sources within historic sites for learning about history. All students were able to identify historic site sources, in many cases probably by basing their responses on prior visits to historic sites and museums. Furthermore, the students' expectations about the sources available at historic sites changed after visiting the historic site, which showed gains in this area of understanding by reflecting what is actually available at historic sites.

Students' concepts about methods of learning from sources reflected in their responses on the questionnaires revealed that they were able to make good judgments about what methods were most appropriate for particular sources. Among all students, regardless of study group or grade level, *carefully study the source* was the method chosen most often on both pre- and posttests, which demonstrated that even before the visit to the historic site, the students understood the value of studying something in order to learn. Conversely, however, *compare the source* chosen least often by all students on the pre- and post-tests. This indicated a problem with the participants' understanding of the value of intertextual comparison of sources in the process of learning.

When asked to consider how to use sources intertextually, most students seemed to

understand that some sources provided more or better information than others and that source examination was the proper method for making this determination. Likewise, most students had a good grasp of how to deal with potential disagreement among sources. The majority of students' had conceptual understandings that aligned in many ways with experts' thinking, even before the classroom sessions for the instruction students and the historic site visits (e.g., trying to understand the disagreement).

Some ideas seemed more difficult for the participants. For example, the differences between tangible and intangible sources, as sources of information, appeared to challenge many of the students. Viewing tour guide's words as a source that might be examined and evaluated like tangible sources was a novel idea for most of the participants. Another challenge for the students was the idea that even though a historical source was made in the past, it may not provide correct information to answer a historical question. Another idea that gave students difficulty was the understanding that secondary sources are commentaries on primary sources. This definition is important because it helps students understand the role of interpretive perspective in assessing the reliability of sources.

Students' abilities to use historic site sources appeared to be related to their conceptual understandings of sources. The results of this study demonstrated that the participants had varying degrees of challenge in their conceptual development associated with encountering ideas related to historic site sources. Although the participants achieved gains in their abilities to use sources, as described below, some of the skill limitations they experienced were related limitations in their conceptual understandings. More focused instruction in the specific areas described above as difficult may produce results in students' improved use of sources for historical inquiry.

Students' Skills and Challenges Related to Both Study Group and Grade Level

At the outset, one of the primary focuses of this study was examining the potential effects of participation in the instructional sessions with changes in the participants concepts, skills, performance on the source use activities, and motivation, especially perceptions of ability and value. It soon became clear that although the instruction group's participation in the classroom sessions was related to some outcomes, differences related to the students' grade level also were important. In some cases, grade level made more of a difference than study group membership. This realization allowed the focus to encompass exploration of differences related to grade level. Although claims may be made based on the relation of study group to certain outcomes, observations about potential developmental differences between fourth- and fifth-grade students that were associated with their skills and challenges cannot be ignored.

Much of the participants' source use centered on employing the Describe - Analyze -Compare/Contrast (D-A-C/C) method. In general, the participants seemed to understand the need for this evaluation method, and they used this same method to evaluate different types of sources (instruction group students during the classroom sessions and all students on the two source use activities). Most students exhibited the skill to describe and analyze sources, though fifth-grade students did more analysis overall. Most were able to cite their sources (as shown in the instruction group's discussions and all students' writing on the source use activities).

The one area relating to using the D-A-C/C method in which all participants, regardless of study group or grade level, exhibited the greatest challenge was with the definition of the Compare/Contrast step. In many cases, students misunderstood this step to mean generic comparing and contrasting of a source to other information, including prior knowledge, rather than deliberate intertextual comparison of a certain set of selected sources chosen for their value

in addressing a historical question. This misconception demonstrated a need for more instruction and practice in this area for all students. Most students showed skill in being able to use the D-A-C/C method on the Evidence Report Activity (the more scaffolded activity), even those who had not received the classroom instruction. Although differing levels of ability were observed, the students were able to use this tool to guide their evaluation of historic site sources.

Additionally, in general, students also exhibited skill in being able to select their own sources to address the historical question on the Source Based Question Activity. Again, various ability levels were observed, but almost no students failed to provide a self-selected list of sources on the activity. The ability to recall, make judgments, and select sources from among a large body of potential sources was demonstrated by the students. One challenge for students related to this activity, however, was that many students selected sources they themselves rated as having low reliability. Activities focused on helping students to learn to discriminate among sources and to defend their choices based on evidence should be included in future instruction.

Most students were able to make judgments about the reliability of sources, as shown in the classroom instruction sessions, the participant questionnaires, and the two source use activities. Contrary to what was expected based on literature about children's primary source use, the language the students used to talk about reliability in their writing reflected comparison, such as "good" and "bad" in terms of supplying information. There was little use of words like "lying" or "false." Another skill related to assessing reliability was that the participants, as a whole, gave high reliability ratings for objects, buildings, and tour guide's words, reflecting the actual nature of the historic site experience, in which these sources normally are highly reliable. One aspect of the students' understandings of reliability that is still not certain is how deeply they understand that reliability occurs only within the context of intertextual comparison.

One of the major elements of the study was determining which intertextual reading models would be exhibited in students' writing on the two source based activities. The students' performance on these activities clearly demonstrated that the three models described by Britt et al. (1999), especially the documents' model, were exhibited. Some students' attainment of the documents' model showed that this achievement is possible by students at these grade levels, and that with additional instruction and practice, more students may have been able to attain the documents' model. Also important is that 44% of the 50 students who changed models between the two source use activities changed to a more complex model, showing that improvement in this area was possible and did occur.

Being in the study group that received the focused instruction sessions made a difference in these students' skills in a number of important ways. Instruction group students were less likely than non-instruction group students to fail to respond when asked to define *primary source* and *secondary source*, and they also more often provided origin- and authenticity-based definitions for primary source, which are conceptual themes that align with expert definitions. On certain Source Use Knowledge questionnaire items, instruction students answered correctly more often than non-instruction students and moved from uncertainty to providing answers more often. Instruction students had higher motivation scores, with higher expectancy and value scores than their non-instruction group peers. Participants in the instruction group also were more likely to exhibit a separate representation model on the Evidence Report Activity and to retain it on the Source Based Question Activity. Conversely, non-instruction group students were more likely to fail to provide definitions for primary and secondary source. Noninstruction students exhibited the mush model on the Evidence Report Activity and retained it on the Source Based Question Activity. These differences demonstrate that in areas central to the

main goals of the research study – conceptual development, source use skill, performance on the source based activities, and increased motivation – membership in the instruction group made a difference.

In addition to these study group outcomes, differences did exist among students by grade level in their abilities to use multiple sources for historical inquiry. Regarding challenges, Grade 4 students were more likely to fail to provide definitions for primary source and secondary source. In a related area, they struggled with the idea that a secondary source is not a copy of a primary source but is rather a commentary. Further, fourth-grade students in general had trouble conceptualizing non-tangible sources as sources, in terms of being able to evaluate them in the same manner as other sources. They also were more likely to retain the mush model on the Source Based Question Activity and to move to a less complex model when their models did change.

Fourth-grade students showed good improvement in certain skills during the study. When asked about intertextual source use, they were more likely than their fifth-grade peers to suggest that using multiple sources provided different information and that using more than one source was advantageous. Fourth graders had higher motivation scores than fifth graders and showed greater gains in both their expectancy and value scores, meaning that more Grade 4 students expected to perform better on historical source use activities and that their value of this type of activity increased. Additionally, fourth-grade students seemed more interested in relating historical narratives on the source use activities than fifth-grade students, demonstrating a grade level connection to this type of interest, something worth exploring more deeply.

Fifth-grade students seemed more adept at using the D-A-C/C method, providing more analysis on the activities in general and being more likely to compare and contrast correctly on

the Source Based Question Activity. Because of this ability, fifth graders' writing was more likely to fit the documents' model on this activity. Likewise, more fifth graders kept the separate representation model between the two source use activities, and when they did change models, it was to a more complex one. Grade 5 students also discussed reliability on the Evidence report Activity, more often than their Grade 4 peers. In general, fifth-grade students were able to write longer and more complex sentences, which may have helped them to complete complex tasks, such as writing the essay on the Source Based Question Activity more successfully.

The Importance of Scaffolding and Pre-visit Preparation

Another valuable outcome of this study was finding that scaffolding and pre-visit preparation appeared to make a great difference in the students' conceptual development and skills improvement. In particular, using the D-A-C/C method for the students' evaluation of sources helped them to realize that this process might be applied to all types of sources. Encouraging students to use this method consistently by providing scaffolding in the form of cards with steps printed on them helped during the classroom activities for the instruction group. Structuring the Evidence Report Activity around the D-A-C/C steps reinforced the use of the method by instruction group students and supported non-instruction group students' completion of the activity. The fact that less use of the D-A-C/C method occurred on the Source Based Question Activity when this scaffolding was withdrawn showed the value of this scaffolding.

The entire aim of the instruction was to prepare the participants for their encounter with the multitextual historic site environment. The nature of this preparation, therefore, was very important. In contrast to many types of pre-visit preparation students often receive before visits to historic sites, the preparation these students received was focused on teaching them about each of the main historic site sources, how to evaluate them, and guided practice comparing them

intertextually. In addition, structuring the visit around the purpose of going to the historic site to investigate a particular historical question allowed the students to focus their attention while at the site while still enjoying the wonder of the environment (Boulotis, 2007).

Another area in which scaffolding appeared to be important was the use of images in the Evidence Report Activity. Giving the students photographs and icons provided them with prompts for memory and salient tools for evaluation. In the Source Based Question Activity, in which students had to rely more on their memories and their notes and drawings from the site, more of a burden was placed on them during the source evaluation task. Furthermore, overall, more description and analysis occurred when the students had the images before them than when they did not (on the ERA versus the SBQA). The value of supporting students' memories and encouraging deeper engagement with sources through the presence of actual sources or appropriate representations is indicated by these results. Although the ideal situation may be that teachers use objects and buildings as part of their classroom teaching, the reality is that this is not always possible. A good intermediate solution is the use resources, such as photographs and oral history recordings (available online from museums and libraries), as a way to put sources in front of students and to teach multimodal text evaluation skills.

Developing an Intertextual Reading and Comprehension Model

Another important outcome of this study was a new way to conceive of intertextual reading based on my evaluation of the intertextual reading models described by Britt et al. (1999). Their models were developed through research with college-aged students. When the models were applied in the present study to describe the intertextual work of students in fourth-and fifth-grade, it became apparent that the Britt et al. models did not fully differentiate the intermediate stages of development present in students at these elementary grade levels, which

were identified in the students' writing.

Based on the outcomes of this study, I found that the Britt et al. intertextual models did not adequately reveal the learning progressions of the child participants in this study. Specifically, learner development between the mush and separate representation models needs to be differentiated in greater detail. For example, in the mush model, the participants provided content but no source citations and did not consider the ultimate relevance of each source to the question. In the separate representation model, along with content, the sources were cited but not read intertextually.

In the present study with fourth- and fifth-grade students, it was often difficult to decide whether participants' writing on the Evidence Report Activity and the Source Based Question Activity fit a mush or separate representation model, and these categories did not seem adequate to capture intermediate levels of writing. For example, about 10% of participants whose writing was labeled "separate representation" provided source citation and discussion for only one or two sources. In these cases, the link between citation and the students' discussion in the writing was present but was somewhat tenuous. These results suggest that a category between mush and separate representation is needed, to reflect the students' development beyond the mush model that is not ideally described as separate representation. This distinction would have been useful for me both instructionally as I taught these students and empirically as I coded my data. Although not formally tested in the present study since the Britt et al. (1999) models were used in designing the classroom instruction, I now conclude that a developmental step between the separate representation and documents' models exists for some students. Understanding more about this developmental step will be helpful in designing instruction appropriate for students zone of proximal development and thus should be explored in future studies.

Further, the present study showed the value in evaluating students' intertextual use of sources by assessing their intertextual reading models, not only for assessing students' present levels of abilities, but also for mapping progress toward increasing model complexity. Teachers, therefore, may make use of these models as classroom tools for the same purposes. The discussion of the models in Britt et al. (1999), though accessible to disciplinary experts and researchers, may be difficult for teachers to use and communicate to students at these grade levels. The names of the models and the language describing them need to be accessible, in order to make the theory more accessible in the context of teaching.

Based on the results of the present study, I have developed the Children's Historical Sources Reading and Comprehension (CHSRC) model (described below) jointly with Elizabeth Heilman. This model is designed to distinguish intermediate levels of development and capture the learning progressions of younger, school-aged learners. We have found that it resolves my concerns with using the Britt et al. (1999) models to understand the data from this study and addresses Heilman's concerns in her work on the use of distinctive texts and types of understanding in social education (Heilman, 2010) when teaching and learning specifically about historical texts. This model includes a place for a fifth category of students' thinking and also provides research-based definitions of distinctions among approaches that reflect how children engage with historical sources. Additionally, the CHSRC model uses language that both more accurately describes each level of student thinking and is also labeled with more intuitive names than the existing Britt et al. (1999) models, which will help clarify distinctive ways of reading and learning from about historical sources. Finally, in our model, the focus is on the distinctive and multiple interpretive goals involved in the reading of historical sources. While students seemed generally to develop in a linear manner from the less complex to the most complex in the

act of reading historical texts, some students appeared to master these ways of reading differently. For example, a student may successfully connect a single historical text to a valid historical narrative before she is able to compare, connect and integrate multiple texts.

The CHSRC model includes the following levels of development that signal movement toward fully integrated interpretation and critical comprehension.

- Isolated descriptive comprehension: Content from historical sources is described, but they are described in isolation from other sources.
- Emergent interpretive comprehension: Content from some historical sources is described and limited citations for sources of the information are provided, showing emergent but not mastered understanding of the idea that historical texts are inherently highly contextual and require interpretation beyond that which is suggested by the immediate signifiers in the object or text itself. In this phase, students *attempt to connect* historical sources to important historical concepts and events, and they also may begin to try to connect meaning between different sources, but their interpretive connections are limited or inaccurate. At this phase, students may use historical sources to make a point addressing a historical question, but either the way the source is understood or the way the historical importance is described is inaccurate.
- Mastered interpretive comprehension in isolation: Students integrate their understanding of relevant multiple historical sources and show their understanding of how the multiple sources relate to each other. Students connect some historical sources to each other, and they have developed interpretive meaning between and across different sources. Students cannot yet connect meaning from these multiple

historical sources to a valid historical narrative.

- Integrated interpretive comprehension: Students integrate their understand of multiple historical sources showing their understanding of how multiple sources relate to each other, including multimodal sources. Students connect sources to each other, and they have developed interpretive meaning between and across different sources. Additionally, they are also able to connect meaning from these multiple historical sources to a valid historical narrative.
- Integrated interpretive and critical comprehension: At this level, students demonstrate all of the previous levels and also are able to compare, contrast, and evaluate multiple historical narratives. Students are able to connect the development of their own historical interpretations and narrative to other interpretations and narratives through critical meta-analysis. Students understand not only that historical sources require interpretation but also that historical narratives are acts of interpretations that may be/should be critically analyzed.

This new model is important because it emphasizes the need to characterize learners' development when using sources intertextually and the use of multiple types of sources. In the Britt et al. (1999) model and many other intertextual reading models, the focus is on using text or photographs, but this model emphasizes applications to "reading" all types of historical sources, including objects, buildings, and intangible sources like oral communications. A model that highlights such an expanded view of historical sources in conjunction with the need for historical interpretation and comprehension will provide a tool to help teachers broaden their scope of what is seen as useful for teaching history. Additionally, the sensitivity of this model, based on the developmental levels of elementary school children and their needs in the zone of proximal

development, will provide a practical teaching and assessment tool.

The results of this study also showed the importance of scaffolding students' experiences while learning how to evaluate sources and practicing these skills. Sharing the above information about possible intertextual reading and comprehension with students and allowing students to work with, critique, and attempt to emulate examples of the most desirable level (Integrated Interpretive and Critical Comprehension) will make very plain the goals of the learning activities. Furthermore, using examples of the levels themselves, in the form of real students' writing (perhaps critiquing and revising their own writing and the writing of others), may provide opportunities to engage in higher order thinking skills centered on understanding the skills necessary to exhibit integrated interpretation and critical comprehension. Teachers need the elements of the theoretical models to be translated into lesson plans with practical examples (appropriate for grade levels) that students can use to build their own understanding.

Alternate Terms for Primary Source and Secondary Source

The classification of sources as either primary or secondary is determined not by examining the source in isolation, but rather by examining the sources' function as historical evidence (see Barton, 2005). A single source, therefore, may function in multiple ways, depending on what type of evidence or information it provides. For example, in the fifth-grade instruction group's discussion of the classification of a fake military uniform, we concluded that such a source would not give us primary source evidence of the historical war, but the uniform would be a primary source in a museum of fake uniforms. As the results of this study showed, helping students to understand that the terms *primary source* and *secondary source* really are about the functions of "evidence from the past" and "talking or writing about primary sources" (as defined in the instruction group's classroom sessions) was challenging. Nevertheless, the

need for students to understand these terms is imperative, because of the use of the terms in social studies curriculum standards and textbooks. (For instance, the Michigan *Social Studies Grade Level Content Expectations*, 2007, state that third-grade students should be able to "Explain how historians use primary and secondary sources to answer questions about the past," p. 29.)

The focus in this study was on listening to children's discourse and learning how children conceptualize *primary source* and *secondary source*. Although many empirical studies about children's use of primary sources and history and social studies education resources discuss teaching elementary school-aged students to define these terms, few studies deeply explore students' concepts of the terms before or during instruction about using sources for historical inquiry. It is clear from the results of the present study that specific student conceptions and misconceptions about the definitions of these terms existed, and the terms commonly in use clearly contribute to children's confusion rather than clarifying how to distinctions among historical sources.

One of the most important factors in the students' understandings of the terms was language. The terms *primary* and *secondary* seemed to shape the students' thinking about these terms, especially for secondary source. Thinking in terms of "first" and second" – what the words primary and secondary convey in ordinary English – was the basis for the large number of (incorrect) responses coded as numerative and re-presentation. The fact that instruction group students were more likely to define primary source with origin- or authenticity-based definitions demonstrated that specific instruction was necessary to help students modify their concepts of primary source away from the notion of numeration. To combat such confusion, Barton's (2005) proposal to creating an "original historical sources" category that included all sources that

function as evidence from the past (para. 31) was a good one. Based on the results of the present study, however, using a term like "original" creates a concern, because it appears to set up for children the binary original/copy (as reflected in their understanding of the words), rather than the binary original/commentary, as for experts. Using the term "historical sources" is probably sufficient to invoke in children recognition (in and through common understandings of language) that such sources have their genesis of sources in historical time and therefore are historically authentic, as the instruction group students did in this study.

To complement Barton's (2005) "historical sources" definition for primary sources, I suggest the term *interpretation source* or *meaning-making source* instead of the term secondary source for students at the elementary school level. Despite some students' participation in instruction, 11 participants (of the 67 who provided an answer) still struggled with the idea that a secondary source is not a copy or other restatement of a primary source. Additionally, many students chose to define by example on the post-test, which shows they could identify a secondary source but does not explain the reasoning behind the choice. In the instruction sessions, secondary source was defined as talking or writing about primary sources, a definition that should help students to develop understandings of secondary source that do not include re-representation.

Using the historical sources and interpretation sources terminology might eliminate the tendency for children to adopt a numerative conception for both primary and secondary sources and encourage correct conceptualizations of the nature and function of secondary sources. In future work on students' concepts of primary and secondary sources, it would be useful to highlight more assertively the fact that in doing primary source evaluation activities at the interpretive level, the students themselves are creating secondary sources.

Alternately, since the confusing terms *primary source* and *secondary source* are so ubiquitous in teaching standards and teaching resources, another option is for teachers to explicitly teach the definitions and distinctions. Historical thinking involves multiple dimensions of interpretation and abstraction and using the word "source" for two conceptually distinct texts that require different types of reading is inherently problematic. More accurate and pedagogically sound is to explain that sources for historical understanding include primary *things* and secondary *commentary*, for example, primary sources as the "what" (tangible or intangible source) and secondary sources as the "why" (people's commentary, interpretation, or meaningmaking about the "what").

Future research might present students with a series of "test" items in a semi-structured survey or interview format, where examples of what historians would clearly consider primary or secondary were presented. Students would choose the category into which they would put this example and write a brief open-ended explanation of their choice. This would serve both as an assessment and as an instructional resource.

Significance of the Study

This research study was necessary first step in understanding more about fourth- and fifth-grade students' use multiple historic site texts for historical inquiry. As discussed in the Introduction, empirical research on this topic is limited. By using multiple data collection instruments and analysis methods, this study provided a rich description of the participants' concepts, abilities, and motivation to use historic site sources. The most significant outcome of this study is this understanding. This study adds to the literature on children's primary source use (Barton, 2001a, 2001b, 2005; Foster & Hoge, 1999; Foster & Yeager, 1999; VanSledright & Afflerbach, 2005) by showing that the children in this study experienced some of the same

challenges using the multiple texts within historic sites as children in studies using documents and photographs. In this study, however, since the participants used multiple types of sources and experienced many of them in an ecologically valid setting, some of the findings about the participants' source use are unique and therefore useful to scholars.

Related to understanding more about students' use of sources, this study demonstrated the need children at these grade levels have for instruction and scaffolding. The design of the focused instruction for the instruction group, the historic site experience, and the source use activities for all students helped to highlight the skills and challenges of students. Another benefit of working through the instructional concepts and activities with the students was that it allowed the researcher to see how the participants understood these activities, how much they enjoyed them, and where the activities might be improved to benefit students at these grade levels. The process of learning about sources and using sources was a critical process, not an "information retrieval" process (VanSledright & Kelly, 1998; VanSledright, 2000).

Additionally, the contributions this study makes to the fields of history and historic site education cannot be overlooked. The information and perspectives provided here may aid classroom and historic site educators teaching fourth- and fifth-grade students to use multiple sources for learning about the past, by supplying information to inform the development of pedagogies and instructional materials. Models of scaffolding and pre-visit preparation in the study may provide examples for designing historical inquiry experiences for students that allow in-depth exploration of multiple types of sources. The theorization about intertextual reading and terminology for teaching about primary and secondary sources will aid educators as well.

Limitations of the Study and Directions for Future Research

The main limitation of this study was the challenge to balance the instructional needs of
the students with the time available for classroom instruction. Although the classroom teachers, Mrs. Hertel and Mrs. Peterson, were very accommodating and supportive during the project, only so much time was available to devote to the special lessons designed for the study. As discussed above, more instruction and sustained practice in intertextual source use would have benefited the students and deepened their understandings.

Another limitation was the short amount of time spent at the historic site. The students spent half of a school day at the site, and some of that time had to be devoted to orientation and group logistics. If this study were repeated, I would plan for a full day at the historic site, the second half of which would be spent doing more practice with source evaluation, perhaps following a workshop or fieldwork model. Designing this study around the students' visits to the historic site provided the students with experiences that cannot be duplicated elsewhere, and so maximizing the impact to the time spent on-site is imperative.

Finally, using students' written artifacts as data sources was an acknowledged limitation of the study. As was anticipated, the ability of children at these grade levels to express their thoughts in writing varied. The written activities used permitted the collection of large amounts of data from nearly 100 students, but data collection in the form of think alouds during intertextual source use (VanSledright & Afflerbach, 2005) may have provided more detailed information about the participants' intertextual reading models, by eliminating the need for students to write.

This study points to future directions in research using the results of this study as a basis. One of the areas of exploration most needed concerns the cognitive load produced by the multitextual historic site environment. As demonstrated in this study, the participants encountered a complex environment with a variety of source types. Most students did not know

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how to approach these sources individually and less so how to approach them intertextually. A study focusing on students' attention and interest (building on Leach 2011a) may be useful to the history, historic site education, and educational psychology communities.

Another suggested area of focus is learning more about children's understandings of sources' historical origin (i.e., artifacts from the past) and the need for sources to be evaluated and judged in the historical inquiry process. One misconception observed in some studies is that novices tend to generalize things that "look old" (Barton & Levstik, 1996; Foster & Hoge, 1999). Ascribing authority to sources based on solely age is not consistent with the practice of experts in the field of history. Discussions with children around this topic may produce interesting and informative results.

Based on the results of this study, more understanding of children's intertextual use of multiple historic site texts is needed. Continued refinement of the Children's Historical Sources Reading and Comprehension model will be pursued, and the model will be empirically tested. In the classroom or historic site, one area of research in teaching may involve students using their own writing and the writing as tools to encourage conceptual and skills development. For example, as done in a limited way during the classroom instructional sessions, students may evaluate examples (like the Evidence Report Activity) of intertextual source use and critique the evaluation of sources. Additionally, this type of critique may help students recognize higher order thinking skills, such as analysis and comparison/contrasting. Educators may use this skill of recognition as a springboard to following desirable models of these higher order thinking skills.

Finally, as expressed in Chapter 5, understanding more about children's motivation, especially academic and personal value, for engaging in multitextual reading and study of

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sources is needed. Developing personal interest is one path to sustained engagement with history, but for most learners, different types of interests and motivations are present. Helping students to develop understandings of their own motivations may encourage long-term appreciation for historical inquiry and historic sites, and with this appreciation, lifelong history learning in whatever form it takes.

APPENDICES

Appendix A

Elementary School-aged Children's Skills and Challenges When Working with Primary Sources

Skills

I. Concepts

A. Nature of primary sources

- Understands differences between primary and secondary sources (James & McVay, 2009; VanSledright & Afflerbach, 2005)
- Separates content and textual form in discussion of sources (VanSledright & Kelly, 1998)
- Identifies and describes perspective with no trouble (Foster & Yeager, 1999)

B. Nature of primary source evaluation/use

- Accepts that "history is a thoroughly interpretive subject" (VanSledright, 2002a, p. 1104-1105)
- Understands the complexity in the procedures of constructing historical knowledge (Foster & Yeager, 1999)

II. Critical evaluation

A. Procedural

- Examines sources critically, but rarely spontaneously (Barton, 1997b)
- Engages in critical evaluation of source type (VanSledright, 2000)
- Understands that sources are imperfect and can be questioned (Foster & Yeager, 1999)

B. Comparing multiple sources

• Engages in intertextual comparison to other document assignments (VanSledright, 2000)

C. Contradiction in/among sources

• Discusses of contradiction in sources (Foster & Yeager, 1999; James & McVay, 2009)

D. Reliability and validity

• Identifies examples of why sources reliable or unreliable (Foster & Yeager, 1999)

III. Connection making

A. Using sources as evidence to address historical questions

- Provides rationales for what they conclude about sources (Barton & Levstik, 1996)
- Has "valid, common sense ideas" (Barton, 1997b, p. 418)
- Quotes sources to support hypotheses (Foster & Yeager, 1999)

B. Connecting to historical knowledge/framework

• Has developed historical knowledge, no difficulty in answering preliminary factual questions (Foster & Yeager, 1999)

C. Connecting information from sources to real life

Makes connections from information learned in sources to contemporary life (James & McVay, 2009)

IV. Interest

• Students' interest prompts learning (VanSledright & Kelly, 1998)

V. Affective responses

- Enjoys the activity (Barton, 1997b)
- Enjoys using multiple texts (VanSledright & Kelly, 1998)

Challenges

I. Concepts

A. Nature of primary sources

- Has tendency for presentism in discussion of source purpose (Foster & Hoge, 1999)
- Views artifacts as transmitting information directly to the present (Barton, 2001b)

B. Nature of primary source evaluation/use

- Does not understand the function of evidence (Barton, 2001b)
- Views source work as "information retrieval" process, not requiring critical evaluation (VanSledright & Kelly, 1998; VanSledright, 2000)

C. Nature of history

• Fails to see connection between their work on documents and how history is produced (Barton, 1997b)

• Believes history is passed down via word of mouth (Barton, 1997b)

II. Critical evaluation

A. Procedural

- Examines sources critically, but rarely spontaneously (Barton, 1997b)
- Needs extensive assistance and scaffolding to perform tasks (James & McVay, 2009)
- Reads cues from sources incorrectly, e.g., the nature of the physical evidence gets in the way of or shaped students' evaluations (Barton & Levstik, 1996)

B. Comparing multiple sources

• Fails to understand differences in texts influence the ways texts used as sources (VanSledright & Kelly, 1998)

C. Reliability and validity

- Ignores considering reliability of sources (Barton, 1997b)
- Limits validity assessment to the "naïve relativist position," in which all perspectives are considered valid (Barton, 1997b; VanSledright & Afflerbach, 2005, p. 15)
- Does not judge perspectives against others to determine validity (a "criterial position," characteristic of experts) (VanSledright & Afflerbach, 2005, p. 15)

III. Connection making

A. Using sources as evidence to address historical questions

- Fails to use source-based information to make claims about their historical questions (Barton, 1997b; VanSledright & Afflerbach, 2005)
- Misses the connections between conclusions and evidence (Barton, 1997b)

B. Connecting to historical knowledge/framework

- Exhibits problems in dating abilities, generalizing things that "look old" (Barton & Levstik, 1996; Foster & Hoge, 1999)
- Fails to use historical knowledge to inform/support hypotheses (Barton & Levstik, 1996; Foster & Hoge, 1999)
- Has an incomplete historical framework, e.g., student knows about events but does not know dates (Barton & Levstik, 1996)
- Gives references to the past that are vague and general (Barton & Levstik, 1996)

IV. Other

• Rarely transfers skills in evaluating reliability or conflicting sources to other school activities (Barton, 1997b)

Appendix B

Diagrams of Instruction Group Classrooms



Figure 16. Diagram of the Grade 4 instruction group classroom.



Figure 17. Diagram of the Grade 5 instruction group classroom.

Appendix C

Participant Questionnaire

PART 1

Age ______
 Gender _______
 Race _______
 Have you ever visited a historic site (like a historic house, a fort, or a place where a historic event took place)?

 Yes
 No

 Have you ever visited a museum?

 Yes
 No

 How interested are you in learning about historic places?

 I'm almost never interested.
 I'm sometimes interested.
 I'm usually interested.
 I'm always interested.

PART 2

7. What is a primary source?

8. What is a secondary source?

9. Tim is going on a field trip to a historic site with his class. What sources of information might Tim find at the historic site to help him learn about history? (It's okay to check more than one answer.)

Objects	Videos
Buildings	Hands-on activities
Outdoor spaces	Other things? List on lines below
Tour guide's words	
Written documents	
Photos	
Signs	

10. Tim isn't sure how he can learn about history from each of these sources. Check all the boxes that tell ways you think Tim can learn about each type of source.

	Ask someone who knows about history	Use his 5 senses (see, hear, touch, etc.)	Carefully study the source	Compare the source to other sources
Object				
Building				
Outdoor space				
Tour guide's words				
Written document				
Photo				
Sign				
Video				

11. Circle the number of stars to show which sources you think would give you *the best information* about a historic site.

****	means this is one of the best sources
***	means this is a medium-best source
**	means this is a least best source
*	means I should not use this source at all

Object	\star	\bigstar	\star	*
Building	\star	\star	\star	\star
Outdoor space	\star	\star	\star	\star
Tour guide's words	\bigstar	\bigstar	★	★
Written document	\star	\star	\star	\star
Photo	\star	\star	\star	★
Sign	\star	\star	\star	\star
Video	\star	\star	\star	\star
Ask a family member or friend	\star	\star	\star	*

12. Circle the number of stars to show *how much you trust* each kind of source to give *the best information* about history.

****	means you trust the source a lot
***	means you trust the source a medium amount
**	means you trust the source a little
*	means you don't trust the source at all

Object	\star	\star	★	\star
Building	\star	★	★	\star
Outdoor space	\star	\star	\star	\star
Tour guide's words	\star	\star	★	\star
Written document	\star	\star	\star	\star
Photo	\star	\star	★	\star
Sign	\star	\star	\star	\star
Video	*	\star	\star	\star
Ask a family member or friend	\star	\star	*	\star

13. Tim's friend Sue wants to use two sources of information together (an old photo and an old document) to answer one question about history. Check *all* the reasons that you think apply in each column about Sue's idea.

Good Idea	Bad Idea
Sue could get more information from two sources than from one.	Sue could get confused by having too much information.
Sue could get different types of information from each source.	A photo and a document are too different to compare.
Sue could use information from one source to help her understand the other source better.	The two sources might disagree.

14. What should Sue do if her two sources of information disagree? (It's okay to check more than one answer.)

Ignore the disagreement

Try to understand the disagreement

Realize that no source can give more correct information than another

Find new sources that don't disagree

None of the above

15. Historical sources give correct information about what happened in the past since they were made in the past. (Check 1 box for each question.)

Strongly agree	Agree	Disagree	Strongly disagree	Not sure
0,0	0	0	0, 0	

16. No one today can know about the past since they were not there.

Strongly agree	Agree	Disagree	Strongly disagree	Not sure
----------------	-------	----------	-------------------	----------

17. Some historical sources provide better information about the past than other sources.

Strongly agree	Agree	Disagree	Strongly disagree	Not sure
Subligity agree	Inglee	Disagice	Subligity disagree	

18. All historical sources give correct information.

Strongly agree	Agree	Disagree	Strongly disagree	Not sure
	0	U		

19. Hi	storians can examine	sources	to see if they prov	ide information about h	istory.		
	Strongly agree	Agree	Disagree	Strongly disagree	Not sure		
20. I c	20. I can examine sources to see if they provide information about history.						
	Strongly agree	Agree	Disagree	Strongly disagree	Not sure		
21. I fo inf	eel confident about n `ormation about histo	ny ability ory.	to examine source	es to see if they provide			
	Strongly agree	Agree	Disagree	Strongly disagree	Not sure		
22. I tl	hink examining histo	rical sou	rces is a good way	to learn about the past	,		
	Strongly agree	Agree	Disagree	Strongly disagree	Not sure		
23. Pr his	etend your teacher a story.	sks you t	o examine sources	like Sue did, to learn a	bout		
	How excited would y	ou be abo	out doing this activity	ty?			
	Very excited	:	Sort of excited	Not very excited			
	How well do you thin	ık you wo	ould do on this activ	ity?			
	Very well	(Okay	Not very well			
	How much do you thi	ink this a	ctivity would help y	ou learn about history?			
	A lot]	Medium amount	Not very much			
	How fun would this a	ctivity be	e for you?				
	Very fun	;	Sort of fun	Not very fun			
24. W	hen you learn at scho	ool, how a	are you most likely	to learn <i>best</i> ?			
	Hearing infor	mation					
	Seeing/readin	g informa	ation				
	Doing an acti	vity					
	Watching son	neone els	e				
	-						

25. Pretend your teacher said you would be going to a historic site like Tim.

How excited would you be about going?

Very excited	Sort of excited	Not very excited
How much do you think	this activity would help yo	ou learn about history?
A lot	Medium amount	Not very much
How fun would this activ	ity be for you?	
Very fun	Sort of fun	Not very fun

26. If you went to a historic site, how would you be most likely to learn best?

Hearing information Seeing/reading information Doing an activity Watching someone else

Appendix D

Classroom Sessions for the Instruction Group

Session 1: "Learning to Examine Sources"

- Big Idea: Sources provide information about the past. Objects may be used as sources of historical information. People may examine and use sources to answer historical questions.
- Objective: Students will be able to use the D-A-C/C (Describe, Analyze, Compare/Contrast) process to access objects.

Session 2: "Learning to Examine Sources: Buildings and Environments"

- Big Idea: Buildings and environments may be used as sources of information. Historic buildings and environments provide information about the past.
- Objectives: Students will be able to use the D-A-C/C process to analyze photographs of historic buildings and their school building and spatial environment.

Session 3: "Learning to Examine Sources: Written and Oral Interpretation"

- Big Idea: Written and oral communication at historic sites may be used as sources of information about the past.
- Objectives: Students will be able to use the D-A-C/C process to analyze written (labels and signs) and oral (tour guide's words) communication from a historic site.

Session 4: "Learning to Examine Sources: Reading Multiple Texts"

- Big Idea: Reading multiple texts together provides information to answer historical questions.
- Objectives: Students will be able to critique essays written by elementary school students who visited a historic site, to determine whether the writers followed the D-A-C/C method and evidence report writing steps.

Appendix E

Concepts Related to Research Questions Discussed in the Instruction

Research question	Session 1	Session 2	Session 3	Session 4
Q7: Primary source definition	•	•	•	
Q8: Secondary source definition	•	•		
Q9: Sources of information to help learn about history				
Objects	•	•	•	•
Buildings	•	•	•	•
Outdoor spaces		•		•
Tour guide's words			•	•
Written documents	•			
Photos	•	•	•	
Signs			•	•
Videos			•	
Hands-on activities				
Q10: Ways to learn about each type of				
source				
Ask person who knows about history	•		•	
Use five senses	•	•	•	
Carefully study the source	•	•	•	•
Compare sources	•	•	•	•
Q12: Assessing source reliability	•	•	•	•
Q13: Comparing sources				
More information from multiple	•	•	•	•
sources than one				
Different information from each	•	•	•	•
sources				
Use information from sources to understand each better	•	•	•	•
Confusion may be addressed and resolved by comparison	•	•	•	•

Group Classroom Sessions

All sources may be compared	•	•	•	•
Dealing with sources that disagree	•	•	•	
Q14: Addressing disagreement of sources				
Do not ignore disagreement	•	٠	•	
Try to understand disagreement	•	•	•	
Judge information in sources	•	•	•	•
Comparing sources is possible	•	•	•	•
Q15: Not all historical sources give correct information about the past.	•	•	•	
Q16: It is possible to learn about the past, even though we weren't there.	•	•	•	
Q17: Some historical sources provide better information about the past than	•	•	•	
Q18: All historical sources do not provide correct information.	•	•	•	
Q19: Historians examine sources to learn information about history.	•		•	
Q20: Students can examine sources to learn information about history.	•	•	•	•
Q22: People learn about the past by examining historical sources.	•	•	•	•

Figure 18. Concepts related to the research questions discussed in instruction group classroom sessions.

Note. The symbol " • " means the concept was presented in the classroom sessions.

Appendix F

D-A-C/C Source Evaluation Method Teacher Information Sheet

The Describe - Analyze - Compare/Contrast process is designed to give students a single method to examine multiple types of sources. The process is based on primary source teaching materials from the Library of Congress and works by Wineburg (1991) and VanSledright and Afflerbach (2005). The D-A-C/C process may be used to examine documents, objects, places, oral histories and other spoken communications, and so on. Students should be encouraged to understand and memorize the D-A-C/C process steps. Teachers may wish to have students create a memory aid to scaffold their use of the method. One option is to ask students to write the letters D-A-C/C and what they stand for on a 3x5 index card for use in any classroom or other educational activities.

Describe

The first step when encountering a source is to "Describe" what type of source it is. *Is it a document? An object? A place? Someone's words? Who wrote, made, or spoke this source?* Answering historical questions requires evidence. To find evidence, you must make observations. Making observations means closely examining primary sources. Ask, *What do I notice first? What do I notice that I didn't expect? What do I notice that I can't explain?* Observations will help people to decide which sources to use to answer their historical questions and when/how to use multiple sources. No matter what the sources is (a document, an object, a house, or whatever), the senses may be used to help make observations.

Analyze

The second step is to "Analyze" by looking more deeply at the information learned in the Describe step. Part of analyzing sources is gathering information about the author or maker of a source. Look at the source and answer the following questions: *What was the author or maker's purpose? Who is the intended audience for this source?* Sometimes it may be difficult or impossible to determine the author, purpose, and audience. It may be necessary to make educated guesses to answer these questions. Analyzing also involves drawing conclusions based on evidence. Ask questions such as *What do I learn from this source?* and *How does this source help me to answer my historical question ?*

Compare/Contrast

The last step is to compare and contrast the source you have examined to other sources. Historians rarely rely on one source to answer a historical question, unless there is nothing else in the historical record that will help. Comparing/contrasting allows people to make judgments about what one source adds to the evidence from the other sources. *Do you trust this source to give you correct information? Does this source agree or disagree with the other sources? What information does this source provide that the others don't? How do the sources work together to help you answer your historical question?*

Appendix G

Descriptions of Transcripts from the Instructional Sessions

Transcript 1 Session 1, Grade 4. Speakers included Researcher, Mrs. Hertel, and 28 student participants

Transcript 2 Session 1, Grade 5. Speakers included Researcher, Mrs. Peterson, and 19 student participants

Transcript 3 Session 2, Grade 4. Speakers included Researcher, Mrs. Hertel, and 27 student participants

Transcript 4 Session 2, Grade 5. Speakers included Researcher, Mrs. Peterson, and 19 student participants

Transcript 5 Session 3, Grade 4. Speakers included Researcher, Mrs. Hertel, and 28 student participants

Transcript 6

Session 3, Grade 5. Speakers included Researcher, Mrs. Peterson, and 18 student participants

Transcript 7

Session 4, Grade 4. Speakers included Researcher, Mrs. Hertel, and 28 student participants

Transcript 8

Session 4, Grade 5. Speakers included Researcher, Mrs. Peterson, and 19 student participants

Appendix H

Evidence Report Activity

Ella Sharp Museum Evidence Report Activity

Directions: Look at the 4 sources inside. Under each picture, describe and analyze each source. On the last page, compare and contrast what you learned from the sources.

1. DESCRIBE means write down your observations about the source.

2. ANALYZE means tell what you learned from the source.

3. COMPARE AND CONTRAST means tell how each source helps you to answer the historical question.

STARS mean circle how reliable you think the source is.

****	= very
***	= medium amount
**	= a little
*	= not at all



3-D PICTURE VIEWER

Describe and analyze this source below.



TOUR GUIDE'S WORDS ABOUT GETTING WATER

Describe and analyze this source below.

 \star

 \star



BARN

Describe and analyze this source below.

Schooling in the 1800s

It is believed that the Merriman children started school at the oneroom brick school built in the mid-1860s. At this time, many children lived on farms. Children were excused from school during the months when they were needed to work in the fields.

EXHIBIT LABEL

Describe and analyze this source below.

 \star

 \star

COMPARE AND CONTRAST

WHAT INFORMATION DOES EACH SOURCE GIVE YOU TO ANSWER THIS QUESTION:

What was life like for farm children in the 1850s-1890s?

All photographs by the author

Appendix I

Source Based Question Activity

Ella Sharp Museum SOURCE ACTIVITY

What You Will Do

- 1. Part A: Look at your notes from the Observation Packet and Evidence Report.
- 2. Part B: Make a list of sources to answer the historical question.
- 3. Part C: Write a journal entry using sources to answer the historical question.

Historical Information

The Merriman-Sharp family came to Jackson in the middle 1800s. Their farm had 530acres. They built a house, barns, and other buildings. In the past, farm children's lives were different than today. We can use sources to learn about their lives.

Your Historical Question

What was life like for farm children in the 1850s-1890s?

Part A 💻

Directions: Look at your notes. Think about the sources you found. How do the sources help you answer the historical question? When you are done, go on to Part B.

Part B

Directions: Which sources are the **best** to answer the historical question? Open your folder. Make a list of **at least four sources** in your folder. When you are done, go on to Part C.

Part C

Directions: Write a journal entry. Use your notes and your list from Part B to help you. Answer this historical question:

What was life like for farm children in the 1850s-1890s?

\rightarrow Be sure to:

- Include an introduction, body, and conclusion.
- Talk about sources in your answer.

\rightarrow You can use this outline for your journal entry.

Introduction: Write 1 paragraph.

- Tell what historical question you will answer.
- Use your own words and ideas.

Body: Write at least 1 paragraph. You can write more if you want to.

- Tell what life was like for farm children in the 1850s-1890s.
- Use information from your sources.

Conclusion: Write 1 paragraph.

• Sum up your ideas.

\rightarrow When you are done, follow these steps.

- 1. Make sure you have an introduction, body, and conclusion.
- 2. Make sure your sentences make sense.
- 3. Put your worksheets inside your folder.
- 4. Give the folder to your teacher.

Appendix J

Researcher Identity Memo

My interest in historic objects and places has been lifelong. Since childhood, I have had a deep love of history and visiting historic places. I remember visiting a historic house on a school field trip, thinking about what I was experiencing in that place and imagining how life would have been for the people who lived there long ago. I touched the woodwork, looked through the wavy-paned glass in the windows, and saw my reflection in 100-year-old mirrors. I was in the place historical people had been and perhaps experiencing it as they did. Since then, I have always enjoyed speculating about how the physical environment can connect people to knowledge of history.

My personal desire to help others learn about/from historic places has motivated my educational and career goals. I have been working in or with museums, historic sites, and historic preservation since 2001. Through theoretical research, I have come to the conclusion that *museum place* and *historic place* are qualitatively different (Leach, 2007). Museum place is the union of physical place (including museum buildings, objects, and exhibits) with the intangible "place" created within the walls of museums by the articulation of memories. Historic place is defined as any physical location that becomes "historic" in the memories of individuals or groups, with or without human-made objects connected to it.

My views about the definition of historic place have led to assumptions about the need to examine historic place as a particular learning environment. If a historic place is a special type of learning environment, then practitioners and scholars must understand the unique types of learning that happen there. My main interest is in describing the characteristics of historic place and researching the experiences people have there. It has become important for me to link

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theoretical and empirical research results with applications for practitioners (such as classroom and historic site educators), in ways that involves practitioners in shaping these applications, rather than merely providing prescriptions from researchers.

These views and goals shape the way I approach my research, many theoretical works appear not to have been tested by empirical study. Although theoretical work is important, at some point, determining how to apply theory and evaluating the results must occur. Further, much that is current in historic site educator practice is based on the museum education literature, which may or may not be appropriate for education at historic sites (e.g., by the American Association of Museum's definition, zoos, gardens, and historic sites are all considered *museums*, and professionals who work in these institutions employ the same museum visitor studies literature based on common theory). Current practice needs to be evaluated using empirical study to determine if elements of learning particular to historic places are being addressed.

The potential advantages of my experiences and goals are a deep concern for addressing the needs of one particular type of environment (historic places) that has been under studied and the desire to create links between theory and practice for practitioners. Potential disadvantages include the need to understand a variety of interdisciplinary literatures and approaches (history, museum studies, geography, and place studies) and the reality that others may not share my personal interest in historic places and desire to experience them. I need to find the best ways to balance my zeal to share the exciting things about historic places with an understanding that some people may have less intrinsic interest in historic places. In the end, the most important thing for me is to see people engaged in dialogue around the subject of historic places.

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Appendix K

Short Essays Critiqued by Instruction Group Students in Session 4

Note: Evidence Report 1 was written by an elementary school student after a field trip to a historic house. Evidence Report 2 is a composite of two elementary school students' essays from the same field trip, adapted by the researcher.

Evidence Report 1

When I went to the house I remembered that it was 151 years ago. It is a historical place now. Years ago these two people had ten children.

There was a ballroom. Master bedroom, a boy and girl room. That was upstairs. There was not any T.V. There wasn't a toy store, so that means they had to make up games like toys and other stuff.

Evidence Report 2

At the Turner Dodge House I saw the building and many objects. I think from things I know the Turner Dodge house is an exciting way to learn how people lived 151 years ago.

The docent told us that the dining room ceiling has gold on it. It was shiny and looked like real gold. They must have had a lot of money.

We went outside. I think the outside of the house looks old. It is made of orange brick. It has a lot of windows. The docent said that glass costs a lot of money back then. The house and docent words are reliable sources.

Things inside and outside are very rich. Together my sources helped me to learn how people lived 151 years ago. But not all people because some people did not have a big house with things like this. If I could see examples of poor people houses from 151 years ago I could tell how people's lives were different.

Appendix L

	% Participants	% Participants	% Difference	
Source Type	who selected	who selected	between pre-	
	on pre-test	on post-test	and post-test	
Objects	74.7	93.6	+ 18.9	
Photos	74.7	85.1	+ 10.4	
Written documents	58.9	75.5	+ 16.6	
Signs	49.5	79.8	+ 30.3	
Buildings	46.3	92.6	+ 46.3	
Tour guide's words	45.3	89.4	+ 44.1	
Videos	45.3	47.9	+ 2.6	
Outdoor spaces	29.5	53.2	+ 23.7	
Hands-on activities	24.2	57.4	+ 33.2	
Other	21.1	7.4	- 13.7	

 Table 20. Percentage of Participants Selecting Sources on Questionnaire Item 9

Note. n = 95.

Appendix M

Source type and test	A	All		Control		Treatment		Grade 4		Grade 5	
Source type and test	M	SD	M	SD	M	SD	M	SD	M	SD	
Objects, pre	2.90	1.02	3.20	.92	2.62	1.03	2.81	.99	3.02	1.05	
Objects, post	3.23	.85	3.27	.86	3.19	.85	3.13	.99	3.35	.62	
Buildings, pre	2.58	.99	2.62	1.04	2.54	.96	2.50	1.01	2.68	.97	
Buildings, post	3.12	.84	3.10	.76	3.15	.92	3.23	.83	3.00	.85	
Outdoor spaces, pre	2.21	.96	2.07	.88	2.35	1.02	2.16	.94	2.28	.99	
Outdoor spaces, post	2.28	1.00	2.37	.98	2.20	1.03	2.31	1.00	2.25	1.00	
Tour words, pre	2.87	1.06	2.89	1.10	2.85	1.02	3.02	.97	2.68	1.14	
Tour words, post	2.91	.99	3.00	1.12	2.83	.84	2.75	.98	3.12	.97	
Documents, pre	3.14	.89	3.23	.86	3.06	.92	3.12	.84	3.18	.96	
Documents, post	3.07	.85	3.11	.84	3.02	.87	3.10	.88	3.02	.83	
Photos, pre	2.88	.92	3.00	.96	2.76	.87	2.86	.95	2.90	.90	
Photos, post	3.02	.81	3.18	.82	2.87	.78	3.08	.75	2.95	.88	
Signs, pre	2.20	.91	2.38	.91	2.02	.89	2.19	.94	2.21	.89	
Signs, post	2.52	.83	2.48	.80	2.56	.87	2.50	.92	2.54	.72	
Videos, pre	2.71	1.00	2.77	1.00	2.65	1.02	2.60	1.07	2.85	.92	
Videos, post	2.70	.93	2.91	.94	2.50	.89	2.74	.87	2.65	1.00	
Family/friend, pre	2.71	.98	2.67	1.06	2.74	.91	2.94	1.02	2.41	.85	
Family/friend, post	2.12	1.06	2.30	1.12	1.96	.99	2.16	1.08	2.08	1.06	

Table 21. Participants' Mean Source Reliability Ratings from Questionnaire Item 12

Note. n = 95.

Appendix N

Item and test	All	<u>Non-instr.</u>	Instruction	Grade 4	Grade 5
Correct 15, pre	5.4	8.7	2.1	3.8	7.5
Correct 15, post	11.8	8.7	14.9	13.2	10.0
Correct 16, pre	68.8	73.9	63.8	62.3	77.5
Correct 16, post	80.6	67.4	93.6	77.4	85.0
Correct 17, pre	74.2	67.4	80.9	71.7	77.5
Correct 17, post	81.7	76.1	87.2	81.1	82.5
Correct 18, pre	54.8	47.8	61.7	50.9	60.0
Correct 18, post	63.4	52.2	74.5	62.3	65.0
Correct 19, pre	77.4	84.8	70.2	71.7	85.0
Correct 19, post	91.4	84.8	97.9	90.6	92.5
Correct 22, pre	90.3	87.0	93.6	90.6	90.0
Correct 22, post	88.2	84.8	91.5	90.6	85.0

Table 22. Percentage of Participants' Giving Correct Responses in Source Use Knowledge Category

Note. n = 95.

Appendix O

Scoring Procedure for Motivation Category

Expectancy Score = 9 points possible

- Items 20: The five choices for each item were collapsed into four categories for analysis: *strongly agree* = 3 points, *agree* = 2 points, *disagree/disagree strongly* = 1 point, and *not sure* or missing data = 0 points.
- Item 21: The five choices for each item were collapsed into four categories for analysis: *strongly agree* = 3 points, *agree* = 2 points, *disagree/disagree strongly* = 1 point, and *not sure* or missing data = 0 points.
- Item 23B: The three choices were scored as *very well* = 3 points, *okay* = 2 points, *not very well* = 1 point. Missing data were scored as 0 points.

Value Score = 9 points possible

- Item 23A: The three choices were scored as *very excited* = 3 points, *sort of excited* = 2 points, *not very excited* = 1 point. Missing data were scored as 0 points.
- Item 23C: The three choices were scored as *a lot* = 3 points, *medium amount* = 2 points, *not very much* = 1 point. Missing were was scored as 0 points.
- Item 23D: The three choices were scored as *very fun* = 3 points, *sort of fun* = 2 points, *not very fun* = 1 point. Missing data were scored as 0 points.

Appendix P

Coding Categories for the Evidence Report Activity

Part 1: Sources (3-D viewer, tour guide's words about getting water, barn, and label about schooling in the 1800s)

- 1. Description: Tells type of source or physical characteristics of source, relating information about source
- 2. Analysis: Provides conclusions about the use of source or maker of source, based on evidence from the source
- 3. Comparison/contrast: Provides evaluation of source against others, reliability of source, and differences in information provided by each source to address the historical question
- 4. Materials: Mentions physical materials, such as wood, metal, etc.
- 5. Sense: Mentions a physical sense in connection to evaluating a source
- 6. Related narrative: Mentions a narrative transmitted to the participants by the docent or narrative of participants' prior knowledge
- 7. Reliability: Mentions the level of trust participant places in source
- 8. Other: Information not fitting into other categories
- 9. Source 1 blank: No answer in "3-D viewer" section
- 10. Source 2 blank: No answer in "tour guide's words" section
- 11. Source 3 blank: No answer in "barn" section
- 12. Source 4 blank: No answer in "label" section

Part 2: Intertextuality

- 13. Description: Tells type of source or physical characteristics of source, relating information about source
- 14. Analysis: Provides conclusions about the use of source or maker of source, based on evidence from the source
- 15. Comparison/contrast: Provides evaluation of source against others, reliability of source, and differences in information provided by each source to address the historical question
- 16. Source, 3-D viewer: Mentions "3-D viewer"
- 17. Source, tour guide's words: Mentions "tour guide's words"
- 18. Source, barn: Mentions "barn"
- 19. Source, label: "label"
- 20. Related narrative: Mentions a narrative transmitted to the participants by the docent or narrative of participants' prior knowledge
- 21. Reliability: Mentions the level of trust participant places in source
- 22. Other: Information not fitting into other categories
- 23. Intertextuality blank: No answer in "compare/contrast" section
- 24. Intertextuality, low: Evaluates 0-1 source(s)
- 25. Intertextuality, high: Evaluates 2-4 sources

Appendix Q

Intertextual Reading Model Coding Scheme

Based on Britt, Perfetti, Sandak, & Rouet (1999)

Documents' model

- Discusses author, source name or type, or historical context
- Provides statements reflecting prior knowledge
- Considers how sources are related (e.g., agreement, conflict, and supplementary information)

Separate representation model

- Identifies an author, source name or type, or historical context accurately
- No integration of this information with the knowledge from the sources (situation)

Mush model (Opposite of the separate representation model. Lacks source marking.)

- Does not discuss author, source name or type, or historical context
- Knowledge from the sources (situation) stands alone

Tag-all model

- Discusses all authors, source names or types, or historical contexts
- Integrates this information with the knowledge from the sources (situation)

Appendix **R**

Examples of Essays with Mush, Separate Representation, and Documents' Models (Britt, Perfetti, Sandak, & Rouet, 1999)

From Participant Essays in the Evidence Report Activity and Source Based Activity

Mush Model Example

In this example, the student combined information from all his sources together, without discussing individual source types or attributes.

Life was like for farm children was hard because they would have to collect eggs and milk in the morning and have clean the staules. They would also have to use portipoties and I think that it would be very uncomterful. So that is my report on life for farm childeren in 1850s-1890s. Also there were ton's of washing to do. Life was very tough for childeren and here are some ideas of how hard it was. (Foster, Grade 4, *Evidence Report Activity*)

Separate Representation Model Example

In the separate representation model, the reader identifies but does not make connections between individual texts, meaning she does not integrate information from multiple sources.

A well tell us some info about the 1800s because it tells that they probably didn't have fausets. Alot of people probably had wells because that was the only water source besides rivers and streams.

Chamber pots are like toilets that u can bring anywhere. They would of used this if they didn't want to go outside in there outhouse when it was dark or had bad weather. (Jenna, Grade 5, *Source Based Activity*)

Documents' Model Example

Each source is identified by name or type, and the reliability of the source may be discussed. In other words, information *from* and *about* each individual source is combined with prior knowledge, in order to understand information from multiple texts.

In this writing, I will ansewer this question what was life like for children in the 1850s to the 1890s?

I know that the stuffed and wooded birds wooden birds were built by Ella's brother. I also learned that Ella had a brother that liked birds. I learned Ella's dad had a beard by looking at his portrat. I learned that Ella had a dad that is white, not black.

I learned that Ella's brother was in the union. I also learned that he was very brave in the
union. Ella must of liked dolls, because there was lots of dolls in her room. Lastly I learned that Ella had a doll house in her room.

I had a fun field trip, learned a lot, and ansewered the question. Now I know what life was like for children during the 1850s to the 1890s. (Faith, Grade 5, *Source Based Activity*)

Appendix S

Source Based Question Activity Codes

Object

- 1. Well
- 2. House furnishing (portrait, sculpture, chamber pot, washbowl, piano, mirror, furniture, grandfather clock, vase)
- 3. Farm tool (pitch fork, calf weaner, hay cutter, hay raiser, hay shoot, potato planter, seed spreader, ax, scythe, steam tractor, animal trough)
- 4. Laundry tool (washtub, scrub board, bucket, laundry basket)
- 5. Kitchen furnishing/tool (pump, scale, icebox)
- 6. Soap
- 7. Transportation (buggy, carriage, wagon, sleigh, automobile)
- 8. Recreation (dollhouse, victrola, book, stereoscope, checkers)
- 9. Other (animals, map, gun, medicine, clothing)

Tour guide

10. Tour guide, words

Building

- 11. House
- 12. Barn/garage
- 13. Other (schoolhouse, outhouse, general store, museum)

Place

- 14. Milking parlor
- 15. Orchard/fruit trees

Other, general

- 16. Student's life experience
- 17. Chores

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