Bridging the Gap Between Theory and Practice:

The Influence of a Pre-Service Teaching Residency at a Historic Site, Archive, Library, or Museum on In-Service Pedagogical Practices

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ABSTRACT

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Over the last 30 years, colleges of education across the nation and around the world have examined and deliberated how best to prepare pre-service history teachers for the challenges of the modern classroom. Specifically, they sought to create and refine teacher preparation programs that foster within the pre-service history teacher the propensity to use authentic teaching practices once they are licensed and instructing independently in the classroom. Using a situated learning theoretical framework, this research study adds to the literature on this topic by examining how a semester-long pre-service residency at a historic site, archive, library, or museum influences in-service history teacher pedagogy. Implementing an ex post facto sequential explanatory mixed methods research methodology, this study pursued the objective of evaluating the nuances of a residency and how those experiences influence in-service pedagogical dispositions. The findings of the study conclude pre-service history teacher residencies offer valuable and unique learning spaces for the pedagogical development of pre-service history teachers by promoting authentic-based teaching models that participants carry into their in-service teaching.

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ACKNOWLEDGMENTS

It is nearly 40 years to the day that my father dropped me off just up the Hudson River to attend West Point. Most of that day is a blur, but what I do remember is my dad telling me two things: 1) “today you become a man, be accountable,” and, 2) “never be too much in a rush to say thank you to those who help you along the way. And trust me, you’re going to need a lot of help if you are going to survive this school and make it in this world.” It is in my father’s spirit that I would like to take just a few moments to acknowledge those most important people in my life who have done so much to allow me to be in this place today.

I need to start off by thanking my mom. She is the most resilient, courageous, loving, and devoted person I know. She taught me how to read, how to pray, and how to care about other people. She has taught me how to live through adversity, and to do it with a joyful and grateful heart. She taught me how to find the good in everything. If I miss anything about not being able to “walk” for this graduation, it is the opportunity to tell her in public how inspirational she has been and will always be to me. I love you mom.

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Buen Camino Chris!

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And how do I begin to thank my boys? Each of them, in their own ways, encouraged me to do what I never thought possible. Alex was with me in every word I wrote and in every paper I submitted. Always available to proof one of my papers, Alex was a constant source of reassurance that I could make this. His passion for life, devotion to his friends, and pursuit of his dream inspire me. I am also so very thankful for having Ethan so close during this journey. His perseverance and determination through his own academic endeavors motivated me in untold ways to carry on when things became difficult. And how do I begin to thank him for saving my life on the Camino de Santiago? I have been blessed with the best of sons. I also need to thank Swissy for his constant companionship during my first year at TC. Our daily walks in Morningside Park always put life in perspective. I will miss you forever my friend.

Finally, I need to thank my wife Wendy. She has always been there for me. Through thick and thin, she is the eternal flame of support. The kindest and most unselfish person I know. Who else says yes to leaving a secure life in Washington State, giving up a great job, selling darn near everything we have, and moving to a tiny apartment on the Upper West Side so I can pursue my dream? She listened to every complaint, every struggle, and every doubt I had, and she always responded with the assurance that I could do this. If I am being truthful and self-reflective, I am here today because of her.

DEDICATION

For Alex and Ethan

Kipling got it right boys,

If you can fill the unforgiving minute
With sixty seconds' worth of distance run,
Yours is the Earth and everything that's in it,
And—which is more—you'll be a Man, my son!

PREFACE

"During my time at the archive I was able to incorporate what I was learning in my history classes at Eastern State as well as what I was learning in my education classes. For the most part, the internship was the only thing that created a bridge between my education classes and my history classes. In my regular classes, the material was pretty much segregated. It just seemed like what I was learning in my history classes was never really linked to my education classes. The internship was kind of like a bridge that linked everything at Eastern State together."

Alex
Eastern State University Field Resident

CHAPTER 1 – INTRODUCTION

Background

For the past several decades, colleges of education and national teaching institutions around the globe have been redesigning their curriculum to prepare pre-service education students for the ever-changing demands of the teaching profession (Darling-Hammond, 2010; Gravett & Ramsaroop, 2015; Hökkä & Eteläpelto, 2014; Whitty, 2014; Wiseman, 2012; Yang, 2011). At the forefront of these pedagogical curriculum changes is providing pre-service teachers with experiences that promote "authentic" instructional practices rather than those that perpetuate "traditional" teaching styles (Beck et al., 1991; Hogan & Gopinathan, 2008; Reisman & Fogo, 2016; Seixas & Peck, 2004).

Researchers commonly use the term "traditional" to refer to a style of teaching that is typified as being teacher-centered, textbook dependent, and assessed by rote memorization exams (Goodlad, 2004; Nokes, 2010). In contrast, the term "authentic" teaching reflects pedagogical practices that are student-centered and inquiry-based; moreover, the teacher encourages the creation of knowledge by students rather than the reproduction of it (Newmann & Archbald, 1992; Renzulli et al., 2004; Van Drie & Van Boxtel, 2008; Whelan, 1997).[1] Researchers have concluded that when pre-service teachers are educated in authentic environments, they develop the intrinsic pedagogical disposition to create authentic learning classrooms and instruct using authentic techniques (Barnes & Gachago, 2015; Brown et al., 1989; Condy, 2015; Conkling, 2007; Dennen & Burner, 2008; Duncan, 1996; Glazer & Hannafin, 2006).

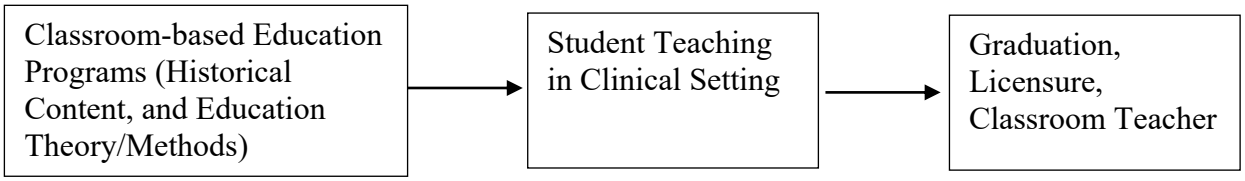
[1] Throughout this paper, these two definitions reflect the author's intentions of what traditional and authentic practices represent.

Research that supports the implementation of authentic teaching practices within pre-service teacher programs are rooted in studies that indicate novice teachers rely on their lived experiences—which almost always exclude authentic teaching examples—to construct classroom lessons and teach (Calderhead & Robson, 1991; Goodlad, 2004; Hartzler-Miller, 2001; Kisiel, 2003). These studies concluded that novice teachers are not pedagogically prepared to teach authentically, even though they understand the concepts and the merits of this type of instruction. The findings indicate that while new teachers have significant amounts of content knowledge and pedagogical theory, they lack experiences that ground their teaching in authentic frameworks, and rarely develop the reflexive tendency to create lesson plans that focus on the creation of knowledge rather than the replication of it. Furthermore, the research reaches the conclusion that pre-service teacher education needs to create more "how to teach" experiences in authentic settings than "what to teach" information if there is to be an advancement of authentic teaching by new educators.

Goodlad's (2004) observations and interviews complement Hartzel-Miller's findings by noting the preponderance of teaching around the country reflected "classroom activity involving listening, reading textbooks, completing workbooks and worksheets, and taking quizzes" (p. 213), even though teachers acknowledged the importance for higher-level reasoning, group work, class discussions, and project-based learning—key traits of enhancing authentic learning (e.g., Watters & Ginns, 2000; Windschitl et al., 2008; Wood, 2012; Yuan et al., 2015). A recent study by the Social Studies Inquiry Research Collaborative (Saye & SSIRC, 2013) supports Goodlad's (2004) research and indicates that instruction using authentic techniques is rarely practiced in high school classrooms today. In this study, over 30 researchers collaborated in a three-year project to assess the level of authentic teaching within six mid-western states. The findings concluded that only 21% of instruction was delivered using authentic teaching pedagogy

(Saye & SSIRC, 2013) even though state-mandated instruction emphasized core historical teaching practices.

The lack of authentic teaching by novice educators, even though they know the merits of authentic teaching and are encouraged to teach in this manner, may be because pre-service instructional experiences do not internalize in the pre-service teacher the reflective condition to teach authentically. The research suggests that many pre-service teacher education programs (Figure 1), entrenched in traditional classroom learning with a limited field experience (student teaching), do not prepare teachers to instruct with authentic methods (Goe & Stickler, 2008; Hartzler-Miller, 2001; McCarthy & Anderson, 2000; National Commission on Teaching & America's Future (NCTAF), 1996; NCATE, 2010; Seixas, 1994; Wiersma, 2008).



(Cochran-Smith & Zeichner, 2005)

Figure 1. Current Traditional Education Path to become a K-12 Teacher.

Transfer and the Research Supporting Change

It seems intuitive to predict that if a teacher acknowledges the merits of a given pedagogical practice that the teacher will instruct in that way if given the option to do so. However, since the research highlights that teachers believe in and value authentic teaching practices, yet rarely teach in this way, the problem seems to be one of transfer (Goodlad, 2004).

Initially investigated by Thorndike and Woodworth (1901), the theory of transfer states that individuals use what they have learned in one setting and apply it in another. Transfer is further defined on a scale between near and far, where near transfer means that one can only apply and use knowledge within the context that is the same or very similar to the context it was

originally learned whereas far transfer typifies the ability to use knowledge in situations and contexts very different from how it was initially learned (Barnett & Ceci, 2002; Baron, 2014b; Perkins & Salomon, 1988, 1989, 1992). Along any point of the near/far transfer scale, there is a great deal of debate on how transfer happens or what strategies best support it (Barnett & Ceci, 2002; Haskell, 2000).

While transfer has been studied largely within the cognitive sciences (Craik & Lockhart, 1972; Mayer, 1999; Nokes-Malach & Belenky, 2012; Sweller, 1994), there are researchers who promote a strictly cognitive approach to understanding transfer—the focus on content acquisition and the creation of mental representations of knowledge learned—that does not account for the full range of dynamics that influence transfer (Baron, 2014a; Bransford et al., 2004; Bransford & Schwartz, 2001). To this point, Greeno (Greeno, 2005, 2006, 2015) argues that transfer of knowledge occurs when learners are placed in environments and activities that promote the construction of knowledge rather than the reproduction of it. By focusing on the situative space of the learning activity, Greeno and other socio-cultural theorists explain that the learner discerns the difference between how systems operate rather than how the parts simply fit together (Schoenfeld, 1998). For the pre-service history teacher, this translates to an emphasis on the conditions of their educative experiences rather than on content material or learning theory.

Learning within the conditions described by Greeno and Schoenfeld, students move beyond an isolated understanding of facts to interacting with the material in an expansive way that facilitates transfer. Engle (2006) adds to this discussion by challenging the proposition that transfer is isolated within a purely cognitive framework:

> In particular, purely content-oriented explanations of transfer make one crucially flawed assumption: If learners have the right kind of knowledge at hand and know that it is applicable in a particular context, then they are going to use it. In contrast, I argue that transfer involves not just knowing but doing, and that doing inherently involves an exercise of human agency. Thus, if transfer is going to happen, I argue, it is necessary

> that learners choose to use what they have learned, although there is certainly no requirement that such choices be made consciously. (p. 455)

In this statement, Engle identifies a critical link between knowledge and authentic learning: *knowing* something will not necessarily translate to *doing* it. How knowledge is acquired, in what context it is learned, and the socio-cultural particulars of the educative environment are also influential factors in transfer according to the critical findings that emerged out of Engle's research. Further research by Engle and Conant (2002) focused on the metadiscursive aspects of transfer—how setting, context, and individual/group interaction influence the learning process—and concludes with the argument that the socio-cultural context of learning is central to maximizing transfer.

Innovation and Teacher Preparation Programs

With the goal of increasing the number of new teachers who are able to enter the classroom with the content, skills, and dispositions to teach authentically, researchers (Bain & Mirel, 2006; Barton & Levstik, 2003; Grant, 2013; Seixas, 1998; VanSledright, 2004) promote supplementing traditional teacher education curriculum with enhanced disciplinary experiences. Supporting this recommendation is the 2010 study of the Council for the Accreditation of Educator Preparation (previously, NCATE), which reviewed teacher preparation programs and proposed solutions to improve the quality of these programs (NCATE, 2010). The report assessed the current model of teacher education (Figure 1) as inadequate in preparing educators for the challenges of contemporary classrooms and urged colleges of education to "fundamentally redesign preparation programs to support the close coupling of practice, content, theory, and pedagogy" (p. iii) by revamping teacher education programs to include experiences which "support investigation of practice" (p. 9). With this report, NCATE corroborated other pre-service education studies (Darling-Hammond, 1999; Goodwin, 2010; Shulman, 1987;

Wilson et al., 2001) that advocated for infusing innovative authentic pre-service teacher experiences throughout the standard pre-service teacher program in order to facilitate the transfer of knowledge and skills from the teacher preparation program to the classroom (Berliner, 1985; Cruickshank & Armaline, 1986; Davis & Gregory, 1970; Gill, 2014).

Teacher preparation programs have responded to the aforementioned research by redesigning their courses of instruction to include additive experiences that seem to foster the transfer of disciplinary dispositions, skills, and practices from students' pre-service courses of instruction into their classrooms. Research conducted over the past two decades has broadened to include the influence of pre-service teacher courses at informal sites of education (ISE) (Anderson, Lawson, & Mayer-Smith, 2006; Baron, 2014a; Brett, 2014). Rather than learning education principles within a college classroom setting, the inclusion of an ISE experience affords a new dimension to learning. Specifically, the context in which the participant processes the information is fundamentally changed by altering the learning environment from a theoretical classroom to a location where the discipline confronts current challenges every day. By infusing the ISE into the learning experience of the pre-service teacher, the teacher-centered classroom is augmented with a new way of understanding the material being learned. In the classroom, the pre-service teacher is at the center of the learning experience, and assessments are geared around individual learning and specific performance objectives through individual work or individual work in groups. At the ISE, the pre-service teacher is an active participant in the creation and distribution of knowledge of the institution. No longer is the pre-service teacher the object of an assessment—instead they are intricately working with other professionals to create knowledge. The addition of the ISE residency, as assessed through numerous studies (Anderson, Lawson, & Mayer-Smith, 2006; Aquino et al., 2010; Brett, 2014; Yu & Yang, 2010), results in an experience that emphasizes collaboration and empowers the pre-service teacher to construct a

deeper understanding of the theoretical learning and discipline-specific concepts under review. With the addition of an ISE experience to the normative teacher education framework (Figure 1), these programs break from the traditional education model and offer a new paradigm (Figure 2) in which to enhance pre-service teachers' understanding of theoretical concepts learned during their classroom-based education classes.

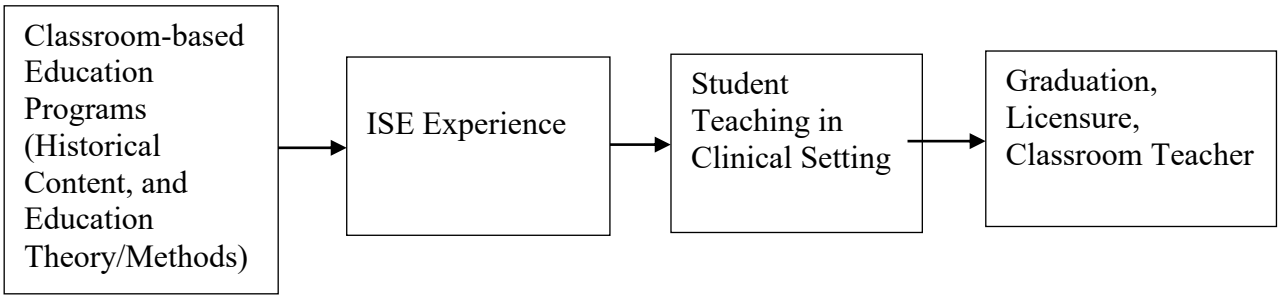


Figure 2. ISE Experience within Teacher Preparation program.

Although limited in depth, the extant research across the range of academic disciplines indicates that pre-service teacher education experiences at ISEs are influential learning environments (e.g., Aquino et al., 2010; Gregg & Leinhardt, 2002; Lemon & Garvis, 2014) that provide opportunities for pre-service teachers to think outside of their standard course lecture formats and develop within themselves the propensity to create authentic-based lessons. For example, in a University of British Columbia research study, Anderson, Lawson, and Mayer-Smith (2006) placed pre-service science teachers in a three-week residency at an ISE (the Vancouver Aquarium Marine Science Centre) following their student teaching placements at a local high school. The researchers utilized qualitative instruments that assessed teacher pre/post-perceived importance of site-based curriculum and the integration of ISE resources into lesson planning over a 23-week period using interviews, focus groups, student reflections, and observations. The findings determined that the residency experiences in the science center "clearly transformed, and broadened their [pre-service teachers] epistemologies and pedagogies

of teaching" (p. 351). According to Anderson, Lawson and Mayer-Smith,. (2006), the pre-service science teachers were, after their residency experience, more aware of the possibilities of using resources outside of the school and more likely to leverage those resources in the classroom. This analysis by Anderson and his colleagues is supported by research that has determined adult learners process, retain, and will use information more if the learning occurred outside of traditional classroom settings (Ashton, 2010; Webster-Wright, 2009). While research conducted so far indicates that ISE residencies have a positive impact on pre-service teachers in the sciences and the visual arts (e.g., Anderson, Lawson & Mayer-Smith, 2006; Bobick, 2012; Lemon & Garvis, 2014; Melber & Cox-Petersen, 2005; Morentin & Guisasola, 2015; Stone, 1996), there is a gap in this research on how or if ISE residencies impact the development of pre-service history teachers.

Social Studies and the Teaching of History

The National Council of the Social Studies defines the field of social studies as including, but not limited to, the following wide range of disciplines: geography, psychology, economics, sociology, government, civics, religion, and history (NCSS, 2008). However, since its inception in 1916 as a discipline—as defined by the 1916 Report of the Social Studies Committee of the NEA Commission on the Reorganization of Secondary Education—the social studies discipline has struggled with how its internal disciplines are to be taught, both together and as separate entities (Evans, 2004; Fenton, 1967). The struggle with the role and context of the social studies has been particularly contentious in the instruction of history as a discipline (Barth, 1996; Levstik, 1996). In many cases, especially in at the secondary level, the teaching of history has been done so as a singular discipline separate from the holistic field of social studies education (Jenness, 1990).

Additionally, while most states group the individual disciplines of social studies together and license teachers as general social studies instructors, other states certify the disciplines individually. At the secondary level in some states, such as Massachusetts and New Mexico, there is no generic social studies licensure but rather only a history teacher license. Since history is a mandatory subject that must be taught in every public high school in the nation (*50-State High School Graduation Requirements*, 2018), this study will focus on pre-service teacher education programs within the social studies as they apply to pre-service history teacher development alone. Furthermore, because some studies do not separate general social studies teacher education from history teacher education, those applicable research studies are included for consideration in this review since they include history teacher education in their studies.

Problem Statement

Extensive studies indicate history teachers understand, believe in, and value authentic-based teaching and assessment. However, their disciplinary practices in the classroom continue to reflect more traditional teaching practices: teacher centered instruction, textbook dependence, rote memorization of facts, and assessments dominated by multiple-choice, true-false, and fill in the blank questions (Barton & Levstik, 2003; Goodlad, 2004; Grant & Gradwell, 2009; Lock & Duggleby, 2017). In an attempt to bridge the gap between what teachers know to be sound pedagogical practices and their observed disciplinary performance in the classroom, two major fields have emerged: historical thinking and situated historical learning.

Within the historical thinking camp are primarily cognitive scholars (Monte-Sano, 2011; Reisman & Fogo, 2016; Reisman, 2012; Wineburg, 2001) who have presented set-piece frameworks and practices for teaching history, such as the *Reading Like A Historian* program, which has been adopted as a standard for teaching history from New York (NYC Social Studies Department, 2018) to California (Johnston, 2014). Additional research has also sought to define

the essential core disciplinary practices of master history teachers to serve as a model for teacher education (Fogo, 2014). Grounding his research on the premise that "higher levels of authentic instruction were generally associated with higher student achievement, and students in classes featuring moderate levels of authentic pedagogy had significantly higher success rates on state-mandated tests than their school averages" (p. 89), Fogo's three-year study examined, identified, and defined the effective core disciplinary practices that secondary high school history teachers need to teach authentically. Working with 23 master teachers/expert historians, 11 veteran high school history teachers, and 16 educational researchers, Fogo's research concluded by identifying nine historical disciplinary instructional practices that comprise the core of authentic teaching (See Appendix A).

Fogo's research, along with the instructional frameworks advanced by the aforementioned historical thinking scholars, provides the history teacher education field with a detailed and pragmatic list of pedagogical practices, which research indicates improves student learning and advances critical thinking skills (Mandell & Malone, 2013; Monte-Sano, 2011; Reisman et al., 2018). However, what is rarely examined by historical thinking advocates is the nature and context of pre-service teacher education. These scholars present the field with a comprehensive way to teach history in the K-12 classroom, but they do not provide research on how those skills should be learned by teachers.

In an attempt to determine the optimal conditions in which pre-service teacher should learn how to teach, situated historical learning advocates (Barton & Levstik, 2004; Darling-Hammond, 2006; Seixas, 1998; Sherman, 2013; Van Hover & Yeager, 2003) have focused their research on the influence of the contextual relationship between the pre-service teacher, the material, the student, and the learning environment (Darling-Hammond, 2010). Moving away from a cognitive "information processing" approach that dominates the framework of historical

thinking scholars (Seixas & Peck, 2004, p. 116), the findings emerging from situated historical learning researchers suggests that pre-service teacher learning improves when the construction of knowledge occurs within spaces outside the traditional classroom (Seixas, 1993, 1999; Terwel, 1999).

Acknowledging that spaces outside the traditional classroom may offer untapped opportunities to improve learning, several colleges of education have integrated experiences within their teaching methods courses at informal sites of history education (ISHE): museums, libraries, archives, and historic sites (e.g., Baron, 2014; Brush & Saye, 2009; Gregg & Leinhardt, 2002; Patterson & Woyshner, 2017; Stetson & Stroud, 2014).[2] These new programs break from traditional pre-service teacher education (Figure 1), by imbedding ISHE experiences into the traditional methods courses of instruction. This new and innovative strand of teacher preparation offers a new thread of teacher education that thus far remains underexamined in the literature (Figure 3 depicts the integration of an ISHE experience within a teacher preparation program).

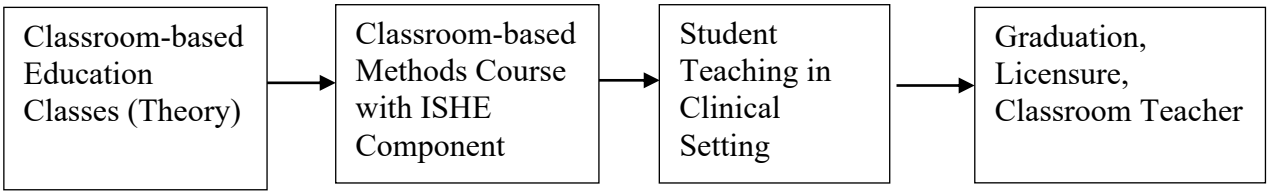


Figure 3. Embedded ISHE Component within Teacher Preparation program

Although the literature on teacher education at ISHEs continues to grow, the majority of scholarship in this general field has been conducted by those investigating pre-service science and art teachers learning within ISE locations, "leaving social studies educators to infer disciplinary understanding from those findings" (Baron et al., 2018, p. 2). The few research

[2] For purposes of clarity and simplicity, these four locations will be referred to, either individually or together, as Informal Sites of History Education (ISHE) within this study.

studies of pre-service teacher experiences at ISHEs that do exist indicate that they design and teach authentic-based lessons, integrate documents and artifacts into classroom work, and develop higher questioning levels of Blooms Taxonomy in their classrooms (Patterson & Woyshner, 2016; Pershey & Arias, 2000; Reidell & Twiss-Houting, 2015; Sundermann, 2013; Wood, 2012). While early research seems to indicate pre-service teacher experiences at ISHEs increase the likelihood of educators to teach authentically, there is currently insufficient data to make reliable correlations between the experiences that teacher candidates have during their ISHE-based residencies and how they instruct once they become classroom teachers. Furthermore, the data from the research studies conducted so far does not distinguish what, if any, differences exist between pre-service teacher experiences at different ISHEs (e.g., museums versus archives) or if those unique site experiences influence pedagogical practices.

Research Questions

The limited depth of research on the potential role pre-service history teacher programs at ISHEs might play in the pedagogical development of emerging teachers and what type of ISHE site location may best serve in their development creates a significant gap in history teacher education. In light of the acknowledged gap in the literature on the role ISHE residencies may play in the education of history teachers (Baron et al., 2018; Patterson & Woyshner, 2016), the current study poses the following research questions:

- What core historical disciplinary instructional practices do pre-service history teachers transfer from a semester-long pre-service residency at historic sites, archives, libraries, or museums to their pedagogical practices as classroom instructors?
- In what ways do specific ISHE site-type locations (historic site, archive, library, or museum) inform pre-service history teacher pedagogies?

Definition of Key Terms

For purposes of clarity and precision of language, I define and explain the following terms that I used in this study:

- Authentic activity. An exercise that involves a real-world problem/situation that mimics the work of professionals in the field. Activities require the use of the same types of material that professionals use in the field to solve similar challenges (Rule, 2006).
- Authentic assessment. Rather than recall examinations, such as multiple choice, true or false, and fill-in-the-blank exams, authentic assessments allow for a diverse rubric to evaluate student learning with the emphasis on problem solving, efficiency, and originality. Often, assessments will evaluate collaborative projects that replicate real-world situations (Herrington & Herrington, 2006).
- Authentic intellectual work (AIW). Learning that promotes the construction of knowledge through the use of disciplined inquiry, facilitating the production of discourse, products, or performances that have value beyond school (Bruce King et al., 2009).
- Authentic learning. Instructional methodology in which: (a) learning involves solving real-world open-ended problems in ways similar to professionals in that discipline; (b) learners engage in discourse and collaboration with peers and under the mentorship and tutelage of experts; (c) learners are empowered by the structure of the activity to make individual or group decisions based on their discoveries; (d) learners use disciplined inquiry to construct meaning; and (e) the structure of the learning provides individual and group reflection of activities engaged and outcomes determined (Newmann & Wehlage, 1993; Rule, 2006).

- Authentic learning environments. Locations and environments that facilitate authentic learning. For example, when studying the American Civil War, a visit to Gettysburg National Park would provide an authentic learning environment.
- Communities of practice. Groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Darling-Hammond, 2006; Zeichner, 1981).
- Constructivist learning theory. Building on Vygotsky's social development theory, constructivist learning states that individuals create knowledge by integrating previous knowledge with new information and experiences (Hein, 2016).
- Discipline inquiry. Learning that requires the use of discipline content knowledge, the ability to examine a problem in-depth rather than superficially, and the ability to organize narratives, explanations, and findings in multiple ways (orally, graphically, and written) (Newmann et al., 2007).
- Disciplinary literacy. An approach that emphasizes the specialized knowledge and skills required by those to create, communicate, and use knowledge within a specific discipline (Shanahan & Shanahan, 2012).
- Field-based education. Experiences provided to pre-service teachers as part of a college/university teacher education program. Experiences occur in an actual school setting where emerging educators work with K-12 students under the supervision of a certified classroom teacher (Darling-Hammond, 2006; Zeichner, 1981).
- Historical disciplinary literacy. Unique practices one must perform to research, understand, analyze, communicate, and construct meaning of historical events and artifacts (Fogo, 2014; Monte-Sano, 2010; Seixas, 1994; Seixas & Peck, 2004).

- Informal education. Learning that occurs outside traditional classroom settings (Brugar, 2012). It is normally characterized as a planned activity during which learners have greater flexibility to perform inquiry on personal interests within a community of practice (Fenichel & Schweingruber, 2010).
- Informal site of education (ISE). Locations outside traditional classroom settings that can be used to promote non-history specific educative experiences. These sites may include but are not limited to the following: (a) discipline specific museums, most notably art and science museums; (b) aquariums and zoos; (c) science centers; (d) botanical gardens; and (e) parks (Jung & Tonso, 2006; Kalin et al., 2007; Martin, 2004; Miele et al., 2010; Yuan et al., 2015).
- Informal sites of history education (ISHE). Locations outside traditional classroom settings that include one or more of the following characteristics: (a) display historical artifacts for the purpose of preservation and education of historical or cultural significance (artifacts are normally original but may in some cases be authentic reproductions); (b) locations where historical events occurred; and (c) a repository of historical documents (e.g., books, papers, manuscripts). In this literature review, ISHEs include museums, archives, libraries, and historic sites.
- ISHE residency. An educative learning experience that encompasses one or more semesters within a pre-service teacher education program. Similar to medical residencies, residencies occur at ISEs or ISHEs under the mentorship of both a site location expert and a college preparation program faculty (*The Residency Model*, 2018).
- Inquiry. "The controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole" (Dewey, 1938, p. 104). Using

Dewey's classic definition as the foundation of inquiry for this literature review, inquiry is viewed as the process of intellectual exploration through open-ended problems/situations that require the construction of knowledge through the investigation of individual parts as separate entities and as they relate to the whole.

- Inquiry-based learning. Active learning methodology used to enhance the effectiveness of the educative experience by implementing a learner-centered, learner-directed, and question-oriented approach to learning that puts the emphasis on empowering the student with the construction of knowledge rather than on the teacher (Blessinger & Carfora, 2014).
- Inquiry-based learning environments. Situations that present students with open-ended real-world questions and the opportunity to research solutions/answers to those questions without being tied to a defined set of resources or procedural steps (Brickman et al., 2009).
- International pre-service teacher education. College/university/institutional teacher preparation programs outside North America that have the mission to instruct individuals to teach at the primary and secondary level of education.
- Pre-service teacher. A student enrolled in a college/university program of study, undergraduate or graduate, that prepares students to become licensed professional educators (Kennedy, 1999).
- Pedagogical content knowledge (PCK). "The blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman, 1987, p. 8).

- Pedagogy. Principles, practices, and instructional methods used in the field of education (Prince, 2015).
- Situated learning. A learning theory that explains how individuals learn and acquire professional skills and expertise as they progress from novices to masters. It is a broad theoretical framework that draws together cognition, language, general learning, agency, and the social constructs of the learning environment to explain how learning occurs. Integral and essential to situated learning is the importance of communities of practice and the social environment in the learning process of the individual (Lave, 1991).
- Student-centered instruction. An education environment where students exercise a substantial degree of responsibility for what is taught and how it is learned. It is typified by the following: (a) students' talking equals to or is more than the teacher;(b) most instruction is at the individual or small group level rather than in a whole group setting; (c) classroom seating has no preassigned pattern but instead takes on a shape as determined by students—generally in individual or small group clusters; (d) students may move around the classroom most of the time without permission from the teacher; (e) varied instructional materials are available for students to use as they need; and (f) students have significant input on learning objectives and classroom rules (Cuban, 1993).
- Teacher-centered instruction. Learning associated with an environment where the teacher transmits knowledge rather than facilitating students constructing it. It is typified by the following elements: (a) teacher is the center of the instruction and controls most conversations in the classroom; (b) whole group instruction is the normative learning mode of the class; (c) teacher determines lesson objectives and resource material; (d) students sit at desks doing individual work and normally are aligned in rows that face the teacher's desk at the front of the room; (e) teacher primarily uses a single textbook to

guide curricular and instructional decision making; and (f) classroom learning primarily involves rote memorization of facts, concepts, and general knowledge (Brown, 2003; Cuban, 1993; Yilmaz, 2008).

Theoretical Framework

The theoretical framework employed by this study is grounded in situated learning as defined by Lave and Wenger (1991). Rooted in Gibson's theory of affordances (Greeno, 1994) and Vygotsky's social learning theories (Vygotsky, 1978), Lave and Wenger's (1991) situated learning proposes that the construction of knowledge is anchored in the situation in which the experience transpires both physically and socially. Situated learning theory places the highest emphasis on how the social and cultural structure of the experience provides meaning to the acquired knowledge. The basic unit of analysis, therefore, is not the individual or the environment, but instead the relationship between the two (Nardi, 1996). From a theoretical lens, situated learning offers a means of analyzing what is happening within a learning space in a way that synthesizes the cognitive, physical, and social dimensions of the experience (Conkling, 2007; Duncan, 1996; Glazer & Hannafin, 2006).

Situated learning theory evolved out of and continues to develop through the analysis of how novices become masters within apprenticeships (Brown et al., 1989; Hennessy, 1993; Lave, 1977, 1997; MacAuley & Niewolny, 2015; Young, 1993). To the situated learning theorist, learning is viewed as a culture of acquisition within real-world settings (Kirk & Kinchin, 2003). Learning happens within a participatory framework and not simply a cognitive process that occurs in the individual mind (Lave & Wenger, 1991, p. 15). Knowledge is created and distributed among the co-participants in authentic spaces rather than being an isolated act that is not influenced by the social and cultural setting (Hutchins, 1995; Resnick, 1987). Within a

situated learning framework, learning cannot be analyzed without taking into account the context in which the learning occurred (Cobb & Bowers, 1999; Greeno & Group, 1997).

Although different learning theories—e.g., cognitive apprenticeships (Brown et al., 1989), distributed cognition (Hutchins, 1995), activity theory (Engestrom et al., 1999), and embodied cognition (Wilson, 2002)—account for the setting, the context, and the individual in explaining learning and transfer, none of these are anchored by the importance of social interaction within the learning environment. Instead, the individual is the basic unit of analysis. In a comparative analysis between the aforementioned cognitive theoretical frameworks and situated learning, some researchers (e.g., Engle & Conant, 2002; Greeno, 2015; Järvenoja et al., 2015; Mitchell, 2003) argue that socio-cultural perspectives are necessary to explain human understanding and transfer because the "individual and social regulation processes are understood to promote each other, exist in parallel, and function equally without either being subordinate to the other" (Järvenoja et al., 2015, p. 8). Nolen, Horn, and Ward's (2015) research extends this line of research and concludes that incorporating situated social factors "extends our unit of analysis from individuals to individuals-in-context" (p. 244). This extension provided by situated learning provides for the researcher an increased aperture to account for the complex human interactions that may influence learning within ISHE experiences.

Central to the situated learning theoretical framework are two pivotal concepts: legitimate peripheral participation (LPP) and communities of practice (CoP). LPP is the process by which a novice engages in the acquisition of knowledge and/or skill by moving from simple to complex tasks within a community of practitioners (Herrington & Oliver, 2000). With every task mastered, the novice constructs knowledge and moves from the periphery to full participation in the sociocultural practices of the community (Lave & Wenger, 1991). It is much more than just the construction of knowledge or acquisition of a skill; it is the process by which one becomes a

full member of a community and internalizes the sociocultural practices within. The knowledge constructed is a direct result of circumstances of the task and interactions with members of the group.

Communities of practice are groupings of people who share a mutual goal and collectively work together in order to improve both their own skills and the functioning of the group (Wenger, 1998). However, CoPs are not simply gatherings of people who like something. Rather, they are committed to the organization within a practitioner-based construct. Central to a CoP are three specific elements:

- The Domain. The domain is the collective excellence toward which the group is striving. It defines the group and provides purpose for the members. Membership to the group implies a commitment to the domain. Without commitment to the domain, the community is merely a group of friends. Commitment to the domain creates accountability with the community and fosters improved practice (Wenger et al., 2002).
- The Community. In pursuit of the domain, members interact and work together. They share information and collectively strive to improve the groups function. However, they may or may not interact daily. In some cases, individuals of the community function alone, but always in relation to the shared goals of the group and the domain. Even if they do work alone, individual actions impact the ability of the group to function efficiently (Wenger & Snyder, 2000).
- The Practice. A CoP is not simply a group of people who have shared interests. It is a practitioner-based organization whose members work together toward a mutual goal. Members share information through collaborative interaction with the end state of improving the overall practices of the organization as it strives to achieve excellence

as defined by the domain. Individuals understand that by helping each other improve individual skills, the group as a whole advances (Wenger, 1998).

Pre-service teacher education experiences at ISHEs, when viewed through a situated learning lens, offer researchers the opportunity to consider and analyze the influence of social, cultural, and environmental factors on pedagogical formation that are unique to a residency (Figure 4). The result is an expansion of analysis that includes the consideration of the participants' construction of knowledge while accounting for the influence of both the physical space and the social nature of the organization. Furthermore, it enables the researcher to differentiate the distinct situated experience at the ISHE, which is absent from the experiences within college classroom education courses. In this way, situated learning theory offers an optimal lens through which to analyze the participants of this study and answer the research questions herein.

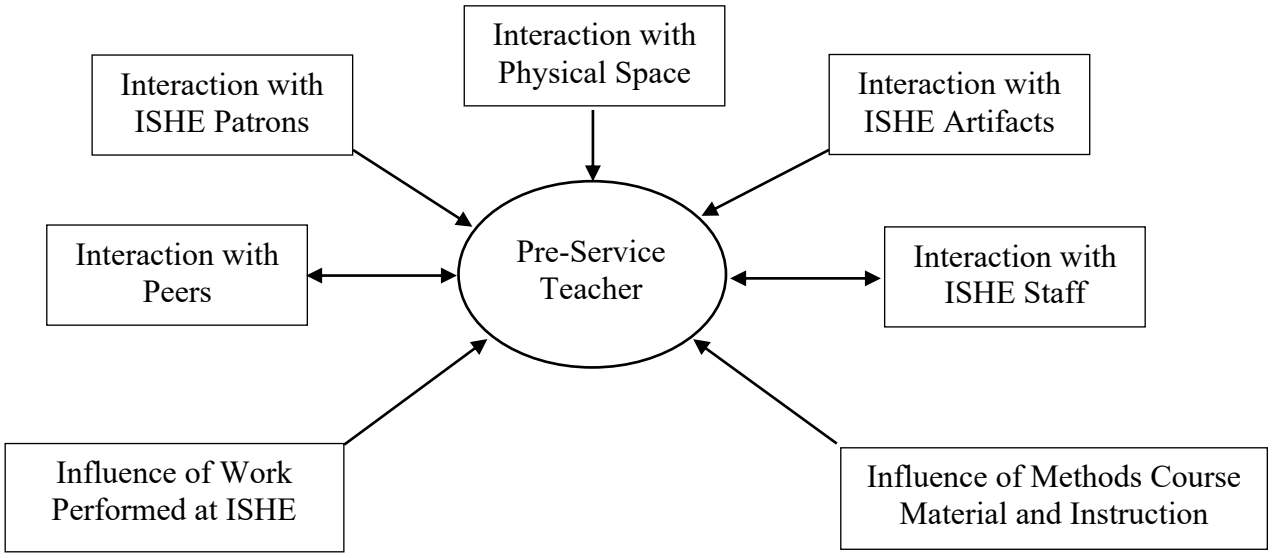


Figure 4. Pre-Service Teacher Interactions During ISHE Residency.

Chapter 2 - Literature Review

This chapter gathers, interrogates, and synthesizes the literature relating to pre-service teacher education at informal sites of learning. Since ISEs and ISHEs are often spaces where artifacts, documents, and narratives of the historically marginalized have been distorted, compartmentalized, or eliminated, this examination of the literature begins by analyzing the complicated legacy that is historically rooted in these spaces and the potential they offer to pre-service teacher education (Hooper-Greenhill, 2007; Segall, 2014). Next, because the aperture of this study uses situated learning as a theoretical lens, an understanding of authentic places, practices, teaching, and learning is warranted to facilitate an analysis of the educative environment of the ISHE. Finally, because the literature on pre-service history teacher experiences is scant, a review of similar programs, both across disciplines and internationally, is warranted in order to identify possible ways to improve pre-service history teacher education and understand the potential power of learning at ISHEs that has emerged in recent years (Brett, 2014; Bunce, 2016; Leinhardt & Gregg, 2000; Seligmann, 2014; Tal et al., 2005; Wallace, 2013; Yu & Yang, 2010).

A Complicated Legacy

Since the 15th century when the Medici family opened what is considered by most historians to be the first museum in Western civilization, museums have acted, either wittingly or unwittingly, as didactic institutions (Hooper-Greenhill, 1992; Trofanenko & Segall, 2012). The timing of this opening, on the precipice of global colonization by European empires, fostered the usage of them by nation-states as stages upon which to morally justify their conquests (Segall & Trofanenko, 2016; Willinsky, 1998), circumscribe the scientific truth of knowledge (Hein, 2008), and define those nations and their national identities (Trofanenko, 2006b). As a result, ISHEs/ISEs evolved not into spaces that were neutral in their presentation of artifacts and

information, but instead spaces where knowledge was shaped to suite the victor and perpetuate cultural domination (Trofanenko, 2006c). Curators have long selected specific artifacts to advance specific agendas and as such "decontextualized and re-contextualized [the artifact] within the confines of what the museum curators have decided is most significant in this national past" (Trofanenko, 2014, p. 271). Because of this, the display of artifacts at ISHEs and other informal sites of learning have rarely been neutral in application or intent.

By the 19th century, the manipulation of ISHEs/ISEs to further national agendas and to demonstrate to their constituents the necessity for expansion in order to civilize "primitive" peoples was in full-swing (Sleeper-Smith, 2009, p. 2). Few cities of the time exemplify this trend more than London. For example, in the mid-1800s, numerous English ISHEs/ISEs propagated the notion that all people of South Africa were uncivilized through the use of dioramas that depicted Africans living in trees or in grass huts in order to convince the populous of the primitive nature of indigenous peoples and thus justify colonization. In an 1847 display of Zulus at the St. George's Gallery of Knightsbridge, the *Times of London* reported that the Africans were depicted "in appearance little above the monkey tribe and scarcely better than mere brutes of the field…mere animals in propensity and worse than animals in appearance" (Magubane, 2009, p. 47). This display, and many others like them at this time, leveraged the emerging eugenic science of Samuel Morton[3] (Renschler & Monge, 2008) to justify the global colonization ongoing in the 1800s. This linkage of historical artifacts and recognized science of the day contributed to museums becoming accepted as undisputed centers of knowledge, truth, and education. While universities taught people how to think, ISHEs/ISEs and their collections

[3] Samuel Morton's research in craniology advanced the notion that some humans were more evolved than others. His findings stated that humans from Western nations were more advanced biologically and mentally than those of other areas of the world who were not Caucasian, specifically Black Africans.

defined what was true and thus became sites that produced accepted knowledge (Conn, 2000, p. 15).

In the United States, ISHEs/ISEs have a long history of being places that were educative in purpose. Early museums, such as the Peale Museum in Baltimore and the American Museum in New York City, brought together artifacts and paintings from around the globe to promote public spaces for education (Skramstad, 1999). Peale intended his museum to be a "school of useful knowledge" where lectures and public discussion would occur in a way that would promote the education of Americans on a wide range of topics from government to the natural sciences (Leon & Rosenzweig, 1989, pp. 4–5). Building on this tradition of using museums as places of education, George Brown Goode, curator and administrator at the Smithsonian Institution, forwarded the concept of presenting a single narrative of history and the sciences instead of using museums as spaces for contemplation and debate (Hein, 2008). With descriptive labels and explanations of artifacts and their meaning, museums in the United States became places of authority and their version of history, as supported by displayed artifacts, the accepted and non-contested single narrative (Trofanenko, 2006a). By presenting artifacts in this way, ISHEs/ISEs in the United States have a history and legacy as spaces that present material to the public in non-neutral ways.

A Second Wave

In the past few decades ISHEs/ISEs around the world have begun to significantly change how they display objects and the sensitivity to which they tell marginalized stories, particularly those of indigenous peoples (Segall & Trofanenko, 2016; Williams, 2008). Instead of following the historical role of fostering a single national narrative, many ISHEs/ISEs are shifting their presentation of artifacts and objects to present multiple perspectives and honor marginalized viewpoints and stories (Hooper-Greenhill, 1992; Steinberg, 2014; Tilche, 2015; Tlili et al., 2007;

Williams, 2008). This *second wave* of museology (Lindauer, 2014; Phillips, 2005) has created within the ISHE/ISE institutional framework the potential for authentic learning by students rather than the perpetuation of dominant narratives that are prevalent in many textbooks. An excellent example of how the *second wave* is occurring globally can be seen in the South African state education system.

Since the end of apartheid and the creation of a democratic society in South Africa, ISHEs have been a focal point for recognizing past social injustices and fostering civic engagement (Alexander, 2014; Rankin, 2013; Schmidt, 2014). In South Africa, ISHEs have become key institutions in the formation of a shared national identity that has liberated itself from the bonds of oppression and the yoke of injustice (Beier-de Haan, 2010). To that end, ISHEs are playing a key role within the South African educational system by providing a space for authentic learning to occur and the opportunity to confront the harsh realities of their nation's past in an authentic way in order to promote reflection and healing. In a 2012 study of 224 South African schools, researchers examined teacher perceptions of the importance of ISHEs in student learning (Alexander, 2014). Using data from the 134 participants of the study, the findings overwhelmingly support the conclusion that ISHEs are an indispensable part of an education system committed to social justice. Teachers repeatedly reflected that museums provided unique learning spaces to discuss difficult topics as they relate to "culture, history, heritage and life" (p. 62). In other studies on the potential role ISHEs can play in enhancing civic engagement, scholars have noted that ISHEs in South Africa not only seek to redress and repair past injustices, but also "hold potential power to shift the future by drawing support from youth who may not understand the need for public spaces and dialogues across difference without first understanding the past" (Schmidt, 2014, p. 152). Therefore, while it is understood that ISHEs

are not neutral spaces, research emerging from South Africa provides an example of how these spaces can be used to promote civic engagement, historical inquiry, and authentic instruction.

Authentic Learning and Teaching History

Recent research indicates that authentic educative environments are critical in the development of pre-service teacher pedagogy because experiences in these spaces ground practice and student learning in real-world situations (Herrington & Herrington, 2006; Purcell-Gates et al., 2007; Tochon, 2000; Yilmaz, 2008). Complementary research suggests that educative experiences within authentic learning environments improve pre-service teacher learning because those experiences highlight the relevancy and applicability of the material at hand (Barnes & Gachago, 2015; Condy, 2015; Dennen & Burner, 2008; Stein et al., 2004). This type of pedagogy is in contrast to the more prevalent "traditional" forms of history instruction, which researchers have concluded does not prepare teachers to instruct with authentic pedagogy: teacher-centered instruction that is typified by whole-class instruction, textbook dependent curriculum, and assessments characterized by rote memorization exams (Hartzler-Miller, 2001; McCarthy & Anderson, 2000; Seixas, 1994; Wiersma, 2008).

In contrast to the traditional approach outlined above, and on the macro-level, Newmann and colleagues define authentic learning through their research as the combination of three distinct elements (Newmann, 1991; Newmann & Archbald, 1992; Newmann & Wehlage, 1993):

- Students construct meaning and produce knowledge.
- Students use disciplined inquiry to construct meaning.
- Students aim their work toward production of discourse, products, and performances that have value or meaning beyond success in school.

In this research, Newmann and his colleagues emphasize the *creation* of knowledge rather than the *reproduction* of it. To best facilitate authentic intellectual work (AIW), several research

studies suggest that solutions to problems be open-ended and without teacher-defined boundaries (Renzulli et al., 2004; Saye & SSIRC, 2013; Whelan, 1997). Rule's research (2006) builds on authentic instruction, confirms the two aforementioned requirements, and further finds that authentic learning involves four major components:

- The activity involves real-world problems that mimic the work of professionals in the discipline with presentation of findings to audiences beyond the classroom.
- Open-ended inquiry, thinking skills, and metacognition are addressed.
- Students engage in discourse and social learning in a community of learners.
- Students are empowered through choice to direct their own learning in relevant project work.

Lee and Hannafin add to this discussion by noting in their research that the construction of knowledge is maximized in organic, real-world environments rather than traditional learning settings characterized by factual recall that dominate many classrooms today (Lee & Hannafin, 2016). The authors show in their research that moving the student to the center of learning creates conditions that maximize student involvement and growth. Specifically, their work highlights students' positive growth when teachers model authentic learning and provide the space for students to actively construct their own knowledge (p. 724).

Research studies of pre-service teacher education that focused on authentic learning by Herrington and Herington (2006) highlight the importance of nine key elements that comprise authentic learning situations:

- Authentic context. Problems are presented in an authentic way that preserves the complexity of the real-life setting. Settings must be presented that provide students the ability to explore questions they have, not just the ones the instructor presents.

- Authentic activities. Tasks are complex and comprise ill-defined problems and investigations which have real-world relevance. Tasks are designed to be completed over a sustained period of time rather than a series of shorter disconnected examples.
- Access to core historical disciplinary performances and the modeling of processes. Students have access to and learn under the guidance of a field expert in a way that enables modeling of processes, which allows students to observe how relevant tasks are performed in the real world.
- Multiple roles and perspectives. The learning environment provides alternative solution pathways, which allow students to examine problems from a variety of stakeholders' perspectives to conduct a sustained and deep exploration of an issue or problem.
- Collaborative construction of knowledge. Building off the theory that all knowledge is socially constructed, authentic learning allows for the social construction of knowledge, mirroring the often collaborative problem-solving encountered in real-life work experiences.
- Reflection. Contrary to most learning conditions where students have little space for reflection, authentic learning environments enable students to reflect socially and to engage in meaningful discussions during and after tasks.
- Articulation. Rather than constructing knowledge in isolation, authentic tasks require students to articulate and defend their ideas and justify their reasoning during the learning process.
- Coaching and scaffolding. Expert coaching is critical in authentic learning and deviates exponentially from direct learning. Here, coaching in a situated learning environment requires expert mentors to support the construction of knowledge and not just be the

administers of it. Interactions between expert and student occur mainly at the metacognitive level.

- Authentic assessment. Rather than be evaluated on recall examinations, such as multiple choice and fill-in-the-blank exams that are prevalent in most universities, authentic assessments allow for a diverse rubric to evaluate student learning with an emphasis on problem solving, efficiency, and originality. Often, assessment will evaluate collaborative projects, as is normal in real-world situations.

The Herringtons' research concludes that authentic learning situations, coupled with expert modeling, fosters higher-level thinking and problem solving over traditional forms of teaching.

Building upon Herringtons' research, Herrington, Parker, and Boase-Jelinek (2014) also contribute significantly to this discussion in a 2014 study of pre-service teacher education. In this study of 597 first-year university students enrolled in an education program, the researchers used a qualitative approach (surveys, transcripts of discussions, and reflective writing) to evaluate student engagement and depth of student growth in authentic settings. By allowing pre-service teachers the space to develop within authentic conditions, this research supports the idea that AIW facilitates the creation of new knowledge because it emphasizes and reinforces a cycle of continuously reevaluating new knowledge with old. For example, one participant reflected, "completing authentic tasks was invaluable as I now know how to do things, working through mistakes rather than receiving information and never applying it" (p. 30). Another student responded, "I will never forget what I have learnt because of the relevance it had to the 'real world'" (p. 30). In a final analysis of the data they collected, the authors determined that authentic tasks administered under authentic conditions fostered the creation of knowledge because it required students to think, decide, and act without explicit instructions on how to complete the assigned task.

Instruction that integrates AIW depends on the prior experiences of the educator. Research studies suggest that novice teachers rely on their lived experiences to construct classroom lessons (Calderhead & Robson, 1991; Kisiel, 2003). Harzler-Miller's (2001) qualitative research study concluded that novice history teachers are not pedagogically prepared for the rigors of the classroom if they are going to teach authentically. Her findings indicate that while new teachers have significant amounts of content knowledge, they lack authentic practice frameworks. Van Hover and Yeager (2004) tested this hypothesis and concluded that history teachers who enter the classroom without authentic pedagogical skills will rely heavily on lectures, outlines, and textbook readings and not employ authentic inquiry-based learning techniques. More recent assessments and reviews of teacher education programs indicate that less than ten percent have programs that fully prepared new teachers for the classroom (Wiseman, 2012). This is not to suggest that teacher education programs are inadequate or poorly functioning. University teacher preparation requirements are comprised of a myriad of programs that together contribute to student understanding of core historical disciplinary teaching practices: mandatory university graduation courses, content courses, education courses, and electives. What is clear from the data is that most new teachers are not entering the classroom with the experiences they need to teach authentically. To overcome this deficiency, colleges of education must explore new ways of preparing teachers, specifically providing them experiences that supports authentic pedagogical development, if the field is to move forward in creating and sustaining authentic learning environments.

Core Disciplinary Practices of History Teachers

From the widespread inception of compulsory education in the United States at the beginning of the 20th century until past its midpoint, K-12 history was viewed as a discipline with the primary purpose of promoting citizenship education and nationalism (Barr et al., 1977;

Evans, 2004) via the use of "teacher proof" textbooks (Nelson, 1982; Rugg, 1939) rather than encouraging teaching students to think critically about questions, evaluate sources, contextualize historical periods and solve historical problems through inquiry-based research. The influence of mass immigration and the two world wars that followed fostered the promotion of a simple, singular historical narrative designed to instill national values and patriotic norms (Kliebard, 2004).

Following Sputnik and a national examination of the American school system that followed (Dow, 1991; Frechtling et al., 1995), Jerome Bruner changed the calculus of curriculum design in education with his landmark book, *The Process of Education* (1960). In this text, Bruner calls for the creation of authentic classroom experiences for students and the modeling of those experiences to what experts do:

> The schoolboy learning physics is a physicist, and it is easier for him to learn physics behaving like a physicist than doing something else. The "something else" usually involves the task of mastering what came to be called at Woods Hole a "middle language" – classroom discussions and textbooks that talk about the conclusions in a field of intellectual inquiry rather than centering upon the inquiry itself. Approached in that way, high school physics often looks little like physics, social studies are removed from the issues of life and society as usually discussed… (p. 14)

Bruner's research highlights the importance of authentic experiences rooted in subject area disciplines to make learning personal and the critical role the teacher plays in creating those experiences. As opposed to textbook-reliant instructional practices before this time, Bruner's theoretical framework of teacher education emphasized the importance of the teacher in modeling expert practice for the student (Bruner, 1960; Dow, 1991). However, within the field of history, this was a long upward journey. A long-standing explanation of how history and other subjects within the social studies umbrella have been traditionally taught is appropriately described by Good, Farley, and Fenton (1969, p. 31):

> Many social studies courses in American schools are taught from a single, narrative text.

> History textbooks typically contain a chronological story of political, economic, social, and intellectual developments. Textbooks in the other social sciences explain the findings of political scientists, economists, sociologist, anthropologists, and geographers. Students are required to read the textbooks to learn those facts and generalizations which the authors have chosen to include. In class, teachers generally present short lectures to add to the students' store of information and to increase their comprehension of the significance of social science findings or conduct recitations to determine if the students have mastered the content of reading assignments and lectures.

Since Bruner's landmark publication, scholars seeking to improve history teacher pedagogies have often focused their research on measuring the influence of authentic teaching and the use of primary source documents in the classroom as a path forward to changing the calculus of traditional history teacher pedagogy (Achinstein & Fogo, 2015; Barton, 2009; Darling-Hammond, 2010; Seixas, 1998; VanSledright, 2004; Wiseman, 2012).

In many cases, researchers found textbooks to be problematic and determined that their use in isolation does not foster authentic learning (Beck et al., 1991, 1995; Seixas & Morton, 2012; Woodward, 1987). VanSledright's (2002) research revealed that "the standard textbooks, combined with lectures delivered by teachers, are considered definitive" (p. 1091) by teachers and students and thus limiting independent thinking and the construction of new knowledge—two key components of authentic learning.

Examining this issue, Seixas also challenges the reliance on textbooks from "expert" historians and instead espouses the creation of knowledge in a classroom within authentic communities of learning (Seixas, 1993). Building upon the core principles of Dewey (1897), authentic communities of learning are rooted in a framework of social interaction and collaboration to actively construct and confirm meaning (Garrison et al., 2009; Martin, 2004). It is within authentic communities of learning that individual assumptions and beliefs are challenged in a way that stimulates discussion and fosters deepened inspection of the topic. By shifting away from textbook and teacher-centered instruction, educators are able to create space

in the classroom for open-ended inquiry that can lead to the use of primary and secondary sources in their instruction.

Although most educational experts support authentic instruction, recent research studies still observe that most K-12 history instruction in the United States conforms more toward traditional instruction than authentic instruction (Barton & Levstik, 2003; Grant, 2013; Grant & Gradwell, 2009; Lock & Duggleby, 2017; Pershey & Arias, 2000; Van Drie & Van Boxtel, 2008; Whelan, 1997). In his exhaustive study of over 27,000 students, teachers, and administrators from over 1000 schools nationwide, Goodlad's three-year mixed-methods research concluded that while secondary history teachers understood, believed in, and valued authentic teaching and assessment, their strategies reflected different priorities (Goodlad, 2004). In the area of instruction, Goodlad's observations noted that the preponderance of learning reflected "classroom activity involving listening, reading textbooks, completing workbooks and worksheets, and taking quizzes" (p. 213). Within the instruction, Goodlad notes, the learned material became disconnected from the human character and was reduced to a list of names, places, and dates for memorization. When interviewed, history teachers believed they were adequately prepared to teach the subject. They even acknowledged the importance of higher-level reasoning, group work, class discussions, and project-based learning. Instead of implementing authentic assessment criteria, Goodlad observed that the dominant form of evaluating student learning was to the contrary: "The tests we examined rarely required other than recall and feedback of memorized information – multiple choice, true or false, matching like things, and filling in the missing words or phrases" (p. 212). According to Goodlad's report, history teachers know the importance of instructing with authentic learning strategies, but they do not implement such strategies because they are not educated in how to instruct in this way. In

short, “teacher education programs are disturbingly alike and almost uniformly inadequate” (p. 315).

It was to this very point that Wineburg began his investigations into teacher pedagogies and questioned how teachers taught with primary sources in the late 1980s. His observations noted that teachers knew they should move away from textbook focused lessons to ones that incorporate primary sources, but simply were not educated in how to do so (Wilson & Wineburg, 1988). Wineburg (1991, 2001, 1994) then proceeded to study how expert historians examine documents with the intent of transferring those heuristics to classroom teacher pedagogies. Wineburg’s research and his findings resulted in the creation of more refined disciplinary practices that foster independent thinking in the learner (Reisman & Fogo, 2016).

The historical reading and thinking pedagogy *Reading Like a Historian* and *Thinking like a Historian* that Wineburg and his colleagues (Wineburg, Martin, & Monte-Sano, 2011; Wineburg, Reisman, & Fogo, 2007) developed as result of this research has been influential. His set-piece analysis of multiple historical documents and excerpts has become the standard for teaching history in school districts across the nation and non-profit education outlets (eg., DeNisco, 2016; Gewertz, 2012; Mandell & Malone, 2013; Maniotes, 2016; “PBS Educators Homepage,” 2014). Of particular note is the adoption of Wineburg’s historical reading techniques by the Los Angeles Unified School District as the standard for engaging historical material in high schools (Johnston, 2014). Wineburg’s methodology has been rigorously tested (e.g., Hynd et al., 2004; Leinhardt & Young, 1996; Nokes et al., 2007; Reisman, 2012) and shown to support historical learning and literacy development. While Wineburg deserves a great deal of the credit for providing a framework to analyze primary source documents, his methodology has come into question since its inception because it does not require the learners

to look beyond the set of documents provided in his *Reading Like a Historian* conceptual framework.

Since Wineburg's work was published in 1991, many researchers have warned that just the use of primary source documents in the classroom does not equate to authentic historical learning. Foster and Padgetts' (1999) research affirms the importance of teaching primary source analysis, but they also determined that original research by students is a critical and essential aspect of performing authentic historical inquiry. Barton's (2005) study complements Foster and Padgetts' research by warning against the common belief that using primary sources alone engages students in authentic historical inquiry:

> This myth often constitutes the implicit rationale for including primary sources in textbooks, on tests, or as part of classroom exercises. The mere presence of primary sources appears to lend authenticity to historical exercises. That is, historians use such sources, and if students use them, they too must be engaged in historical inquiry. (p. 748)

In his research study, Barton explains the two primary reasons why the use of primary sources in isolation does not constitute historical inquiry. The first is that to use a set of documents requires only a superficial understanding of the contextual relationship they have with the actual period. Secondly, and most importantly, Barton explains that the sources have been hand selected by the teacher and require students to only explain what they mean. Working with primary source documents absent from document selection truncates the historical inquiry process that promotes the creation of history rather than the reproduction of it. Barton explains this reasoning as follows:

> …historians do not work with "source packets," and they would never allow anyone else to select their sources for them. Historians ask questions about the past, and they seek evidence that will help answer those questions. They select the evidence themselves, and they do so precisely because of its authorship and purpose. They do not analyze sources in the ways suggested either by document-based questions or by research on sourcing, because they have no reason to work with other people's collection of documents. (p. 749)

Using Barton's research and conclusions as one of the primary foundations of his research, Fogo conducted an in-depth three-year research study with the aim of identifying and defining effective core history teaching practices of secondary school history teachers (Fogo, 2014). Utilizing the Rand Corporation Delphi survey as a measurement tool, Fogo worked with 27 participants: 11 veteran high school history teachers and 16 teacher educators/educational researchers. Fogo determined that authentic teacher practices are essential to effective teaching. Additionally, his research supports the premise that document analysis alone is inadequate for developing authentic learners.

> The teacher models and creates opportunities for students to engage in historical research including the framing of historical questions, finding reliable primary and secondary resources, and developing historical accounts. This practice combines others – namely, elements of questioning, historical reading, using source material, and writing – and focuses on how the teacher organizes these elements to support student participation in historical research. (p. 178)

Fogo's research is important to the discussion on pre-service history teacher education because it informs the profession that, while analyzing documents is a critical task of historical inquiry, it is only part of a layered process of many components that is synthesized by the student under the direction of the teacher. With these conclusions, Fogo expands upon the work and findings of previous research (Barton, 2005; Foster & Padgett, 1999; Monte-Sano, 2011; Reisman, 2012; Wineburg, 2001), and provides colleges of education a clear end-state of core historical disciplinary competencies that their programs should strive to promote and internalize in every teacher they prepare for the education profession. Additionally, it provides current researchers a pragmatic standard with which to analyze and measure authentic instruction.

The literature examined thus far in this section furthers the premise that while learning how to use primary source documents is an essential part of authentic historical learning, the integration and use of primary source documents alone do not constitute authentic historical

teaching and engage students in AIW. Instead, Fogo and others (e.g., Barton, 2005; Foster & Padgett, 1999) advocate for the inclusion of teaching opportunities that engage students in authentic historical research rather than relying on pre-packaged document analysis exercises as a means for teaching historical disciplinary literacy. Building upon the above sections on learning in authentic spaces, this review acknowledges the complexity of the environment in diverse learning situations and recognizes the constructivist perspective of thinking and learning within authentic historical inquiry settings (Doolittle & Hicks, 2003; Gray, 2009; Kalpana, 2014; Marlowe & Page, 2005; Vedder & Heiden, 2014).

Constructivism and Historical Inquiry

Because the routine daily work conducted at ISHEs and ISEs is authentic to the nature of their discipline, it is assumed that these informal sites of learning offer potential opportunities for authentic learning for visitors. Within the context of conducting historical inquiry at ISHEs, it is important to recognize the social and physical factors that influence authentic learning: "Learning always occurs within the physical environment; in fact, it is always a dialogue with that physical environment" (Falk et al., 2008, p. 327). Learning is constructed, as advanced by noted constructivist museology scholars (e.g., Falk, Dierking, Adams, Trofanenko, Segall, and Hein), at the intersection of previously learned material and the ongoing experience at the ISHE. Research indicates the learning experiences of visitors at ISHEs are shaped not only by their proximity to artifacts or presence at a historical location (Falk & Dierking, 2013; Rosenzweig & Thelen, 1998; Schrum et al., 2016), learning is also significantly impacted by the architectural and physical environment (Hein, 1995; Hooper-Greenhill, 1992; Trofanenko & Segall, 2012; Williams, 2008)—e.g., the age and design of the building, the lighting, the texture of the floors, the glass case housing the artifact, the narrowness or width of the corridors, the surrounding

soundscape, the location of the artifact in relation the viewer, and even the parking lot. Each one of these physical aspects either enhances or precludes the construction of knowledge.

Yet, even at the most thoughtfully designed ISHEs, observer understanding of presented material is never guaranteed due to the constructivist nature of human meaning-making. In their research study of eighth grade students learning at the National Museum of the American Indian (NMAI), Trofanenko and Segall (2012) concluded that because each participant came into the museum with a different base-knowledge of events and historical narratives, what they took away from the museum was different from what the museum intended. The knowledge and understanding the students gained from the museum were constructs of their previous experiences and what their minds filtered in from the NMAI visit: it was not singularly the information presented by the museum. An additional layer of complexity, as researched by Falk and Dierking (2013), is the impact social interaction has on visitors. Falk and Dierking conclude in their research that people tend to focus on the displays and artifacts that those they are with are focusing upon (pp. 111, 147-149). This, and the shared discussions with the company they keep, shape a unique understanding of the ISHE visit for each observer, and in many cases, is not the intended outcome of the ISHE. Some museums deliberately do not address contentions and controversial issues, sometimes referred to as "difficult knowledge," or they position the artifacts in a location within the museum that does not bring attention to the controversial concept (Lonetree, 2009; Segall, 2014). Not confronting difficult knowledge creates within many museums a narrative that sanitizes the past at the expense of educating the future.

Because ISHEs are not neutral spaces, it is incumbent upon the educator to transform the pedagogical space of the ISHE into one that confronts the true nature of the artifact and creates the conditions for inquiry to exist (Segall, 1999; Trofanenko, 2006a, 2014). A recent three-year study by Gaudelli on the impact of integrating ISHEs into the curriculum of traditional

classes highlights the possibility of pre-service education at ISHEs and the significant role informal places can have on learning (Gaudelli, 2014). In his study of over sixty graduate students (80% of which were pre-service educators), Gaudelli notes that integrating the theoretical concepts of his class with a museum experience allowed students to deconstruct the pedagogical spaces in unique ways.

> The significance of their reading, however, was made more prominent as a result of the museum visit and reflective discussion and writing. I could have organized the course around a study of postcolonial theory without the venue of the museum though I doubt students would have gained as much from the experience. (p. 164)

Using his observations and student reflections, Gaudelli concluded the pre-service educators were able to deconstruct the physical spaces of the ISHE and separate the artifacts from the physical environment. Because students were able to see how the museum elevates some artifacts and diminishes others due to lighting, location, and the absence of a space to contemplate the artifact (for example, a bench to sit on and observe the artifact), Gaudelli recognized the inclusion of ISHE visits as important to his students learning how to deconstruct ISHEs (p. 162).

Gaudelli's study is important because it corroborates previous research that emphasizes the important role expert mentorship plays in the intellectual development of pre-service teachers at ISHEs (Segall, 1999; Trofanenko, 2014). While ISHEs present artifacts for consideration, it is the educator who teaches the student how to critically engage with the item (Trofanenko & Segall, 2012, p. 154). Although numerous studies by researchers (Jung & Tonso, 2006; Kisiel, 2003, 2007) highlight the inability of most educators to effectively integrate informal spaces of learning into the curriculum, Gaudelli's research shows that while there is considerable complexity to ISHE spaces, there is also the potential to overcome this deficiency by linking classroom instruction and experiences at ISHEs into the pre-service teacher curriculum.

Science and Art Pre-Service Teacher Education Programs

Although pre-service teacher education at ISHEs is not standard practice in the field of history teacher education (Patterson & Woyshner, 2016), there is a considerable amount of literature documenting the influence of pre-service teacher experiences at ISEs in the disciplines of science and art education. Examining the literature in these two disciplines as they connect with ISEs might lead to the discovery of findings or trends that are also applicable to pre-service history teacher education.

Since the academic community called for a redesign of teacher education programs in the mid-1980s (Darling-Hammond, 1999, 2010; Feiman-Nemser, 2001a; Shulman, 1987), the science and art communities at many colleges of education have begun integrating informal sites of learning into their curriculum. These communities have looked outside the walls of the university and into the practical spaces where their disciplines interact with teachers, students, and communities. Science and art education researchers in this field recognize that a comprehensive pre-service teacher education program "requires experiences in contexts beyond the limited confines of school-based classrooms" (Anderson, Lawson, & Mayer-Smith, 2006, p. 343). Findings from research studies, such as at Loyola University Chicago's teacher preparation program, advocate that education departments expand the experiences of their students from campuses to museums and other informal sites of learning (e.g., science centers, nature preserves, etc.) and facilitate the creation of museum-university partnerships (Clark et al., 2016). Science and art education researchers have determined that pre-service teacher education at sites of informal learning fundamentally transforms teacher pedagogical practices in a number of positive ways (Anderson, Lawson, & Mayer-Smith, 2006; Aquino et al., 2010; Bobick, 2012; Henry, 2004). Specifically, the findings from research studies indicate that pre-service teacher experiences at informal places of learning result in: 1) increased collaboration with peers that

leads to improved pedagogical skills and 2) enhanced awareness of the merits of teaching authentically as learned through observing student experiences within ISE-based learning experiences. In this section, I review these elements and extract the important findings in the research as they apply to history education.

Peer Collaboration

In a year-long mixed-methods research examination of 154 pre-service science educators in their third year of college, Watters and Ginns (2000) observed that the collaborative nature of work at ISEs greatly influences teacher confidence to teach effectively and deepens their understanding of their disciplinary content. Researchers found that student experiences at ISEs facilitate student inquiry of the content material. In these settings, students are removed from the competitive nature of grade-focused classrooms and feel free to become vulnerable to mistakes and freely admit what they do and do not know. Out of the formal classroom, students are more open to explore ideas because of the informal, risk-free environment. In focus groups, students attributed the positive growth of their pedagogical capabilities to the collaborative atmosphere of learning at ISEs and the authentic nature of the work (p. 311). In a summative analysis of their research, Watters and Ginns note that pre-service teacher experiences at informal sites of learning provide pre-service teachers the education required to overcome a teacher education system resistant to change:

> Development of preservice teachers' learning of teaching by enhancing motivation and affect through the instructional strategies used in this study can provide them with the ability to "risk take" in teaching in a society where there is rapid technological change and consequently respond to professional uncertainty. Enhanced beliefs can enable teachers to cope better with entrenched practices and cultures that are resistant to change. (p. 318)

Building on Watters and Ginns' work, Jung and Tonso (2006) also research and discuss the positive non-threatening, collaborative environment that museums and informal sites of learning

provide pre-service teachers. Conducting an ethnographic study of 24 pre-service teachers over a semester (weekly observations, focus groups, and individual interviews), the authors observed improved pre-service teacher progress on peer collaboration and the perceived authenticity of the learning site by the participants. Pre-service teachers internalized authentic teaching by modeling the habits of the experts they were working with at the ISE. Additionally, hands-on activities with artifacts internalized in pre-service teachers the benefits of moving away from teacher-centered instruction to one rooted in student-inquiry (p. 25).

In a pre-service teacher ISE program at an aquarium, Anderson, Lawson, and Mayer-Smith (2006) noted that participation within a cohort at informal sites of learning has a significant impact on student teacher pedagogies and their understanding of how students learn. Specifically, the findings indicated that pre-service teachers' ability to plan and instruct with authentic pedagogy improved because of two specific items: 1) the collaborative atmosphere that the informal site encouraged and 2) the authentic learning environment that the informal site provided. The cohort experience not only broadened participant views of education and increased understandings of educational theories, but their experiences were also grounded in observing authentic "teachable moments" that K-12 students had in this informal educational setting (p. 351).

Authentic Science and Art Teaching

Scholarly studies in science and art education point to the richness of student learning in informal, real-world spaces. The research available in this field acknowledges the transformative influence ISE experiences can have on teachers and how these experiences often lead to the internalization of authentic pedagogy (Falk et al., 2007; Henry, 2004; Martin, 2004; Melber & Abraham, 2002). Henry's (2004) research involving over 240 art teachers determined that new educators are more likely to integrate authentic-based lessons in their classrooms if they have

worked in museums prior to their initial years as a teacher. Henry's research concluded that those teachers who did not integrate museums into their classrooms were those who did not have an experience at one prior to becoming a teacher. Henry also found that pre-service teacher residencies at museums created relationships between the museum staff and the pre-service teacher that later facilitated the integration of artifacts and museum pieces into the classroom. Henry's research suggests that there may be links between pre-service teacher experiences in museums and a movement away from a text-centered curriculum to one that integrates authentic instruction.

Complementing and confirming Henry's work, Melber and Cox-Petersons' (2005) three-year research study at natural history museums in California with 54 in-service science teachers also noted the improved teaching pedagogies that emerged from workshops at museums. Specifically, participants reported two key positive aspects of learning within an informal site: 1) an increased understanding of science content knowledge and 2) an improved understanding of how to connect natural science content with formal instruction (Melber & Cox-Petersen, 2005). Additionally, the study noted that experiences at informal sites "provide opportunities for teachers to participate in authentic scientific investigations that can be translated into field investigations near their school site" with their new students (p. 118). In this final conclusion, the authors make the important observation that pre-service teacher experiences at informal sites facilitate the ability to teach authentically once they enter the classroom. Parallel research in art education corroborates these findings and suggests that pre-service art education that does not include learning experiences at a museum does not adequately prepare teachers to understand how to use or leverage artifacts once they enter the classroom in a way that promotes authentic learning (Stone, 1996).

Although most of the literature suggest school field trips to science and art museums to

be powerful authentic learning experiences for K-12 students, research findings usually conclude that these visits are poorly designed and rarely connected to curriculum (Aquino et al., 2010; Cox-Petersen & Pfaffinger, 1998; Kisiel, 2003, 2007; Tran, 2007). Novice teachers in particular are statistically less likely to integrate museum artifacts and resources into their classrooms unless they have been introduced to these spaces prior to entering the classroom (Morentin & Guisasola, 2015). Morentin and Guisasolas' research found that teachers without prior experiences at ISHEs do not have sufficient pedagogical content knowledge to implement authentic teaching strategies in these settings. In their study of experiences of 38 pre-service science teachers, the authors observed that providing museum-based learning opportunities for pre-service teachers changes their conception of best practices in teaching and will often provide them with the skills necessary to promote authentic learning in their future classrooms (p. 986). This research supports previous studies by Olsen, Cox-Petersen, and McComas (2001) that recognized the importance of pre-service teaching experience at museums in facilitating classroom instruction with artifacts. In their study, the authors observed 64 pre-service science teachers' experiences at a natural history museum. Through focus groups, participant reflections, and observed behavior, the researchers reported that pre-service educators learned how to integrate classroom instruction with authentic museum experiences in a way that their peers without this experience were unable to do (pp. 167-168).

Investigating the premise that pre-service experiences at museums are critical to pedagogical development is central to the work of Kisiel (2003, 2007). In his 2003 findings, Kisiel reported that the majority of pre-service and experienced teachers who did not participate in a pre-service education program at a museum and took their students to museums relied heavily on written worksheets as sources of learning instead of inquiry. Kisiel's data showed that longevity in the classroom did not improve a teacher's ability to foster authentic learning in

museums or other informal learning spaces (p. 19). Kisiel's research suggests that without pre-service teacher experiences at museums, teachers are likely to embrace preconceived notions of how learning should be structured in museums, and, more often than not, those preconceived notions are founded on poor pedagogical practices and experiences. In the findings, Kisiel (2003) recommends not waiting until a teacher is in the classroom to learn these skills but instead integrating museum experiences into pre-service teacher education programs.

These findings are not isolated. The 2014 work of Lemon and Garvis concluded "real world, authentic connections to personal and professional uses of museum resources opened up possibilities for pre-service teachers. Their teaching strategies, curricula, and classrooms have been infused with new ideas and approaches and students will feel the results" (p. 40). The overall message of this study emphasizes that positive shifts occur in pre-service teacher understanding of the importance of integrating authentic learning into their curriculum; this occurs when opportunities are provided at art museums and galleries during pre-service teacher education programs.

Colleges of education have realized for some time that they must move away from a "textbook-centered or recitation-style teaching" (Little, 1993, p. 130) as a mode of educating new teachers and move toward one that teaches authentically (Frechtling et al., 1995; Olson et al., 2001; Watters & Ginns, 2000). In response to this understanding, many universities have made space for authentic learning opportunities for their emerging teachers. For example, Seton Hall University science education graduates must now complete a series of field experiences at museums prior to graduation (Zinicola & Devlin-Scherer, 2001). In New York City, the American Museum of Natural History (AMNH) has partnered with several local teacher education programs over the past few decades to create museum-based experiences for pre-service teachers: CUNY's Brooklyn and Lehman Colleges, Bank Street College of Education,

Barnard College, and Teachers College (Columbia University). The aim of these partnerships is to create experiences for pre-service teachers that are not possible in traditional college classroom settings. Educational leaders at the AMNH have determined that these museum-based experiences that cannot be replicated in a traditional classroom.

> The Museum (AMNH) experience is meant to provide a variety of opportunities for science teachers to co-construct pedagogical knowledge while they share, teach, and learn science content knowledge with colleagues and students in a social and contextualized manner (situated learning experiences)… Situated learning is valuable because it provides an interactive, participatory framework for learning that is created by varied encounters, rather than an abstract body of knowledge. (Aquino et al., 2010, p. 229)

In a test of this premise, Aquino et al. conducted a reflective mixed-methods study of over 120 pre-service teacher experiences at the AMNH and found that educational programs at informal sites of learning are a valuable supplement to classroom instruction. It was noted in the findings of the report that courses designed for and conducted in ISEs emphasize student reflection of theoretical concepts learned in the classroom with real-world applications at the ISE. College faculty were able to facilitate learning by providing students with the authentic space in which to synthesize theory with the practical. The researchers observed in the ISE that college faculty emphasized

> …teacher reflection, allowing participants to integrate their professional work with prior science experiences and new theoretical and practical understanding. By providing a safe space for sharing ideas and offering critiques, the course instructors empowered the teachers to design engaging, logistically sound fieldwork for their own students. (Aquino et al., 2010, p. 244)

In Tennessee, the University of Memphis has integrated museum-based experiences for their art education majors into its core curriculum. Over the course of the semester, students work at the Brooks Museum of Art in Memphis to learn about the collection and how to incorporate the collection into classroom curriculum (Bobick, 2012). The findings from Bobick's research support two important points. First, building on the work of Nadaner (1983)

in art education, the results of this research support the premise that museum experiences facilitate pre-service art teachers translating theory into practice by supporting what he termed a "situation-based model of art teacher education" (p. 19) that allows the pre-service teachers to create connections between thought and action. The key findings in this first point are the importance of the learning environment and how the museum setting facilitates the construction of knowledge within the teacher candidate. Secondly, data from these museum experiences revealed that after participating in a partnership with a museum, pre-service art education students were comfortable and competent teaching in a museum setting (p. 22). This second point is critical because it indicates that university-museum partnerships can develop the ability for teachers to embrace the complex nature of leveraging artifacts from museums and lead students on independent intellectual journeys within informal sites of learning.

In summation, the literature emerging from science and art education research supports the hypothesis that pre-service experiences within ISEs are critical for the pedagogical development of emerging science and art educators (Kisiel, 2003; Melber & Cox-Petersen, 2005). The literature highlights the importance of providing real-world learning opportunities for pre-service teachers in order to help them construct the foundation to teach with inquiry and to connect student learning to authentic, real-world applications (Henry, 2004; Lemon & Garvis, 2014). Additionally, the research within this field illuminates the importance of learning in authentic spaces with experts (Aquino et al., 2010; Nadaner, 1983; Zinicola & Devlin-Scherer, 2001). From this research, the findings suggest that situating pre-service learning at an ISE fosters the propensity for the emerging teacher to develop pedagogically in ways that are often absent from the traditional classroom. Peer collaboration, the understanding of how to leverage artifacts in a classroom, and the ability to teach with authentic pedagogy are specifically heightened when situated experiences at ISEs are provided to the emerging educator (Anderson

Lawson, & Mayer-Smith, 2006; Bobick, 2012; Olson et al., 2001).

International Pre-Service Teacher Education

Similar to education programs in the United States, ongoing research in science and art pre-service teacher education outside of the United States is also examining how pre-service teacher ISE-based experiences influences teacher candidates' pedagogical development. Emerging from this research are three universal strands—museum-university collaboration, pedagogical content knowledge, and situated learning—that offer potential insight concerning pre-service teacher education programs to researchers in this field in the United States. In this section of my literature review, I will inspect these strands and consider the ways in which the findings and conclusions might intersect with my research questions.

Museum-University Collaboration

After assessments in the United States in the mid 1980's concluded that its educational system was failing to meet national demands for preparing a competitive workforce (Goldberg & Harvey, 1983), Australian government and education researchers came to similar conclusions and set out on a path to reform teacher education programs in Australia (Brownlee et al., 2001; Forlin & Chambers, 2011; Lemon & Garvis, 2013). Recognizing the importance of teaching authentically and linking classroom learning to "real-world" issues, research studies out of this continent acknowledged the need to redesign pre-service education curriculum (Ferreira et al., 2007; Forlin et al., 2009). Recent studies have found that new teachers "are often left trying to link the learning they are exposed to at university with the learning they experience in the classroom" (Jones et al., 2016, p. 110). As a result of these findings, universities are evaluating their entire teacher education programs with the hope of determining how to optimize the university experience (e.g., Jones et al., 2016; Korthagen et al., 2006). Noted in this discussion is the reality of faculty obligations that place an emphasis on research and publishing rather than

operating on the expert model for the pre-service teacher (Tasdemir et al., 2014, p. 94). The analysis of this study led the researchers to determine that many university professors are not providing the mentorship teacher candidates need in order to teach authentically upon graduation and that students need expert mentorship within authentic settings to facilitate pre-service teacher growth in effective pedagogical practices.

One solution that has been tested in Australia since the mid 1990's to resolve this problem is the integration of museum-based learning opportunities within pre-service teacher education (Griffin & Symington, 1997; Rennie & McClafferty, 1995). In one semester-long study of over 100 pre-service science teachers, researchers determined that the integration into the core curriculum of learning within a museum experience improved teacher confidence and pedagogical abilities as well as facilitated the transfer of authentic teaching by the novice teacher from the museum to the classroom (Ferry, 1995). Also, of note in the findings of this study is the conclusion that content "discipline knowledge and skills with preservice elementary teachers is likely to be more successful when it is applied to a real-life situation" (p. 259). Ferry's research reinforces the importance of authentic learning environments in pre-service education curriculum and suggests that pre-service teacher skills are enhanced when informal sites of learning become part of the core curriculum in teacher education programs.

Recent research studies in Australia continue to point to the benefits of pre-service teacher experiences at museums. Peter Brett's research (2014) of university-science museum partnerships determined that museums offered a vital link in enhancing the internalization of sound pedagogical skills within pre-service teacher candidates. The report determined that it was the close link between the university and the museum that improved student learning because the teacher candidate had integrated what they learned in their methods classes into their museum experiences (Brett, 2014). University professors and museum educators alike were facilitating

the learning of the pre-service teacher through similar pedagogical practices: "active learning methods, inquiry-led approaches, critical thinking, and the promotion of conceptual understanding and subject-specific skills were emphasized as representing good practice" (p. 22). The impact, Brett found, of the integration of these two places of learning, was the formidable factor in positively improving teacher candidate pedagogy. From this research, it is clear that pre-service teachers benefit when museum experiences are an integral part of the core university education program.

Halfway around the world from Australia, researchers in Denmark grappled with some of the same issues involving pre-service teacher education. Seeking to correct structural deficiencies relating to novice teachers' inabilities to integrate authentic practices into their classrooms, a national Danish program titled *The Learning Museum* (TLM) was instituted in 2011. This two-year government sponsored research program linked 26 Danish museums (art, cultural, mathematics, and natural history) with 13 colleges of education in an effort to discover the merits of university-museum partnerships and measure how museum-based learning opportunities influenced pre-service teachers' pedagogies (King & Lord, 2015; Seligmann, 2014). The positive findings of the program institutionalized museum-university partnerships in Denmark and across much of Europe. Influenced by the positive data collected from the two-year study, the Network of European Museum Organizations formally adopted the TLM framework (Figure 1) for integrating pre-service teacher education with museums (NEMO, 2017). This partnership program has completely changed the previous museum-university relationship by eliminating the isolated college classroom template and replacing it with a dynamic and integrated structure that links theoretical learning emphasized in colleges of education with practicum-based experiences in a museum that can then be transferred to community schools during the pre-service student teaching experience (Figure 5).

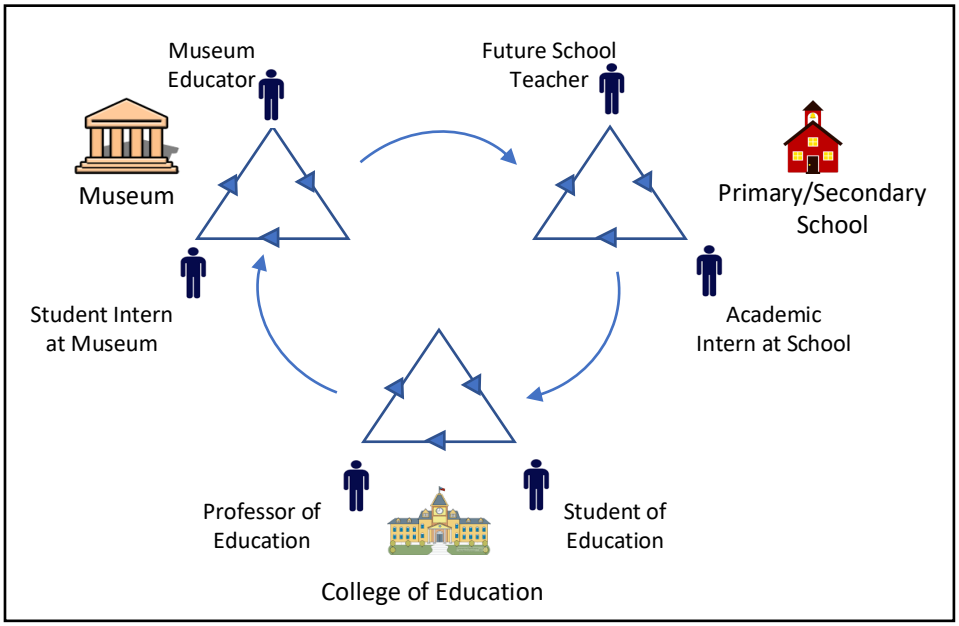


Figure 5. TLM University-Museum Framework (Seligmann, 2014, p. 52)

Figure 5 displays conceptually how the TLM framework instills in each pre-service teacher the importance of linking experiences outside the classroom into curriculum while providing a foundational base of expertise that novice teachers can draw upon when challenged in the classroom.

Pedagogical Content Knowledge and Situated Learning

Building off Shulman's research (1987) centering on the importance of pedagogical content knowledge (PCK), researchers around the world and in nearly every discipline have emphasized the importance of PCK formation within pre-service teacher education programs (Demirdöğen et al., 2016; Gökçearslan et al., 2017; Monte-Sano, 2011; Mouza et al., 2017).

While literature in this area recognizes the importance of mastery of content knowledge, it also emphasizes the criticality of linking knowledge to pedagogy in a way that imparts instruction with positive results (Agyei & Voogt, 2012; Hultén & Björkholm, 2016; Nilsson, 2008; Turnuklu & Yesildere, 2007; Van der Valk & Broekman, 1999). Of additional interest in the field of pre-service teacher PCK education are the ways informal sites offer a unique

advantage over traditional college classroom settings through the ways learning is situated in authentic learning spaces (Kelly, 2000; Rennie & McClafferty, 1995; Seligmann, 2014; Tasdemir et al., 2014). In this section of my review, I will examine how international research exposes the link between PCK and situated learning.

On the island of Taiwan, Chin explored the ways in which learning opportunities at museums influenced teacher candidates' abilities to synthesize subject knowledge with pedagogical practices (Chin, 2004). The research from this study of 21 pre-service teachers concluded that an ISE-based experience at a museum significantly shifted how they approached teaching. After a museum experience, they moved away from the linear textbook path prioritizing getting the "correct" answers and instead "started to collect resources, and then integrated concepts or contexts in their teaching in order to teach students" (pp. 84-85) using flexible methods of teaching that were adapted to different learning contexts and their students. Chin directly attributed the change in pedagogical content knowledge to the situated learning space of the museum/ISE.

Also in Taiwan, Yu and Yang (2010) focused on the how experiences at ISEs influence the pedagogical practices of in-service teachers. Their findings acknowledged that most pre-service education programs do not adequately prepare emerging teachers for the challenges of the classroom. In their study of 42 in-service teachers using qualitative methods for analysis (observations, interviews, and journals), the authors determined that in-service teachers had a difficult time transitioning from traditional teaching methods (teacher centered and content-focused) to authentic practices. Linking their findings to Chin's earlier work (2004), the authors recommend situating pre-service methods courses within ISEs in order to maximize the propensity of the pre-service teacher to embrace authentic teaching styles and internalize teaching with authentic pedagogy (pp. 426–429).

Although Turkey has a robust teacher education system comprising over 92 colleges of education or teacher training institutions, the integration of pre-service teacher experiences at ISEs has only occurred within the last 10 years (Ilhan et al., 2014). In a research study conducted by Tasdemir, Kartal, and Ozdemir (2014), the authors sought to understand the potential influence experiences at informal sites can have on pre-service teacher perceptions of integrating authentic learning into their future classrooms. Using a research population of 41 pre-service teachers, the researchers exposed the population to a wide range of informal learning experiences outside their classroom. In their findings, the researchers determined that these out-of-classroom experiences increased the tendency of pre-service teachers to plan lessons that focused on inquiry and moved their classroom pedagogy away from textbooks and toward an authentic-based curriculum. Additionally, the pre-service teachers stated that the experience of learning in a museum changed how they processed the information: learning became situated in the environment of the museum (p. 68).

Elsewhere in Europe, University of Sweden ethnographic researchers Piqueras, Wickman, and Hamza (2012) studied pre-service teacher learning at the Swedish Museum of Natural History. In an ethnographic study of the conversations between three student teachers working together at a museum, the researchers noted in their findings the influence situated learning experiences at ISEs has on pre-service teacher conception of expert teaching practices. Researcher observations noted that because of expert mentorship, student learning was maximized. Specifically, under the museum mentor's guidance, pre-service teachers were able to engage with multiple perspectives of an exhibit instead of singular ones. The study concluded that the expert-apprentice relationship (Brown et al., 1989) at the ISE created a unique learning experience and played a significant role in the pedagogical development of the participants of the study.

In England, art education research out of the University of Cambridge has led to the development of a national program titled *Initial Teacher Education (ITE) Cultural Programme* (Yuan et al., 2015). Building on previous research (Davies, 2010; Spencer & Maynard, 2014) and programs in that nation, the UK's National Gallery has piloted the ITE initiative with six university pre-service teacher preparation programs. In what they term "the constructionist museum" (Yuan et al., 2015, p. 31), universities and museums are situating pre-service learning within ISEs because their research concludes that emerging educators synthesize theory and practice when immersed within these authentic settings.

A synthesis of the research on international pre-service education programs highlights the profound benefits of situating pre-service teacher education courses within ISE settings. Across the globe, education researchers have noted the transformative effect that experiences at ISEs have on preservice teachers (Brett, 2014; Geladaki & Papadimitriou, 2014; Lemon & Garvis, 2013; Yu & Yang, 2010). Of particular note, it does not matter the discipline examined in the study to observe significant change to pre-service teacher pedagogy. From art students to science students, research shows that experiences within ISE settings foster peer collaboration and deep content knowledge (Ferry, 1995; Lemon & Garvis, 2013; Tal et al., 2005). Also embedded in the research studies in this section is the recommendation that national education systems not wait for in-service professional development to leverage experiences at ISEs (Jones et al., 2016; Seligmann, 2014; Yuan et al., 2015). Instead, the recommendation is to integrate these experiences within the pre-service teacher methods course.

Pre-Service History Education and Informal Sites of Learning in the United States

Teacher education at ISHEs has a long and rich history in the United States (Bloom & Mintz, 1990; Wright-Maley et al., 2013; Grenier, 2009; Marcus, Stoddard, & Woodward, 2012a; Marcus, 2008). The literature in this field documents the value teachers place on ISHEs and the

potential they provide for deepening the field of history education. Also, currently within the context of history education at informal sites is the literature supporting teaching at these informal sites as a way of infusing social justice into an otherwise singular narrative that is prevalent in many history textbooks (Brugar, 2012; Harshman & Augustine, 2016; Lasky, 2009). While scholars are learning through literature of the value that ISHEs offer teacher education programs, the preponderance of that literature is focused on developing in-service teachers (Borko, 2004; Hall & Scott, 2007; Kelchtermans & Vandenberghe, 1994; Schrum et al., 2016; Zeichner, 2003).

Plentiful and rigorous research studies in the area of in-service professional development has provided valuable data that has fostered the creation of standards by which professional development is conducted (Desimone et al., 2002; Garet et al., 2001). However, as noted by Baron (2014), the gap in pre-service teacher development and ISHEs remains significant:

> Yet, there is nowhere in most teacher education programs that integrates the use of historic sites into the development of their own teaching practice. Most new teachers' experiences with historic sites often are limited to their own school-based field trips or personal recreational outings. Typically, most teachers do not encounter historic sites in their training until they are part of professional development programs like the federally-funded Teaching American History (TAH) grant programs or other local opportunities. (pp. 10-11)

This emphasis on the development of in-service teachers rather than those in college preparation programs has left a gap in the literature concerning how pre-service teacher experiences at ISHEs influence teacher pedagogical development before they enter the classroom. And while the literature is almost silent on this topic, there is encouraging research that provides insight to the impact of pre-service teacher experiences in these places. The last section of this review of relevant literature centers on some of the available research in this critical area of teacher development—pre-service teacher educational experiences at ISHEs.

The challenge with the literature in pre-service teacher experiences at museums and other

informal sites of learning is that there is very little qualitative or quantitative data documenting what actually happens at those sites. Articles abound professing how university-museum collaborations result in pre-service teachers experiencing something "amazing" in a museum methods class or a one-off faculty initiative at a local museum (Beaudoin, 2014; Cox & Barrow, 2000; Ford, 2016; Greenwood, 2014; Nichols, 2014; Stetson & Stroud, 2014; Waite & Leavell, 2006; Wunder, 2002). However, most of these articles are anecdotal with no data or theoretical underpinnings that support the conclusion that pre-service teacher pedagogy was informed by the experience. The few programs that integrate museum experiences into their pre-service programs and evaluate themselves with standard accepted practices of research methodology do offer this literature review important insight into what can happen during museum-university partnerships.

And while the literature is still developing in this area, there are some institutions that have established programs and rigorously documented their work. These examples of pre-service teacher experiences at ISHEs, documented and analyzed in this section of this literature review, demonstrate that ISHEs offer similar rich learning environments as those researched at ISEs within the science and art communities. For example, at Loyola University Chicago's *Teaching Learning and Leading with Schools and Communities* (TLLSC) teacher preparation program, faculty have partnered with museum educators at six of the major museums and informal sites of learning (Adler Planetarium, Chicago Children's Museum, Chicago History Museum, Chicago Academy of Sciences and Nature Museum, Shedd Aquarium, and the Field Museum) to create a dynamic program that exposes pre-service teachers to over 1500 contact hours during their four-year course of study. The program facilitates pre-service teachers in leveraging museum resources to promote authentic learning opportunities. Using a cognitive field apprenticeship model, university students learn from experts in authentic learning settings

instead of in traditional classroom settings (Clark et al., 2016). This museum-university partnership has enhanced learning by linking classroom theory with expert practice. Students learn concepts on the Loyola campus and then see the connection to reality as they work with students at the different ISHE sites under the tutelage of discipline experts. Data collected by researchers indicates that the Loyola pre-service teachers were able to connect the theoretical concepts of both Piaget and Vygotsky to their observations of students on field trips at the museums (Clark et al., 2016, p. 334). An excellent example of this is highlighted within the journal of a Loyola student following a session at the Field Museum (Clark et al., 2016, p. 336):

> Vygotsky's scaffolding: The Ancient Egypt exhibit helps people learn about hieroglyphics by showing them step-by-step interpretations of isolated hieroglyphics, then putting them all together. [This activity] builds self-efficacy. The (students) learn a new skill, then apply that knowledge to complete a task.

This research by Clark et al. is important because it provides insight into how museum experiences can reinforce theoretical concepts discussed in classroom settings. These findings remind us that, while it is still important to teach theory, adding the element of practice within an authentic setting strengthens the understanding of critical concepts within the emerging teacher.

However, it is also critical to focus attention on the invisible variables that permeate society and ISHEs. While the role of ISHEs and how they interrogate the past has been questioned in recent years (Trofanenko & Segall, 2014), trust in ISHEs has not waned. In an exhaustive 1995 qualitative study in the United States of public perception of museums (n=1500), Americans from across a spectrum of ethnic and racial backgrounds stated in surveys that they trust ISHEs and their authenticity more than any other source available to them, including personal accounts, college professors, books, and movies (Rosenzweig & Thelen, 1998, pp. 235, 244–245). Additionally, the findings of Rosenzweig and Thelen indicate that encountering artifacts at ISHEs elevates the authenticity of the object and the power of message

presented by the institution (pp. 32, 105-106). The overall perception of Americans is that artifacts are genuine and present the truth without an agenda or political leaning. This is problematic because the guise of scholarly neutrality often conceals the ideology of the institution and the selectiveness of the narrative presented (Trofanenko, 2006b). Thus, if authentic learning is to occur within an ISHE or with the artifacts presented therein, educators must learn how to detach the artifacts from the narrative of the institution and to teach their students to do the same. Otherwise, the grip of the institutional narrative may control the object and prevent authentic learning from happening.

In an effort to overcome the complexity of ISHE spaces, Gregg and Leinhardt conducted research to investigate how to assist pre-service teachers in teaching difficult race-related topics through museum-based learning experiences. Specifically, the authors wanted to investigate how to assist White pre-service teachers in discussing contentious and complex civil rights issues with their peers and future students. Understanding from the literature that novice teachers often stay focused on the single narrative of the textbook, the authors believed that ISHEs could facilitate pre-service pedagogical development by moving the learning space to a historic site and examining the artifacts therein through authentic intellectual work (Gregg & Leinhardt, 2002; Leinhardt & Gregg, 2000). Using data collected from observations, interviews, and focus groups, Gregg and Leinhardt evaluated the impact of working with 49 pre-service teachers at the Birmingham Civil Rights Institute Museum. Using statistical analysis of their data (both quantitative and coded qualitative), the authors determined the museum visit had a significant influence on the teacher candidates' development ($p=<.01$). The authors determined that:

> There is evidence that the visit and related activities caused a substantial number of them to reorganize the information that they had available to them. This re-organization is an index of the preservice teachers' changing conceptions and attitudes about the Civil Rights Movement. (Gregg & Leinhardt, 2002, p. 582)

The question presented to the researchers was straightforward: why did the change occur? In a final analysis, the authors concluded that the change in preservice teacher conceptions was because learning was situated in the museum. Agreeing with other authors on this point, Gregg and Leinhardt determined three reasons why museums are instrumental in facilitating change in teacher understanding of the material and assisting them in pedagogical changes: (a) scale, (b) resolution, and (c) perspective. Each of these elements synthesized together to create a situated learning experience for the pre-service teacher that the authors believed could not be replicated in a classroom setting (Leinhardt & Gregg, 2000, pp. 20–21).

Although singular visits to museum and historic sites are the norm in many colleges of education, there is particularly interesting work being done in Boston and Philadelphia. At Boston University, a *History Lab* course was created to provide students with a semester-long exposure to a historic site. Focused primarily on pedagogical development rather than solely on historical content, Boston University's program situates all pre-service history teachers into a single historic site where they become immersed in learning from site-based experts and using authentic artifacts to develop authentic pedagogical skills (Baron et al., 2014). While scholarly articles on this program suggest that ISHEs offer pre-service teachers significant unique learning opportunities, no in-depth research study of their influence on pre-service teacher pedagogy has been published. This gap in understanding offers researchers an important area that requires examining.

Following a 2010 directive by the Pennsylvania Department of Education to increase field experiences for pre-service teachers, Temple University decided to explore the possibilities of integrating field work at museums, historic sites, and archives rather than solely in classroom settings. Temple's new course program, *Cultural Fieldwork Initiative* (CFI), was a bold initiative that requires all pre-service history students to complete a semester-long residency at

an ISHE near their campus each year (Baron et al., 2014; Reidell & Twiss-Houting, 2015). With a strong museum-university partnership, the CFI supports student learning through a cohesive program where teacher candidates are mentored by both experts at ISHEs and college faculty. This methodology, similar to the Danish TLM framework, synthesizes expert practices with classroom education theory. Within their residencies at ISHEs, FRI teacher candidates work with high school students doing research for school projects. This practice results in pre-service teachers working in authentic, low-stakes environments with actual high school students: a recommendation that other scholars in this field have advocated to include in ISE-based residencies (Anderson, Lawson, et al., 2006; Aquino et al., 2010; Baron, 2014b; Clark et al., 2016; Windschitl et al., 2008; Wood, 2012).

An early reflective study of the CFI program by the Temple University faculty is promising. A 2013 examination of 29 CFI student lesson plans and field journals indicates that the program is positively impacting student learning and pedagogical development (Patterson & Woyshner, 2016). Results from the study show that after their ISHE residencies, pre-service teachers increased the number of primary sources they used in the classroom, created more lessons following authentic-based methodology, and showed higher levels of Blooms Taxonomy in their instruction. Additionally, reflective journals by pre-service teachers indicate that residencies change how pre-service teachers are pedagogically moving from traditional teaching to authentic pedagogy as evidenced by the following blog reflection (Mercado, 2015, p. 3):

> My fieldwork was beneficial to my teaching practice because it opened me up to another world. A world that isn't all about textbooks, and power points, but instead it's one of unlimited promise and excitement. I never knew what I might find in the boxes. When you come across a letter with the date 1896 on it, the feeling you get when you hold such a thing is priceless. This is what teaching history should be. Students should be able to handle and analyze these sources. It's better to touch and feel history compared to always reading about it in an abstract way.

The preliminary data is changing not just teacher education at Temple University, but also the

way ISHEs sites that participate in the CFI view their role in teacher education. Although 72% of the participating CFIs had never worked with pre-service teachers before this initiative, 100% of those participating in the program reported wanting to continue to participate with Temple's CFI in the coming years.

While the literature reviewed in this section suggests that the work of university programs that integrate experiences at ISHEs into their pre-service teacher curriculum is encouraging, there is insufficient data to draw any significant conclusions about how these programs influence pre-service teacher pedagogy. Additionally, the existing data is vague on how different ISHE types (museums, archives, libraries, and historic sites) uniquely influence learning, disciplinary literacy, perception of expert teaching, and pedagogical development within the teacher candidate (Woyshner et al., 2013). Thus, there looms a significant gap in what we need to know to make informed decisions concerning pre-service teacher education and what the literature illuminates.

Pilot Study Findings

In May and June 2018, a pilot study was conducted at Eastern State University (a large public university in the eastern United States) for the purpose of determining the feasibility of a more in-depth study to validate/correct research protocols (Coddington, 2020). Using a questionnaire, lesson plan analysis, and interviews, the pilot study performed an ex post facto examination of in-service history teacher perceptions of the influence that a semester residency at an ISHE had upon their historical disciplinary pedagogical practices. The qualitative data collected was analyzed using qualitative coding (Saldaña, 2015), frequency counts, and the identification of emergent themes (Creswell & Clark, 2011a).

The data collected and analyzed from the study indicates that pre-service history teachers are influenced by a semester-long residency at an ISHE. Participants of this study noted that

they learned and internalized critical skills during their residencies that they believe they did not acquire through their teacher preparation methods courses. When reflecting upon a sample lesson plan they submitted for this study, each participant referred back to their residency as the primary influence of why they structured the lesson with authentic resources such as primary source documents and authentic instruction. However, upon further discussion, it was clear the Eastern State methods courses all stressed the same points that the participants said they acquired during their residencies. The determining factor in this situation, as defined by the participants, was that the learning took place within the intersection of the physical space of the ISHE and the social interaction between themselves, their residency peers, and ISHE staff. The pilot findings concluded that learning information and skills is different for pre-service teacher candidates within an ISHE than in a college classroom—even when the same skills are being taught and the same learning objectives stressed. The difference, again in the words of the participants, was the real-world nature of the ISHE.

One area of learning that was unique to the ISHE for the participants was the newly developed ability to interact with ISHE staff and site location resources. Specifically, all participants noted that the ISHE experience provided them with the knowledge, skills, and confidence to work with ISHE staff and in the site collections. For example, participants reflected that their FRI experience provides them with the skills they need to navigate ISHE databases and ask the right questions of ISHE staff members in order to locate and use primary source documents and artifacts in their classrooms. Additionally, participants' conceptions of integrating field trips into their curriculum seem to differ from other teachers. They see the ISHE as an extension of their classroom while the literature notes that most of the time a field trip is a one-off day from regular instruction and is not integrated into classroom curriculum.

The data from the study suggests that pre-service history teacher residencies at ISHEs can serve as valuable and unique learning spaces for the pedagogical development of pre-service history teachers. Based on the data, the findings recommended a further study be conducted with a more comprehensive participant population in order to validate the findings of this study and illuminate any areas that did not surface due to the small population pool. The pilot study also underscored one of the problems with the extant literature: qualitative analysis alone was not sufficient to address the research questions. This study, therefore, recommends that a more robust methodology employing both quantitative and qualitative data be collected to explore the experiences of the FRI graduate population pool.

Chapter 3 - Methodology

Although the pilot study (Coddington, 2020) associated with this dissertation indicates that pre-service history teacher residencies at ISHEs influence in-service educators' pedagogical practices in ways that increase the use of authentic resources and expert teaching practices as defined by Fogo (2014), it also acknowledges that the qualitative study alone does not answer the research questions of this dissertation to any degree of certainty. Many scholars (Brannen, 2017; Bryman, 1988, 2006; Doyle et al., 2009; Greene et al., 1989; Johnson & Onwuegbuzie, 2004) have made the argument that conducting a study using both qualitative and quantitative methodologies (a mixed methods approach) leverages the inherent strengths of both methodologies, triangulates the data, and provides a clearer image of the research being examined. Greene et al. (1989) elaborate on this research philosophy and postulate that there are five distinct advantages to using a mixed methods framework:

- Triangulation. Increases the validity of the constructs and inquiry results through corroboration of data.
- Complementarity. Results from both types of methodologies (qualitative and quantitative) are used to elaborate and enhance the data of the other.
- Development. In a sequential method, the initial exploration is used to inform the second and is useful in designing and correcting the latter instrument.
- Initiation. Increases the breadth and depth of data and interpretations by analyzing them from different perspectives.
- Expansion. Allows the researcher the option to select different methods and lenses when analyzing the data.

Other researchers (Rossman & Wilson, 1985) recommend a combination of quantitative and qualitative approaches to research because together they corroborate, elaborate, and present "fresh insight" (p. 637) to the explored data that may be missed from a singular analysis.

Mixed Methods Design

Within the mixed methods research methodology family, there are over forty different designs at the disposal of researchers (Tashakkori & Teddlie, 2003). Of those variations, there are six major design prototypes: convergent parallel design, explanatory sequential design, exploratory sequential design, embedded design, transformative design, and multiphase design (Creswell & Clark, 2011b). The selection of a specific research methodology must be guided by research questions and how the data will be used to complement and interact with each other (Morse, 2010). Available research (Creswell et al., 2003; Creswell & Clark, 2011b; Creswell & Miller, 2000; Ivankova et al., 2006) offers four key factors in determining the optimal mixed methods approach in a research study. The first consideration is the determination of the level of interaction between quantitative and qualitative strands. That is, to what degree are the strands independent or dependent of each other, either in a concurrent or sequential methodology? For example, if a large population is available for examination, it might be optimal to conduct a quantitative study first to illuminate underlying trends that would be explored in depth during the qualitative phase of the study.

The second consideration is the prioritization of the quantitative and qualitative strands. Researchers, in designing their methodology, need to decide if the two strands will have equal priority or if one will be weighted more (Ivankova et al., 2006). Many factors play into the calculus of this decision including the research questions, collection instruments, population available for the research, and interpretation of the collected data.

The third factor for consideration is the timing of the quantitative and qualitative strands. Timing in mixed methods designs are normally classified in three ways: concurrent, sequential, or multiphase combination (Ivankova et al., 2006). In a concurrent design, both qualitative and quantitative data are collected simultaneously. Within a concurrent design, the data from the two strands are kept independent of each other until the final interpretation of the data is assessed. In a multiphase design, one of the strands builds on the other toward a final third study that combines the data from the first two strands.

The fourth and final consideration is where and how to mix the two strands of data (Fetters et al., 2013). The researcher must decide point of interface, or the point within the research process that the data is synthesized (Klassen et al., 2012). Normally, the point of interface is determined during one of four points: design, data collection, data analysis, or data interpretation. In the determination of how to mix the data, researchers generally select from the following strategies: merging, connecting, embedding, or binding using theoretical framework (Creswell & Clark, 2011b)

Sequential Explanatory Methodology

After careful consideration of the research questions and the available population for this study, a sequential explanatory mixed methods methodology was selected (Creswell & Clark, 2011b; Tashakkori & Teddlie, 2003). In a sequential explanatory design, the quantitative strand is conducted first followed by the qualitative strand. In this study, the quantitative instrument identifies what has occurred and then informs the qualitative strand in order to illuminate the reasons for the occurrence (Morse, 2010). Prior studies have documented that sequential explanatory frameworks allow for previously unidentified themes, patterns, outliers, and differences between groups to be identified during the quantitative strand (Alreck & Settle, 2004; Ivankova et al., 2006). Using this newfound information, the study was informed during the

qualitative strand to ask questions and then analyze data in ways previously unconsidered (Doyle et al., 2009). As a result, using a sequential explanatory framework often leads to the collection of a richer qualitative data set and a more informed final analysis (Cameron, 2009) (Figure 6).

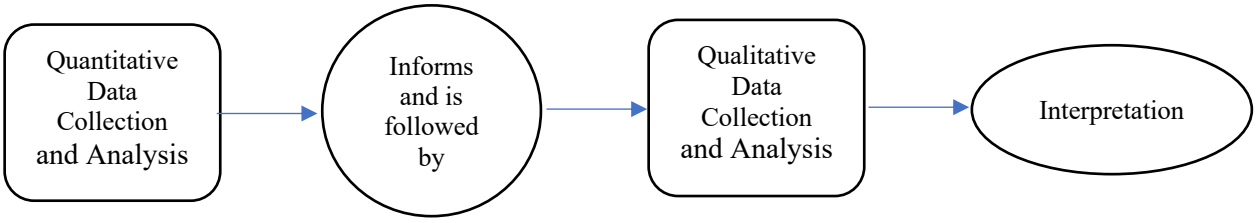


Figure 6. Explanatory Sequential Design

An Ex Post Facto Approach

The research methodology employed in this study was designed to identify the independent variables within a pre-service teacher education program that contribute to expert instructional practices of in-service teachers. Studies that examine pre-service teachers during education courses and student teaching (e.g., Keirn & Luhr, 2012; Voet & DeWever, 2018), while important, do not provide an accurate prediction of future performance (Barton & Levstik, 2003; Goodlad, 2004). The kind of study required to understand which pre-service teacher experiences influence in-service teacher pedagogical practices is one that identifies the variables that in-service teachers attest to as the influencing factors of their current pedagogy. It is for this reason that an ex post facto sequential explanatory mixed methods design was selected for this study (Creswell & Clark, 2011b; Tashakkori & Teddlie, 2003).

Researchers have contended for many years that one's actions and dispositions in the present are dependent on how they interpret the past (Bell, 2002; Clandinin, 2007; Lindsay & Schwind, 2016; Squire, 2005; Trahar, 2009). To understand a person's actions in the present, researchers must identify and examine the person's perception of the past. As Clandinin (2006)

argues, the past is the key to unlocking the reasons why people act the way they do in the present:

> People shape their daily lives by stories of who they are and others are and as they interpret their past in terms of these stories. Story, in the current idiom, is a portal through which a person enters the world and by which their experience of the world is interpreted and made personally meaningful. (p. 45)

It is for these reasons an ex post facto research methodology was selected for this study (Alreck & Settle, 2004; Bogdan & Biklen, 2007; Saldaña, 2015). Kerlinger (1964) defined ex post facto research as "that research in which the independent variable or variables have already occurred and in which the research starts with the observation of a dependent variable or variables. He then studies the independent variables in retrospect for their possible relations to, and effects on, the dependent variable or variables" (p. 360).

Integrating an ex post facto methodology enables a participant to perform reflective observation (Kolb, 1984) and reflective interpretations (Cell, 1984) of an event in their life and assign meaning to both the content and the process (Jarvis & Griffin, 2003). Within education research, ex post facto methodologies have been used to investigate the possible relationships between independent variables and to assess teacher learning and understanding of educative experiences (Boud et al., 1985; Hough & Schmitt, 2011). For this study, current classroom teachers and education professionals, through guided reflective questions and interviews, assessed the importance of three specific pre-service experiences: education courses, an ISHE residency, and student teaching. The goal was to determine if the residency was an influential part of the pre-service teachers' development of core historical disciplinary teaching practices and fostered the transfer of pedagogical dispositions from pre-service education to classroom teaching.

In the quantitative phase, numeric data was collected through a survey (Appendix A) that was sent via email to prospective research candidates. Following the collection of the surveys, numeric data from the study was analyzed to determine correlations, associations, trends, and frequencies for three distinct reasons: (a) quantitatively answer RQ1; (b) identify candidates for the qualitative phase of the study (Orr et al., 1991; Sargeant, 2012); and (c) inform the qualitative phase by illuminating emergent patterns, themes, outliers, and differences in experiences at ISHE site locations within participant responses (Ivankova & Stick, 2007).

Building on the quantitative results, the second phase of this study used an interview protocol (Appendix B) to interpret if/how in-service teachers perceive the ways their ISHE residencies influence their current pedagogical practices. The following section explains in detail the participants for this study, data collection, and data analysis.

Participants

Since its inception in 2013, every graduate (n=193) of Eastern State University's social studies teacher preparation program (pseudonym of a large public university located in an urban city in the eastern United States) has completed a one semester-long residency at one of 31 participating ISHEs near its campus. Known as the Fieldwork Residency Initiative (FRI), the residency program is an embedded part of the program's weekly social studies methods course that is typically taken by the pre-service teacher during the semester preceding their student teaching placement. In addition to studying topics that facilitate learning (e.g., classroom management, differentiated learning, teaching methods of instruction, and authentic teaching practices), Eastern State's methods course includes the ISHE residency and provides space during the methods class to discuss residency experiences. During the residency, participants work at least 30 hours (normally 3 hours per week) across a 15-week semester at the ISHE site. All participants are guided in their work at the ISHE by a mentor at the site who is a subject

matter expert (e.g., historian, archivist, librarian), as well as by other staff mentors. At some of the larger ISHE sites, multiple FRI residents work collaboratively together during the residency. Additionally, while some FRI residents work with middle/high school students doing research on class history projects, others work behind the scenes at their ISHE locations creating lesson plans, conducting archival research, or working on exhibits. Thus, the scope of the work experienced by participants varies with the type and demands of the ISHE.

Participants: Quantitative Phase

In September 2018, Eastern State University's Social Studies Department compiled an e-mail list of all 193 graduates of their FRI program since its inception in 2013. Following the approval of the Teachers College, Columbia University IRB for this study in January 2019, the department chair of the Social Studies Department of Eastern State University's College of Education sent out an e-mail to all FRI graduates (N=193) asking them to participate in this study and complete the survey created for this study (Appendix A). Of the 193 FRI graduates, 83 returned a completed survey. All participants who completed the survey were included in the Phase I analysis of the study with the exception of those individuals who never went into the education profession following graduation: four persons who completed the survey, but indicated that they did not enter the education profession following graduation, were eliminated from the numeric data and not placed on the possible interview candidate list. For example, the original survey respondent #23 indicated that following graduation, he did not enter the education profession but instead entered law school. For this reason, respondent #23 was eliminated from the quantitative analysis and the possible interview pool. Elimination of the non-educators (4

persons) resulted in the total number of respondents being 79 (N=79) and an overall response rate of 41%[4].

Participants: Qualitative Phase

Using data collected and analyzed during the quantitative phase, participants from each type of ISHE location (museum, library, archive, historic site) were selected and invited to participate in qualitative phase (N=13). Selection criteria for research participants in the qualitative phase of this study included the following parameters:

a. Voluntary participation. Participants were asked in the Phase I survey if they were willing to participate in the interview portion of the study. Of the 79 FRI graduates who responded to the survey and are in the education profession, 43 agreed to participate in Phase II of this study. All those who stated they were willing to be part of Phase II were included in the participant pool selection process. Volunteer participation was the most important defining criteria in the interview participant selection process. For example, all respondents willing to participate in the interview portion who completed a residency at a library were men, which accounts for the lack of women represented by that group in the study.

b. FRI site location type. Site locations included museums, libraries, archives, and historic sites. To ensure representation from each of the different site locations, participants were divided into their respective site locations for selection. Three participants from each location were selected to provide uniform representation.

[4] This response rate is 9 percentage points above the national average for web-based surveys (Shih & Fan, 2008).

c. Age. The range of those taking the survey included participants in their early 20s to those over 40 years of age. Because the majority of the respondents of the survey were in their mid-20s to early 30s, those in that age group were given preference in the selection process for the interview since they represent the median age of current FRI graduates.

d. Gender. The applicant pool (N=43) was comprised of the following demographics: 27 male, 15 female, and 1 non-binary. Although the study was designed in include 12 participants who were a representative group of the volunteer pool, a single non-binary participant was included beyond the determined 12 participants in order to provide a voice to under-represented populations in education.

e. Education level while completing their FRI. Seventy-five percent of those who volunteered to participate in the interview portion of the study completed the FRI as an undergraduate student at Eastern State University. To ensure master's students were represented in the study, 2 participants who completed the program as master's students were included in the interview portion of the study.

f. Current place of employment. Since this study seeks to determine the influence of the FRI experience on in-service teacher pedagogies, only those currently in the education field were considered for the interview portion of the study; thus, several respondents attending law school or in professions other than education were eliminated from the qualitative phase. The state licensure authority certifying Eastern State University students grants a single type of social studies license for teachers who instruct in grades 6-12. However, there are significant pedagogical differences in the teaching practices of middle and high school

teachers. In order to take these differences into account, special emphasis in selection was placed to ensure a 50-50 split between middle and high school teachers in this study.

After synthesizing the data of those completing the survey and applying the selection criteria above, the following participants were invited and agreed to participate in the interview portion of the study[5]:

Table 1

Interview Participants

Name	FRI Location Type	Grad Year and degree from Eastern State	Current Age	Gender	Grades/Subjects Taught	School Demographic
Historic Site Participants						
Hank	Urban historic site	2017 M.Ed. in Secondary Education/Social Studies	35	M	6th Grade Ancient History	Public Middle School
Harry	Nautical Historic site with an archive	2015 B.S. in Secondary Education/Social Studies	27	M	9th Grade English, 11th Grade Govt/Econ and US History	Public High School
Helen	U.S. Revolutionary War historic site	2017 B.S. in Secondary Education/Social Studies	23	F	5th Grade Social Studies and 7th Grade Ancient World History	Charter Middle School
Museum Participants						
Marjorie	Museum located on the grounds of a rural historic site	2015 B.S. in Secondary Education/Social Studies	26	F	Foundational Skills (Formerly taught World History)	Public Alternative High School
Mary	Historical society museum	2016 B.S. in Secondary Education/Social Studies	25	F	History and English	Public Alternative High School
Mike	Large art museum	2017 B.S. in Secondary Education/Social Studies	27	M	11th Grade AP US History	Charter High School
Archives						

[5] Pseudonyms are substituted for participant actual names. To enhance simplicity for the reader, all names beginning with the letter H correspond to participants at historical sites, all names beginning with the letter M correspond to participants at museums, all names beginning with the letter A correspond to participants at archives, and all names beginning with the letter L correspond to participants at libraries.

Abe	National Archives: worked remotely from home.	2015 B.S. in Secondary Education/Social Studies	28	M	10th and 11th Grade Civics and AP US History	Public Vocational High School
Adrian	Archive located within a university medical college	2017 B.S. in Secondary Education/Social Studies	25	Non Binary	Museum Educator	Revolutionary War Museum
Alex	Archives located within a college library	2015 B.S. in Secondary Education/Social Studies	29	M	7th and 8th Grade History	Private Middle School
Andrew	Special collections archive at a university library	2014 B.S. in Secondary Education/Social Studies	27	M	10th Grade US History	Public Magnet High School
Library Participants						
Larry	U.S. Presidential Library: (worked remotely from home)	2017 M.Ed. in Secondary Education/Social Studies	28	M	7th and 8th Grade History	Public Middle School
Leo	Library located at a university	2015 B.S. in Secondary Education/Social Studies	26	M	8th Grade History	Public Middle School
Lewis	Library located within a medical museum	2016 B.S. in Secondary Education/Social Studies	33	M	6th, 7th, and 8th Grade History	Public Community Middle School

Data Collection

Data was triangulated through the collection of two different instruments that together provide a unique lens through which to understand each participant and their experiences at their FRI residency: (a) a questionnaire that was sent to all 193 FRI graduates during the quantitative phase and (b) interviews of participants (n=13) during the qualitative phase. Through both of these instruments, participant perceptions of what they believe they learned during their FRI

experience and if/how they have internalized those lessons in their current educational positions were explored both quantitatively and qualitatively (Creswell & Clark, 2011b).

Questionnaire

This study used Fogo's (2014) list of historical disciplinary instructional practices to determine participant use of authentic, core-teaching practices.[6] Using a single standard as the benchmark for expert teaching practices created a consistent platform to uniformly evaluate in-service teacher practices of the participants in this study. Using Fogo's list of core historical disciplinary practices (2014), a literature review of pre-service education programs, and the results of the pilot study for this dissertation, which indicated that a pre-service teacher ISHE residency influences pedagogical growth in unique ways, a 33-question survey was created and sent to all FRI graduates (N=193) to inquire about the influence of pre-service teacher experiences (college teacher education coursework, the FRI residency, and student teaching) on in-service pedagogical dispositions (Appendix A). The survey was developed using Qualtrics, a web-based survey software, and sent out to the prospective participants by Eastern State University's College of Education. Participants completed the survey online using a link provided to them in the introductory e-mail from Eastern State's social studies department.

In an attempt to eliminate bias (Fowler, 2014), the survey provided participants with the option of selecting one of four choices for each question in Section 2 of the survey: (a) Eastern State classroom-based teacher education courses, (b) FRI internship, (c) Student teaching, and (d) Other experiences. By designing the survey in this way, the participant is in control of what

[6] While numerous studies exist that define core disciplinary practices for history teachers, this study acknowledges that experts in this field recognize and use Fogo's (2014) list of 9 core disciplinary practices as an integral part of the discussion on expert teacher practices (e.g., Crocco & Livingston, 2017; Dack, Van Hover, & Hicks, 2016; Seixas, 2016).

pre-service experience they believe best aligns with the topic of the question and minimizes survey bias (Alreck & Settle, 2004).

The survey was piloted in January 2019, following approval by the Teachers College Social Studies faculty, using social studies doctoral students from Teachers College, Columbia University and pilot study participants. Using feedback from those who took the survey, questions were redesigned and reworded for clarity and placed in a form that best answered the research questions (See Appendix C for interview questions).

Interviews

Participants during the qualitative phase (N=13) were interviewed three times for this study using a semi-structured, open-ended question format (Appendix C). Interview questions were created and piloted in May 2019 during the pilot study associated with this study. Original interview questions were revised based on the results of the pilot study. Each interview was designed to last no more than 40 minutes in length with a total interview time lasting no more than 120 minutes in length for each participant. During the first interview, semi-structured questions provided participants opportunities to reflect on their residency experiences in order to inform this study as to how learning at the ISHE differed from education classes and student teaching. Of particular interest was how the participant perceived the social and environmental influence that working at the ISHE had on their pedagogical development. The second interview's semi-structured questions examined how the residency experience influences current teaching practices and explored participant perspectives concerning the efficacy of the residency program. The final interview provided the participant an opportunity to inform the conversation of any memories or thoughts on the FRI experience not yet discussed in previous interviews and solicited participant perceptions of how the residency experience will influence their future teaching (Seidman, 2013).

Lesson Plan Elicitation

Prior to the second interview, participants (N=13) provided a lesson plan that they had created post-graduation, taught, and considered typical of what they do daily in the classroom. The lesson plans were analyzed for authentic teaching strategies using Fogo's core disciplinary practice list (Appendix D). During the interview, *thinking aloud* strategies (Barton, 2015) provided participants with the opportunity to explain in their own words why they designed the structure and determined the content of the lesson. Particular attention was afforded to those sections of the lesson plan determined, before the interview, as being authentic and aligned with Fogo's list of core disciplinary practices. Following the participant's explanation of the lesson plan, *stimulated recall* techniques (Barton, 2015) were implemented to gain an understanding of any links between how the participant designed the provided lesson and their residency experience. Each participant was asked by the researcher why different aspects were included in the lesson plan and which pre-service teacher experience influenced how the lesson was constructed and taught (Creswell & Clark, 2011b). The goal of this phase was to use the lesson plans as an elicitation prompt to determine participant perceptions of how an ISHE residency influences in-service teacher pedagogy.

Data Analysis

Quantitative Phase

As stated previously, the purpose of the qualitative phase has three specific functions: (a) quantitatively answer RQ1; (b) identify candidates for the qualitative phase of the study (Orr et al., 1991; Sargeant, 2012); and (c) inform the qualitative phase by illuminating emergent patterns, themes, outliers, and differences between experiences at ISHE site locations within the participant responses (Ivankova & Stick, 2007). SPSS software was used to statistically analyze the numeric data.

To determine a statistical answer for RQ1, crosstabulation and frequency counts were conducted on the numeric data to measure participant perceptions of which pre-service teacher experiences (FRI, teacher education coursework, student teaching experiences) influence their current pedagogical practices. Multicollinearity tests, linear regression collinearity statistic tests, and Chi-Square tests for independence were performed to validate the statistical appropriateness of the selected interview participants. Finally, both univariate and multivariate statistical analyses were conducted to measure if/how the FRI contributes to core historical teaching as defined by Fogo (2014). Each of Fogo's nine historical disciplinary instructional practices served as dependent variables in this study with the demographic questions as the independent variables. Examining the data using the following statistical instruments allowed for the recognition of emerging trends that were previously unseen. Identifying these trends and patterns facilitated in-depth discussions during the interview portion of the study.

- Correlation tests were performed to test for multicollinearity between the independent variables. For this study, the demographic variables are comprised of questions 3-10 of the demographic part of the survey.
- Multinomial logistic regression was performed to understand and assess independent variable influence on each dependent variable.
- Chi-square test for independence (Pearson's chi-square test) was conducted to evaluate if there was an association between the variables.

Qualitative Phase

Following the collection of the qualitative data, Creswell's *data analysis spiral* guided this study's approach to organizing, examining, and creating conclusions from the transcripts (Creswell, 2009; Creswell & Clark, 2011b; Creswell & Poth, 2018). The spiral is a systematic process for interrogating the data. Throughout each spiral, the researcher employs specific

analytic tools to produce specific analytic outcomes that enhance the clarity of the data and allow the researcher to identify trends across participants in order to answer the research questions in an informed way (Table 2) (Creswell & Poth, 2018, p. 187).

Table 2

The Data Analysis Spiral

Data Analysis Spiral Activities	Analytic Strategies	Analytic Outcomes
1. Managing and organizing the data	a. Transcribe interviews b. Preparing files and units c. Selecting mode of analysis	a. Data prepared for analysis b. Create filing system c. NVivo 12
2. Reading and memoing emergent ideas	a. Taking notes while reading b. Sketching reflective thinking	Written memos leading to code development, reflections over time, and summaries across files
3. Describing and classifying codes into themes	a. Working with words b. Creating codes and categories c. Applying codes d. Reducing codes to themes	a. Naming initial codes b. List of code categories and descriptions c. Assign the codes to text d. Finalized codebook
4. Developing and assessing interpretations	a. Relating categories, themes, families b. Relating categories, themes, families to analytic framework in literature	a. Contextual understandings and diagrams b. Theories and propositions
5. Representing and visualizing the data	a. Creating a point of view b. Displaying and reporting the data	a. Matrix, trees, and models b. Account of the findings

Managing and organizing the data. In preparation for organizing and storing the qualitative data, a main folder labeled "Participant Interviews" was created and nested under researcher's "Dissertation" main folder on his password-protected computer. Within the "Participant Interviews" folder, a separate folder was created for each participant using that participant's pseudonym. After each interview was completed, the recorded dialogue was transcribed verbatim into a Microsoft Word file and stored in the participant's respective file. Using the NVivo12 software, a second copy of the participant's interview was created, and that

file was also stored within the participant's file. Following the transcription and secure storage of all interview recordings, the data was prepared for analysis.

Reading and memoing emergent ideas. This phase began with repeated readings of each participant's transcript. Repeated readings provided a clearer understanding of each participant's voice and fostered within the researcher an appreciation of the participants' experiences. Reading and rereading created a hermeneutic circle of understanding and enhanced the clarity of each section as well as the overall experiences the participant had during their teacher education experiences by allowing each interview to inform the others (Gadamer, 2004; Schleiermacher & Bowie, 1998; Vasterling, 2015). Through multiple readings, an understanding of participants' perceptions of how the residency influenced their perceptions of what constitutes core teaching practices and how they believe the residency continues to influence them today. During these initial readings, an initial taxonomic analysis was completed, which allowed for the identification of emerging domains and trends within individual interviews and across the participant pool. Prior studies indicate that performing a taxonomic analysis allows researchers to identify variables and trends that influence individual and group behaviors (Diehl et al., 1998; Leech & Onwuegbuzie, 2011).

During each reading of the transcripts, the researcher created analytic memos to capture initial understandings of the data and emergent ideas. Memos are not, however, simply abbreviations and descriptive summaries of what is in the text. Instead, according to Miles et al. (2013), memos are "attempts to synthesize them into higher level analytic meanings. They are the first-draft self-reports, of sorts, about the study's phenomena and serve as the basis for more expanded and final reports" (pp. 95–96). Table 3 depicts a sample analytic memo.

Table 3

Memoing Example

Transcription:

Interviewer Question: "So, if you could, please explain how this experience differed from the courses you took at Eastern State."

Participant Response: "I think it [the FRI residency] was unique in several different ways. First and foremost, it gave me exposure to lesson plans that I would never have created and had been created by teachers that had far more experience than I had. I think that exposure in and of itself was something very important. I was exposed to different kinds of lesson plans and formats. So I think the FRI gave me exposure to primary sources being something beyond documents. And it was working with art and how to make art and sculpture a viable source of examination."

Thought #	Quote	Memo
1	I think it [the FRI residency] was unique in several different ways.	Theme identified: participant believes the FRI provided valuable experiences that they did not receive in the Eastern State classroom or in student teaching.
2	First and foremost it gave me exposure to lesson plans that I would never have created	Unique exposure to lesson plans.
3	and had been created by teachers that had far more experience than I had.	Provides model for how to create lesson plans.
4	I think that exposure in and of itself was something very important.	Participant reflective upon the importance of the residency.
5	I was exposed to different kinds of lesson plans and formats.	Theme identified: Process the takeaway, not content. Content is not highlighted, rather the exposure to what the participant believes is expert lesson plans.
6	So I think the FRI gave me exposure to primary sources being something beyond documents.	Participant's view of sources is expanded during the FRI.
7	And it was working with art	FRI allows for direct contact with resources.
8	and how to make art and sculpture a viable source of examination.	Participants learn to appreciate sources other than documents.

Preparing the text for coding. The memoing phase also serves as a platform for preparing the transcripts for coding. Throughout this phase the study interacted with the data in order to draw initial meaning and conclusions from it. In doing so, the study was, metaphorically, in conversation with the text (Shank, 2006): "What are you telling me?" "Is there a deeper meaning to the words?" "How does this experience relate to what you do in the classroom today?" When having that conversation with the text, it is necessary to determine on what level to analyze the text: paragraph, chunks of text, sentence or sentences, string of words, individual words, or thoughts/ideas (Suter, 2012).

It became clear very early on in this phase of the study that within each response to a question, participants would refer to many different experiences and levels of understanding. The complexity of their thoughts and how they interpreted their experiences would be lost if analysis was performed beyond the paragraph level. For example, Table 3 depicts the response of a participant to a single question. In this single paragraph, the participant notes several key areas of learning: uniqueness of the FRI experience; introduction to lesson plans; importance of being exposed to an expert teacher; process is key, not content; new understanding of primary sources; and ISHE locations offering different learning experiences. For this reason, discourse analysis of responses was performed at the paragraph and sentence level in order to understand and appreciate streams of thought and overall participant beliefs (Alreck & Settle, 2004; Tannen et al., 2018). Research on discourse analysis indicates that because humans present ideas in imperfect and often incoherent ways when in conversation, it is important to conduct analysis at the sentence and paragraph level to understand participants' thoughts and come to accurate assessments of their discourse (Tannen et al., 2018; Wang & Guo, 2014). The initial analysis of the interview transcripts and their complexity directed the decision that the granularity of the analysis should be at the course-grain level: individual thoughts consisting of one or several

sentences that together make up a singular thought (Asterhan & Schwarz, 2009; Chi, 2006; Salinger et al., 2008). To prepare the text for this level of analysis, the following division rules, adapted from Baron (2013, pp. 162–163), were applied to the transcripts in preparation of coding.

- No Division: Statements that were not divided.
    - Complete sentences. Complete sentences or independent clauses that promoted a single thought were not divided.
        - Example: "So I think the FRI gave me exposure to primary sources being something beyond documents."

Thought #	Quote
1	So I think the FRI gave me exposure to primary sources being something beyond documents.

    - "Like," "you know," "I mean." Participants often used these linkages in their statements to connect similar thoughts.
        - Example: "Well, for the most part, like, well, you know, I worked on the Comstock Act."

Thought #	Quote
1	Well, for the most part, like, well, you know, I worked on the Comstock Act."

    - Repetitions. In order to prevent over-coding, repetitions in the text were treated as one single thought.
        - Example: "The problem with working online, the problem with online, the problem is that communication moves very slowly."

Thought #	Quote
1	The problem with working online, the problem with online, the problem is that communication moves very slowly.

- Dependent clauses. Dependent clauses that do not express a complete thought are considered to be part of that sentence, and the sentence is treated as a single thought.
  - Example: "When you are in the classroom, you can bounce things off each other much quicker."

Thought #	Quote
1	When you are in the classroom, you can bounce things off each other much quicker.

- Division: Statements that were divided.
  - Compound-thought sentences. These types of sentences were treated as two separate thoughts.
    - Example: "First and foremost, it gave me exposure to lesson plans that I would never have created and had been created by teachers that had far more experience than I had." This statement is separated into two separate thoughts:

Thought #	Quote
1	First and foremost, it gave me exposure to lesson plans that I would never have created
2	and had been created by teachers that had far more experience than I had.

- Abrupt shifts. In several instances, participants made an abrupt shift in thought in the middle of a sentence. In these cases, the shift was recorded as separate thoughts.
    - Example: "The FRI really made me consider how I should use art in the, yeah, being in the museum had a profound impact on how I now see museums as an extension of my classroom."

Thought #	Quote
1	The FRI really made me consider how I should use art in the
2	yeah, being in the museum had a profound impact on how I now see museums as an extension of my classroom

The coding scheme outlined above was applied to all transcripts before any coding was conducted on the study's data.

Describing and classifying codes into themes. During the coding phase, Chi's (1997) verbal analysis methodology was embedded throughout the process in order to "understand cognition, and in particular, the kind of knowledge one gains from learning" (p. 2). Verbal analysis is performed through examining, tabulating, counting, and interpreting the utterances of the participants. This is not simply a process of labeling what is stated, but understanding the nuances of speech and linking the data to an idea (Theron, 2015).

The data from the verbal analysis was then sorted into categories (Baron, 2013) for tabulation and quantitative analysis in order to answer the research questions and illuminate possible reasons why participants internalized lessons learned during ISHE experiences.

An initial coding of the qualitative data was performed using Fogo's list of core historical disciplinary teaching practices (Appendix D) as a benchmark for determining how participants

perceive their experiences at ISHEs influencing their pedagogical disciplinary content. The results of this analysis were used to measure the prevalence of core disciplinary teaching practices and identify linkages between pedagogy and pre-service teaching experiences.

From the literature review, four distinct categories emerged that typify experiences pre-service teachers of all disciplines usually have at informal sites of learning: (a) *Content/Resources*, the acquisition of new content knowledge or new understanding of what types of resources are uniquely available at the ISHE; (b) *Pedagogy*, general skills acquired or understood through a residency experience; (c) *Peer/Expert Collaboration*, the influence of peers/experts on the learning of the participant or the unique way in which the participant understands new material because of these human interactions during the residency; and (d) *Informal Learning Environments*, the unique influence on the participant's learning that can only be explained by the participant working at an informal site of learning or in proximity to the artifacts and/or documents stored therein. Each of these areas were explored during the pilot study to determine if pre-service history teacher experiences at ISHEs during a semester-long residency resembled those found in the literature. The pilot study concluded that these areas are of significance to pre-service teacher experiences at ISHEs. Focusing on these distinct categories, a descriptive coding scheme (Saldaña, 2015) was created to code the interview transcripts during first cycle coding (See Appendix E). Table 4 depicts a section of the transcript following first cycle coding.

Table 4

Coding Example

Transcription:

Interviewer Question: "So, if you could, please explain how this experience differed from the courses you took at Eastern State."

Participant Response: "I think it [the FRI residency] was unique in several different ways. First and foremost, it gave me exposure to lesson plans that I would never have created and had been created by teachers that had far more experience than I had. I think that exposure in and of itself was something very important. I was exposed to different kinds of lesson plans and formats. So I think the FRI gave me exposure to primary sources being something beyond documents. And it was working with art and how to make art and sculpture a viable source of examination."

Thought #	Quote	Coding	Memo
1	I think it [the FRI residency] was unique in several different ways.		Theme identified: participant believes the FRI provided valuable experiences that they did not receive in the Eastern State classroom or in student teaching.
2	First and foremost it gave me exposure to lesson plans that I would never have created	HDIP1 P3	Unique exposure to lesson plans.
3	and had been created by teachers that had far more experience than I had.	P6	Provides model for how to create lesson plans.
4	I think that exposure in and of itself was something very important.		Participant reflective upon the importance of the residency.
5	I was exposed to different kinds of lesson plans and formats.	HDIP5 P3	Theme identified: Process the takeaway, not content. Content is not highlighted, rather the exposure to what the participant believes is expert lesson plans.
6	So I think the FRI gave me exposure to primary sources being something beyond documents.	HDIP3 CR1 P2	Participant's view of sources is expanded during the FRI.
7	And it was working with art	CR1	Theme Identified: Different FRI locations have different impact on participants.
8	and how to make art and sculpture a viable source of examination.	HDIP3 P2	Participant realizes how to create new inquiry with art.

In a second round of first cycle coding, an in vivo methodology was employed in order to prioritize and honor the participant's voice (Fontana & Frey, 2005). Using this strategy, unique participant trends or themes were identified as having been missed with the coding scheme created before the interview (Theron, 2015). Using NVivo 12, word queries were performed that identified language used by all participants and words used by those at similar FRI locations. Unique participant experiences and trends were identified during this coding round that were missed during descriptive coding.

In order to understand the data collected during first cycle coding, a second cycle coding process using a focused coding system (Charmaz, 2006) was employed to capture and illuminate trends missed during the descriptive and in vivo coding. All data was then synthesized with the NVivo12 program to allow for the identification of emergent trends in the data, between the participants, and those unique to specific FRI site locations (Alreck & Settle, 2004).

Two raters checked the coding scheme to validate reliability. Raters coded the statements against both the literature review coding scheme and Fogo's historical disciplinary instructional practices (Appendix D). Inter-rater agreement averaged across all categories was 88%.

Coding for Transfer. The literature on the transfer of skills and knowledge from pre-service educative experiences to in-service teaching has determined that transfer enhanced when learning is situated within collaborative settings (Häkkinen, 2019; Hoaglund et al., 2014; Nielsen, 2009; Valli, 1989). In order to evaluate the occurrence of transfer from the FRI to in-service practices, and determine the extent of transfer if it occurs, this study draws upon previous research (Barnett & Ceci, 2002; Baron, 2014) frameworks to analyze and evaluate the interviews. Once the interviews were coded, interview segments of no more than 3 lines of text indicating participants' synthesis of the FRI experience and their connection to classroom work, were chosen and then analyzed holistically and at the sentence level as they pertained to the

following domains and contexts as defined by Barnett and Ceci, and modified to be specific to historic-site-to-classroom-teaching transfer:

- *Knowledge domain.* The knowledge domain refers to the content knowledge and the types of content (e.g., documents, artifacts, and events at historical sites) of history learned at the ISHE.
- *Physical context.* This aspect of the framework compares how the physical location influences the displayed transfer. The farther detached from the learned site, the more advanced the transfer is assessed.
- *Temporal context.* This dimension reflects the elapsed time between initial learning and displayed actions.
- *Functional context.* The function for which the skill is positioned and the mindset it evokes in the individual can be referred to as the functional context. For example, is it positioned as an activity at the ISHE or in the in-service classroom?
- *Modality.* The final dimension of transfer context, modality, evaluates the ability of the participant to transfer the newly acquired knowledge and skills to increasingly advanced formats and structures.

One passage per participant was selected across each of the historical disciplinary skills that were indicated as being significant outcomes of the FRI experience to determine both the type and frequency of transfer.

Developing and assigning interpretations. Researchers begin interpreting data the moment they commence collecting it (Creswell & Poth, 2018). It is therefore critical that the methodology established for the study is used consistently and exactly throughout all phases of the research project to ensure internal validity. De Vaus (2001) defines internal validity as the

extent to which the structure of the study is defined in such a way that it eliminates ambiguous conclusions.

This study began with the global collection and interpretation of the literature across all disciplines through the lens of situated learning. Collection techniques, codes, themes, and interview questions were refined during the pilot study and were used to create the framework for this study. Final methodology, codes, and interview questions were further examined by external reviewers to improve internal validity. Hermeneutical reading of the transcripts illuminated other possibilities that lay beneath the surface of the text and fostered the elimination of author bias and preconceived beliefs. Deliberate memoing and constant comparing of newly collected data with previously recognized trends and patterns fostered the identification of new strands of thought and possibilities within the transcripts (Marshall & Rossman, 2016). Coded and interpreted text was then reduced from the large coding scheme to more specific themes that emerged from the analysis.

Representing and visualizing the data. During the final stage of the spiral, the data collected and interpreted was collated and assembled in the form of charts, tables, figures, flow diagrams and text. Quantitative tables were created from SPSS data to facilitate ease of understanding patterns and trends. Textual tables, such as the table of participants, improved comparing and contrasting experiences with demographics.

Limitations of the Study

As in any mixed methods study conducted, it must be acknowledged that certain limitations influence the design of any conclusions that may be drawn from the data derived from this proposed study (Johnson & Turner, 2003; Mertens, 2015; Venkatesh et al., 2013). This section provides an overview of the limitations recognized in the design, collection, and analysis of the proposed study.

The first limitation is that the design of this study is restricted to the single university because it is one of the very few higher education institutions in the United States that requires all of its social studies teacher education graduates to complete a semester-long residency at an ISHE. As a result, the population from which the participants are drawn is isolated to one public urban university in the Northeast United States. This significantly challenges the researcher and those who read this study from making any wide-reaching claims about the significance of the findings. All findings must be analyzed through the lens of the narrow population.

A second limitation that must be acknowledged is the population that responded to the questionnaire. While research indicates that it is not possible to assess the motivations of every person who completes a survey, there are strong indications that many people answer positively to a survey because of two reasons: financial reward and attachment to the creator of the survey (Wright, 2005). Since this survey offers a gift certificate, that incentive may produce participants who are simply answering questions to receive the certificate and are not answering the questions with any degree of thought. Also, some participants may have responded to the survey because of a positive attachment to the organization that sent them the survey: Eastern State University College of Education. This factor could result in a high response rate from those individuals who had a positive experience during their residency and feel an obligation to support their alma mater by completing the survey. This positive bias on the part of the participant may also influence the reflective responses during the interview and skew the data by unwittingly drawing upon memories that only favor the residency experience. There may also be a tendency for those participants who had a negative FRI experience to not care about the study or Eastern State and just not take the time to answer the survey, resulting in few negative survey responses. While these variables cannot be determined or assessed, they must be considered.

The third limitation that must be acknowledged is that the data collected is dependent upon the memories of the participants. Cognitive researchers (Koriat et al., 2000; Pecher & Zwaan, 2005) explain that memory is often fallible and inconsistent with the lived truth. Hence, participants may not always be accurate in their reflections of their ISHE experiences. However, since all participants independently recalled the same general experiences, it is entirely possible that reflections were more or less accurate.

The fourth limitation concerns the lesson plan elicitation. There is no way to determine if these lesson plans are actually "typical" of participant teaching practices since direct observations were not used. To account for this gap in understanding, pedagogical practices were identified within each lesson plan. Lesson plans were then compared to each other to identify trends in teaching practices and assess the commonness of teaching practices. The identification of trends among all lesson plans validated the use of the lesson plans in the data for this study.

A fifth limitation recognizes that no direct observations of actual teaching were included in the data. As such, the design is limited to what the participant planned and remembered from their teaching and their ISHE residency. Without direct observations, this study relies on the memory of the participants, which may not be completely accurate (Lacy & Stark, 2013; Tversky & Fisher, 1999).

Lastly, this study is limited to the subjective design of the analysis protocols by the researcher. In all studies, the researcher's experience (Marshall & Rossman, 2016) must be acknowledged and accounted when evaluating the limitations of the study. Following a 25-year career as a U.S. Army officer, the researcher entered the field of education at 43 years of age following the completion of a Master of Education program. As a result, the researcher did not follow the traditional undergraduate-college-based-teacher-education-program-to-teaching career

path, and instead began teaching high school with a very different background than most beginner teachers. Additionally, the researcher taught high school history using a project-based learning design that was rooted in National History Day's educational framework. This likely shaped the internalized belief that the use of textbooks alone in a classroom are insufficient. With this background, while every attempt was made to limit this bias, it is possible that the survey may skew towards identifying positive aspects of the FRI experience. Furthermore, the codes used in the analysis phase were created by the researcher for this study. His background certainly influenced the subjective nature of coding and how he analyzed the data. This may have resulted in data was overlooked or given undue attention due to the positionality of the researcher.

Reliability and Validity

Protocols were integrated into this study to standardize collection methods and promote the integrity of the data. To promote reliability, the survey was piloted in January 2019 using social studies doctoral students from Teachers College, Columbia University and in-service teachers. Using feedback from those who participated in the survey, questions were redesigned and reworded for clarity and placed in a form that best answered the research questions (Golafshani, 2003). Validity was maximized by including member checking (Cho & Trent, 2006) of all transcripts by participants. Coding scheme validation was performed by two raters: one university professor and one doctoral student. Raters coded the statements against both the literature review coding scheme and Fogo's list of core historical disciplinary practices. Inter-rater agreement averaged across all categories was 88%.

Chapter 4 - Findings

Introduction

The purpose of this study is to answer the following research questions: (RQ1) what historical disciplinary instructional practices do pre-service history teachers develop and transfer from a semester-long pre-service residency at an ISHE to their pedagogical practices as in-service classroom instructors; and (RQ2) in what ways do specific ISHE site locations (historic site, archive, library, or museum) inform pre-service history teacher pedagogies? The surface answer to these questions is obtained relatively easily by conducting a quantitative analysis of the numeric data from the survey answered by the FRI graduates. However, a numeric analysis alone will not provide the depth of analysis for a study to ascertain how or why pre-service teachers internalize and transfer specific historical disciplinary instructional practices from their teacher education programs to their in-service pedagogies. To appreciate the complexities of experiences pre-service teachers have at ISHEs, research studies have concluded that the data should be expanded to include qualitative information in order to capture and honor the voice of the participants (e.g., Cameron, 2009; Clandinin, 2007; Coddington, 2020).

This chapter of the dissertation is broken into two parts: quantitative findings and qualitative findings. Within each section, each unique strand of inquiry is explored to understand how their specific data answers the research questions and informs the other strand of inquiry.

Quantitative Findings

In a sequential explanatory mixed methods study, the quantitative phase serves two distinct purposes: provide numeric data to answer the research questions and provide areas for greater investigation during the qualitative phase (Terrell, 2012). However, before either of these outcomes are achieved, it is critical to conduct an initial investigation of the numeric data to ensure accuracy of the findings and recommendations. This analysis begins with a

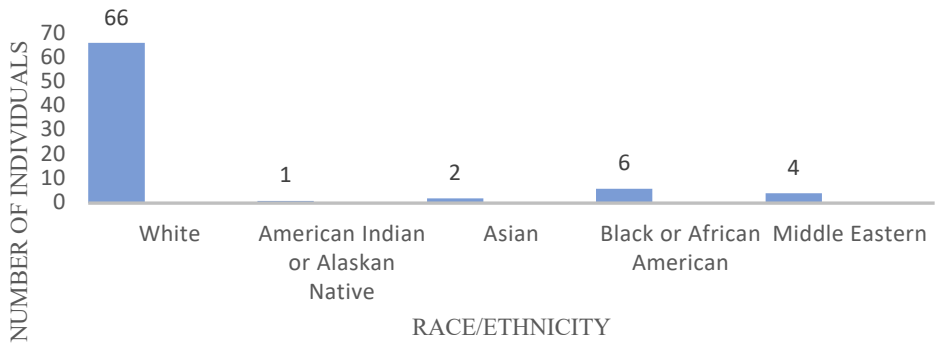
representation of the descriptive statistics followed by several statistical tests to validate the data: multicollinearity, linear regression collinearity statistic, and chi-square test for independence.

Descriptive Statistics

Race/Ethnicity. Table 5 depicts a breakout of how the participants self-identified on the survey. These demographics align fairly closely with the national averages for White, Middle Eastern, Asian, and African American teachers as reported by the National Center for Educational Statistics, but did not include any Latinx/Hispanic teachers (Woodworth, 2019). .

Table 5

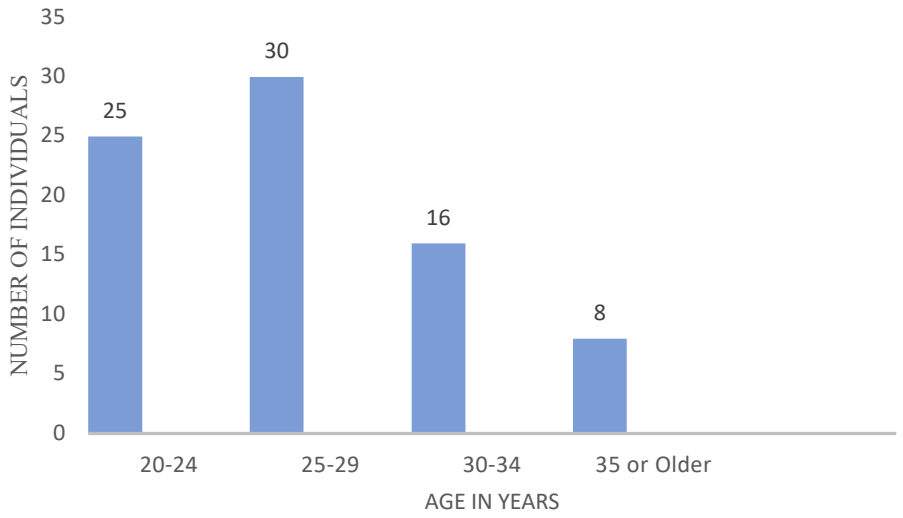
Race/Ethnicity of Participants



Age in years. (Table 6). Eastern State University does not report on the average age of its graduate, but it does report that 89% of students at the university are twenty-nine years old or younger and 75% are under the age of 25. From the demographic survey of the study, participant ages are reflected in Table 6. Balancing this data with that in Table 9, participant graduation year, the age levels of the participants seem typical of a traditional aged college student.

Table 6

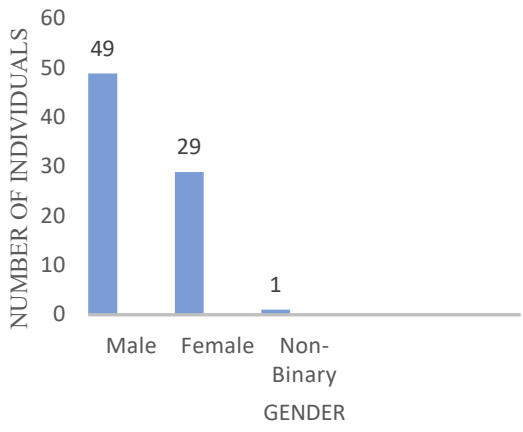
Age in Years of Participants



Gender. According to the Brown Center Report on American Education, the social studies K-12 workforce is dominated by a white, male population: 84% of all social studies teachers are white and 58% are male (Hansen et al., 2018). For this study, the percentage of respondents to the survey was 62% male (Table 7). This data falls within 4% points of the national average and therefore is estimated to be fairly representative of the current social studies population in the current workforce.

Table 7

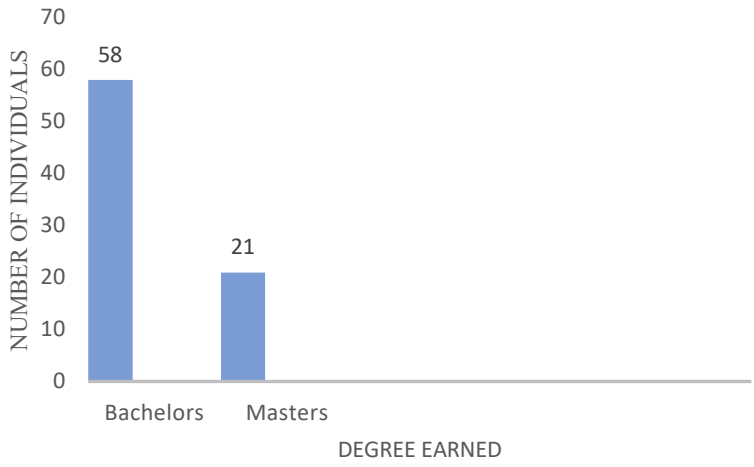
Gender of Participants



Degree earned from Eastern State University. According to the data available from Eastern State, 74% of the student body are undergraduates and 26% are graduate students. Therefore, the study population is a representative sample for this institution: 73% undergraduate and 27% graduate students (Table 8).

Table 8

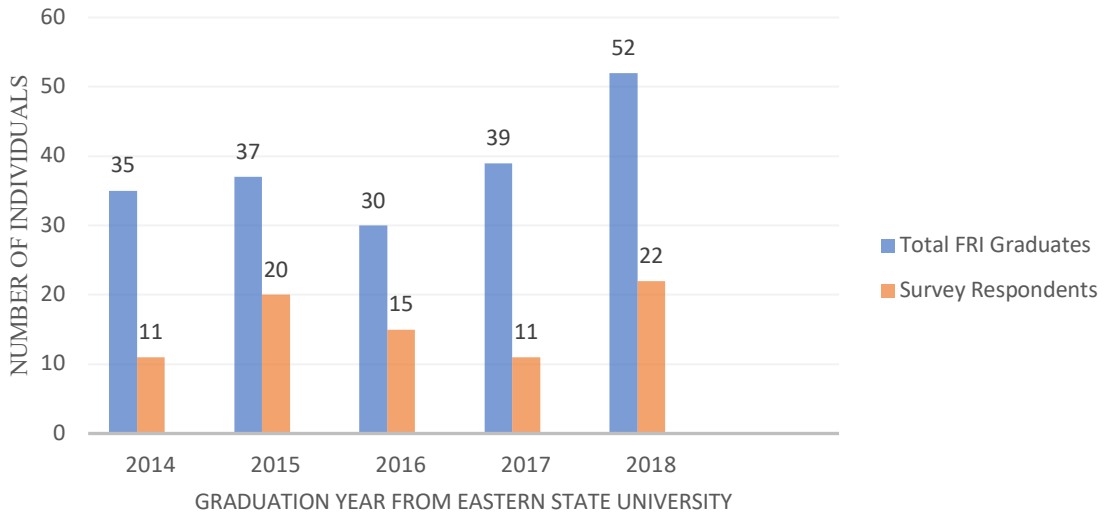
Degree Type Earned from Eastern State University



Year graduated from Eastern State University. The Eastern State Social Studies Department sent a request for participants for this study to every graduate that completed the FRI program (N=193). Table 9 depicts the number of FRI graduates per year and the associated respondents to the survey request.

Table 9

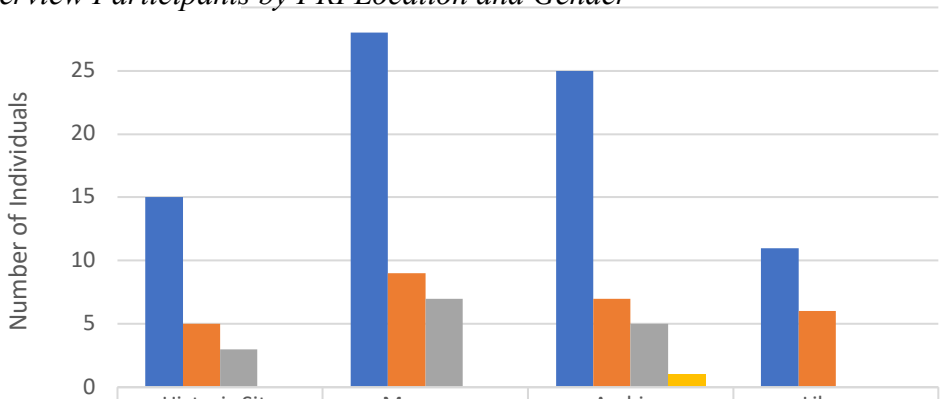
Year Graduated From Eastern State University



FRI residency location by gender. Table 10 depicts the total number of eligible participants by residency site-type location and by gender. Selection of interview personnel to ensure gender equity was constrained due to the volunteer list. For example, since only men who participated in the FRI at a library volunteered to be interviewed, no women could be selected for the interview phase from this category location. Finally, there was one non-binary gender participant who volunteered to be interviewed. In order to maintain the diversity within the population, the non-binary participant was selected for the interview portion of the study.

Table 10

Eligable Interview Participants by FRI Location and Gender

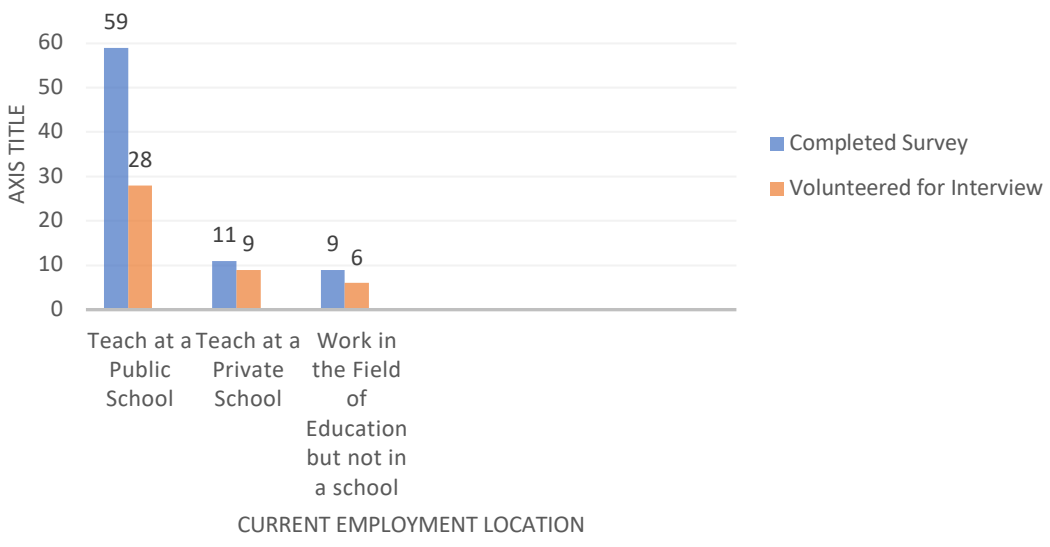


	Historic Site	Museum	Archive	Library
Eligible Participants	15	28	25	11
Male Volunteers	5	9	7	6
Female Volunteers	3	7	5	0
Non-Binary Volunteers	0	0	1	0

Current employment. Table 11 depicts the breakout between those participants who currently work in the following locations: 1) public schools; 2) private schools; and 3) in the field of education but not in the K-12 school system. Participants in the last category may be working at an ISHE education department or in higher education working with pre and in-service teachers.

Table 11

Current Employment Location



Preliminary Analysis of Quantitative Data

Multicollinearity. Multicollinearity is the disturbance in the data when there is a high degree of intercorrelations among the independent variables. A multicollinearity test will examine the relationship between the independent variables and provide indications if correlations exist. Ideally, there should be no multicollinearity between the variables. In this study, the independent variables were the demographic questions 3-10 of the survey: age, ethnicity, gender, degree, graduation year, FRI semester, FRI site location, and current employment location. Data within a multicollinearity test are indicated by Pearson's R with ρ-value and has a corresponding output between +1 and -1. The closer the value is to the absolute value 1, the higher the correlation. Values between 0.0 and ±0.3 are considered weak, values between ±.3 and ±.6 are considered moderate, and values over ±.6 are considered high (Fenton & Neil, 2019; Ho, 2013). Using SPSS software, the test for multicollinearity was performed and is depicted in Tables 12 and 12.1. From the results of the data in Tables 12 and 12.1, it seems that the graduation year and FRI site location may be intercorrelated because they have ρ-values over ±.6. Having ρ-values of .928 violates this rule and may cause problems when determining relationships between the independent variables and the dependent variables. To confirm that these two variables are intercorrelated, a linear regression model was run to determine tolerance and the variance indication factor (VIF) and is depicted in Table 13. In linear regression collinearity statistics, tolerance levels below .2 and VIF values above 2.5 are considered high enough to warrant close inspection and possible elimination (Kumari, 2008; Schroeder et al., 1990). The data in Table 13 from the linear regression collinearity test confirms that graduation year and FRI semester both have tolerance values under .2 and VIF values above 2.5.

Table 12

Test for Multicollinearity

	FRI Location: Museum	FRI Location: Historic Site	FRI Location: Archive	FRI Location: Library	Current Employment
Age	.109	.008	-.179	.081	.091
Ethnicity	-.084	-.287	.156	-.000	-.085
Gender	-.133	.163	.062	-.083	-.1.63
Degree Earned	-.086	.001	-.101	.255	.050
Graduation Year	.005	-.028	-.052	.109	-.089
FRI Semester	.117	-.074	-.007	.141	-.055
FRI Museum	1	-.359	-.504	-.298	-.165
FRI Historic Site	-.359	1	-.339	-.195	-.002
FRI Archive	-.504	-.339	1	-.274	.200
FRI Library	-.298	-.195	-.274	1	-.039
Current Employment	-.165	-.002	.200	-039	1

*Ethnicity and Current Employment variables were collapsed into binary groups.
**FRI Location was expanded to include dummy variables to understand influence on each specific site location.
***Shaded areas highlight variables with high levels of multicollinearity.

Table 12.1

Test for Multicollinearity

	Age	Ethnicity	Gender	Degree Earned	Graduation Year	FRI Semester
Age	1	.106	-.133	.362	-.379	-.408
Ethnicity	.106	1	.199	-.139	-.023	-.084
Gender	-.133	.199	1	-.108	.017	.022
Degree Earned	.362	-.139	-.108	1	.075	.028
Graduation Year	-.379	-.023	.017	.075	1	.928
FRI Semester	-.408	-.084	.022	.028	.928	1
FRI Museum	.109	-.084	-.133	-.086	-.005	-.048
FRI Historic Site	.008	-.287	.163	.001	-.028	-.074
FRI Archive	-.179	-.156	.062	-.101	-.052	.007
FRI Library	.081	-.000	-.083	.255	.109	.141
Current Employment	.091	-.085	-.163	.050	-.089	-.055

*Ethnicity and Current Employment variables were collapsed into binary groups.
**FRI Location was expanded to include dummy variables to understand influence on each specific site location.
***Shaded areas highlight variables with high levels of multicollinearity.

Table 13

Collinearity Statistics

	Tolerance	VIF
Age	.622	1.608
Ethnicity	.805	1.242
Gender	.884	1.132
Degree Earned	.707	1.414
Graduation Year	.118	8.496
FRI Semester	.119	8.397
FRI Location: Museum	.901	1.109
FRI Location: Historic Site	.713	1.402
FRI Location: Archive	.684	1.464
FRI Location: Library	.683	1.334
Current Employment	.750	1.056

Multicollinearity conclusion. The multicollinearity test and linear regression test for collinearity suggest that graduation year and FRI site location could cause problems when determining relationships between independent and dependent variables. Based on this interpretation, the graduation year and FRI site location variables were determined out of tolerance and both were excluded from the independent variable set during linear regression. The removal of these two variables is not deemed to be significantly degrading for two reasons. The first is that the removal of these two data points did not influence the selection of interview participants because these variables are not factors in that calculus. Second, a sequential explanatory methodology was used in the study, therefore any gaps created by the removal of these variables were mitigated during the interview phase of the study.

Chi-Square Test for Independence. A chi-square test for independence, often called a "goodness of fit model," identifies if there is a significant relationship between two categorical variables. For this study it is important to assess if there is a significant relationship between the independent variables and Fogo's historical disciplinary practices in order to answer the research questions. For example, by running a chi-square test, it is possible to determine if a person's gender is related to how they responded to a particular question on the survey. It is important to note that the chi-square will indicate if there is an association, but it will not determine the degree of that association. To calculate magnitude and direction of the association, a linear regression model must be run to determine the B coefficient.

A chi-square test is particularly useful in a mixed methods sequential explanatory methodology because it can be used to assist in the selection of participants for the qualitative phase of the study. If the chi-square test indicates there is no association between certain independent variables and the dependent variables, then it is not critical to take that variable into

account when selecting participants. The null hypothesis for this test is that there is no association between the independent variable and the dependent variable.

The chi-square test will generate a ρ-value which can then be interpreted. If a ρ-value (significance) is greater than .05, then the null hypothesis is accepted, and it is determined that there is no association between the two variables. If the ρ-value (significance) is less than .05, then the null hypothesis is rejected. Table 14 depicts the chi-square test for this study: the vertical columns correspond to the independent variables while the horizontal rows correspond to the dependent variables (Fogo's historic disciplinary instructional practices).

Table 14

Chi-Square Test for Independence levels ρ-value (significance) between dependent and independent variables and the associated B value coefficient when the ρ-value was below .05.

Historic Disciplinary Practice	Age	Ethnicity	Gender	Degree Earned	FRI Site Location	Current Employment
1. I am able to create strong historical guiding questions which I use to structure lesson plans because of my…	.187	.591	.026*	.352	.364	.500
2. I am able to select engaging historical sources for my lesson plans because of my…	.702	.562	.643	.148	.172	.984
3. I am able to integrate a wide range of resources (e.g., documents, artifacts, timelines, maps, films) into my lessons plans which allows me to	.035	.966	.955	.236	.901	.669

connect historical content to my students because of my…						
4. I am able to support student historical reading skills because of my …	.130	.176	.118	.343	.133	.148
5. I am able to model how to use historical evidence when examining historical events because of my …	.297	.659	.608	.381	.659	.232
6. I am able to engage students in the conceptual analysis of historical documents/artifacts because of my…	.129	.597	.378	.509	.502	.281
7. I am able to facilitate discussions on historical topics because of my…	.003	.123	.105	.360	.045	.139
8. I am able to support student historical writing skills because of my…	.007	.095	.036	.723	.494	.493
9. I am able to assess student thinking about their understanding of historical topics because of my…	.754	.333	.879	.041	.799	.581
*Shaded areas indicate ρ-value (significance) less than .05 and thus reject the null hypothesis.						

Table 14 indicates there are associations between several of the independent variables and historical disciplinary practices: age, gender, degree earned, and FRI site location. For these cases, the null hypotheses must be rejected, and the following is true:

- Historical Disciplinary Practice #1 is dependent upon gender.
- Historical Disciplinary Practice #3 is dependent upon age.
- Historical Disciplinary Practice #7 is dependent upon age and FRI site location.
- Historical Disciplinary Practice #8 is dependent upon age and gender.
- Historical Disciplinary Practice #9 is dependent upon degree earned.

For those cases in which the null hypothesis has been rejected and there are associations between the dependent and independent variables, it is important to determine how and to what degree the independent variables influence the dependent variables. This determination is achieved through the calculation of the B coefficient: the numeric quantification of the magnitude and direction of the independent variable. Table 15 depicts the results of the linear regression model performed on the data and the B coefficient results for those associations that violated the null hypothesis. For example, for the question pertaining to Fogo's historic disciplinary practice #3, "I am able to integrate a wide range of resources (e.g., documents, artifacts, timelines, maps, films) into my lessons plans, which allows me to connect historical content to my students because of my…", the B value is +.067. This means that as the independent variable age increases, the effect on the dependent variable increases by +.067. In simple terms, the older a person, relative to the mean age of the sample population is who completes the FRI program, the more likely they are to positively answer to Fogo historic disciplinary practice #3.

Table 15

B value coefficient when the ρ-value was below .05 and the null hypothesis was rejected

Historic Disciplinary Practice	Age	Ethnicity	Gender	Degree Earned	FRI Site Location	Current Employment
1. I am able to create strong historical guiding questions which I use to structure lesson plans because of my…			-.240			
3. I am able to integrate a wide range of resources (e.g., documents, artifacts, timelines, maps, films) into my lessons plans which allows me to connect historical content to my students because of my…	.067					
7. I am able to facilitate discussions on historical topics because of my…	-.044				-.043	
8. I am able to support student historical writing skills because of my…	.037		.657			
9. I am able to assess student thinking about their understanding of historical topics because of my…				.558		

Chi-Square Test for Independence conclusion. The chi-square test for independence indicates that age, gender, degree earned, and FRI site location are all associated with the historical disciplinary practices participants internalized during their Eastern State's pre-service teacher education program.

Integration of data into the study. The tests for multicollinearity and linear regression for collinearity as well as chi-square test for independence were all used to factor interdependence of the independent variables and determine which variables to eliminate from the regression tests (Coladarie et al., 2008).

Research Question 1

As stated in Chapter 3, of the 193 FRI graduates who were invited to take the survey, 79 participants who returned a completed survey were determined eligible to participate in the study: a 41% response rate.[7] To begin the analysis to answer RQ1, crosstabulations were performed between the dependent variable of site location and each of Fogo's nine historical disciplinary practices (dependent variables). Table 16 displays how each of the 79 participants perceive the influence of their pre-service experiences (Eastern State classroom-based teacher education courses, FRI, student teaching, or other experience) on their current pedagogical dispositions in relation to Fogo's list (2014) of historical teaching practices: Survey, section 2, questions 1-9 (Appendix A). For example, when answering question 1 ("I am able to create strong historical guiding questions which I use to structure lesson plans because of my…"), 47% of the participants believe that their Eastern State education classes to be influencing this competency, while 13% credit the FRI, 34% student teaching, and 6% other experiences.

[7] This response rate is 9 percentage points above the national average for web-based surveys (Shih & Fan, 2008).

Table 16

Crosstabulation frequency/percentages of Fogo's Historical Disciplinary Instructional Practices in relation to pre-service teacher experiences.

Historic Disciplinary Practice	Eastern State Education Class	Field Residency Initiative	Student Teaching	Other Experiences
1. I am able to create strong historical guiding questions which I use to structure lesson plans because of my…	37 (47%)	10 (13%)	27 (34%)	5 (6%)
2. I am able to select engaging historical sources for my lesson plans because of my…	20 (25%)	48 (61%)	10 (13%)	1 (1%)
3. I am able to integrate a wide range of resources (e.g., documents, artifacts, timelines, maps, films) into my lessons plans which allows me to connect historical content to my students because of my…	26 (33%)	42 (53%)	9 (11%)	2 (3%)
4. I am able to support student historical reading skills because of my …	36 (45%)	18 (23%)	18 (23%)	7 (9%)
5. I am able to model how to use historical evidence when examining historical events because of my …	19 (24%)	22 (28%)	31 (39%)	7 (9%)
6. I am able to engage students in the conceptual analysis of historical documents/artifacts because of my…	15 (19%)	46 (58%)	16 (20%)	2 (3%)
7. I am able to facilitate discussions on historical topics because of my…	22 (28%)	13 (16%)	38 (48%)	6 (8%)
8. I am able to support student historical writing skills because of my…	34 (43%)	8 (10%)	25 (32%)	12 (15%)
9. I am able to assess student thinking about their understanding of historical topics because of my…	31 (39%)	4 (5%)	32 (41%)	12 (15%)

*Shading indicates historical disciplinary practices of participants that were most strongly influenced by experiences during the FRI.

An initial inspection of Table 16 indicates that each aspect of Eastern State's teacher education program has a significant impact on what an in-service teacher transfers pedagogically to the classroom from their pre-service teacher education program. Classroom-based education courses significantly influence historical disciplinary practices #1, #4, and #8. The Field Residency Initiative experience influences historical disciplinary practices #2, #3, and #6. Student teaching accounts for influencing historical disciplinary practices #5, #7, and #9. Other experiences that participants have had do not seem to influence in-service pedagogical practices. In seven of the nine disciplinary practices, "other experiences" did not account for more than 9% of the responses. In the two other questions, "other experiences" did not account for more than 15% of the responses.

Research Question 1 summary. The findings from the quantitative data indicate that each portion of Eastern State's teacher education program has a significant and distinct bearing on the historical disciplinary instructional practices a teacher transfers to the classroom. During college education classes, pre-service teachers develop the skills to create strong historical guiding questions as well as support student reading and writing skills. During student teaching, pre-service teachers cultivate the skills required to model how to use historical evidence in the classroom and assess student learning. Finally, during the ISHE residency, pre-service teachers develop the skills to select engaging historical sources for their classes, integrate a wide range of resources into their lesson plans, and then engage students in the conceptual analysis of those resources. Because in no case was "other experiences" selected more than 15% for any question, it is statistically determined that "other experiences" did not influence pedagogical growth of historical practices to any significant degree.

In direct relation to RQ1, the data in Table 16 indicates that participants believe their FRI experiences influenced their pedagogical growth more than the other areas of their pre-service teacher education when questioned about what influences them in their selection of primary sources, integration of primary sources, and engagement of students in the conceptual analysis of historical documents/artifacts (Refer to shaded portions of Table 16). This does not mean their other pre-service teacher experiences were not important in these three areas; what it does mean is that participants view their FRI experiences as more significant than other experiences relative to these skills.

Research Question 2

Research Question 2 was posed to determine if specific ISHE site locations play a role in what a pre-service teacher learns pedagogically during their internship. The findings indicate (Table 16) that participants believe the FRI was the most influential factor in their current pedagogical practices in the following historical disciplinary practice areas as defined by Fogo: (a) Practice #2, select and adapt historical sources; (b) Practice #3, integrate a wide range of historical resources; and (c) Practice #6, engage students in the conceptual analysis of historical documents/artifacts.

To understand how each site location contributed to the internalization of these practices, frequency statistics and their percentage of their whole, were created for each of the practices with respect to their specific site location (Table 17). For example, for practice #2, eleven of the fifteen respondents (a 73% response rate) who performed their residency at a historic site answered positively to this question. The "Total Average" row indicates the average positive response to the three disciplinary questions where the FRI was selected as the most important experience. The total average row, then, indicates the overall utility of performing a residency at

each site location. From this data, it can be extrapolated that, in regard to questions #2, #3, and #6, a residency at a library was most influential, followed by a historic site, museum and archive. However, given the variability in the number of participants at each site, these numbers should be interpreted cautiously.

Table 17

Crosstabulation frequency/percentages of Fogo's Historical Disciplinary Instructional Practices #2, #3, and #6 in relation to ISHE site locations.

Historic Disciplinary Practice	Historic Site (*N*=15)	Museum (*N*=28)	Archive (*N*=25)	Library (*N*=11)
#2. I am able to select engaging historical sources for my lesson plans because of my…	11 (73%)	14 (50%)	13 (52%)	10 (91%)
#3. I am able to integrate a wide range of resources (e.g., documents, artifacts, timelines, maps, films) into my lessons plans which allows me to connect historical content to my students because of my…	6 (40%)	16 (57%)	13 (52%)	7 (64%)
#6. I am able to engage students in the conceptual analysis of historical documents/artifacts because of my…	10 (67%)	19 (69%)	13 (52%)	4 (36%)
Total Average	60%	59%	52%	64%

Research Question 2 Summary. The breakdown of the data indicates that a residency at a library contributed most to the pedagogical growth of pre-service teachers when examined against Fogo's nine historical disciplinary practices. However, with all sites scoring above the 50% tile, it can be assessed that all four site-types positively contribute to pre-service teachers internalizing certain disciplinary teaching practices. Indeed, only eleven percentage points separate the utility between all four site locations.

Questions Derived from Review of the Literature

As stated earlier, four distinct categories emerged from the literature review which typify experiences all pre-service teachers have at informal sites of learning: *Content/Resources*, *Pedagogy*, *Peer/Expert Collaboration,* and *Informal Learning Environments*. Using these

categories as a guide, questions 10-23 of section 2 of the survey (Appendix A) were created to determine if FRI participants have similar experiences at their ISHE as those from other disciplines and in other nations: Table 18 depicts the findings from these questions.

Table 18

Crosstabulation frequency/percentages of the experiences typified by pre-service teachers a an ISHE in the literature review in relation to Eastern State pre-service teacher experiences.

Pre-Service Teacher Typical Experience at ISE	Eastern State Education Class	Field Residency Initiative	Student Teaching	Other Experiences
10. I frequently consider how I can use a wide range of resources (e.g., pictures, maps, graphs, film, novels, and first-person accounts) to supplement the course textbook because of my…	24 (30%)	35 (44%)	18 (23%)	2 (3%)
11. I am able to teach students how to question historical perspectives depicted in textbooks because of my …	32 (41%)	19 (24%)	17 (21%)	11 (14%)
12 I believe that most history textbooks do not portray a holistic view of historical persons/events because of my …	29 (37%)	31 (39%)	11 (14%)	8 (10%)
13. My ability to research historical topics was most strengthened during my…	13 (16%)	50 (63%)	10 (13%)	6 (8%)
14. My ability to teach students how to research historical topics was most strengthened during my …	23 (29%)	26 (32%)	25 (31%)	6 (8%)
15. I believe designing student-centered lesson plans is important because of …	34 (43%)	10 (13%)	28 (35%)	7 (9%)
16. I am able to design lesson plans that present multiple perspectives from which to view historical events because of my …	28 (36%)	24 (30%)	25 (31%)	2 (3%)
17. I believe I am more likely to integrate field trips into my curriculum because of my …	15 (19%)	53 (67%)	9 (12%)	2 (2%)
18. My ability to design inquiry-based lesson plans was most strengthened during my …	16 (20%)	51 (65%)	9 (12%)	3 (3%)
19. I focus more on student analysis of historical persons and/or events rather than rote memorization of facts because of my …	14 (18%)	53 (67%)	8 (10%)	4 (5%)

20. My ability to collaborate with educational professionals was most strengthened during my …	13 (16%)	32 (40%)	30 (39%)	4 (5%)
21. My ability to create a network of education professionals, whom I am able to draw upon for support as a classroom teacher, was most significantly developed during my …	14 (18%)	13 (16%)	32 (41%)	20 (25%)
22. The peer feedback I received during my _____ was significant in my development to create inquiry-based lessons.	33 (42%)	14 (18%)	27 (34%)	5 (6%)
23. The expert mentor feedback I received during my _____ was significant in my development to create inquiry-based lessons.	13 (16%)	31 (39%)	33 (42%)	2 (2%)
*Shading indicates questions where participants that were most strongly influenced by experiences during the FRI.				

Integration of data into the study. The results from Table 18 were used to shape the interview questions to ensure interview participants were provided the opportunity to reflect upon areas that the quantitative data indicated were important areas of pedagogical growth. Specifically, questions 10-23 were designed to elicit how participants felt their pre-service education shaped their current in-service teaching practices. For example, question 12 asks, "I believe that most history textbooks do not portray a holistic view of historical person/events because of my…". This question was asked to discern participant perceptions of textbooks and would lead the conversation during the interview to probe what resources the participant felt would best improve student learning. Other questions, such as #17 and #20 were designed to compare participant pre-service teacher educational experience with those who participated in residencies in other disciplines. Participant answers provided valuable insight and allowed the researcher to ask more nuanced questions during the interview phase, which resulted in the rich qualitative data of this study.

Qualitative Findings

Using the trends and patterns derived from extant studies (e.g., Beaudoin, 2014; Cox & Barrow, 2000; Ford, 2016; Greenwood, 2014; Nichols, 2014; Stetson & Stroud, 2014; Waite & Leavell, 2006; Wunder, 2002), a coding scheme (Appendix E) was created based on previous research that analyzed pre-service teacher experiences at an ISE/ISHE (Falk et al., 2007; Henry, 2004; Martin, 2004; Melber & Abraham, 2002). The coding process began with the identification of categories, followed by identifying specific codes, and, ultimately, themes. Figure 7 depicts the creation of the coding instrument.

In first cycle coding, this coding scheme was applied to each transcript to determine if the experiences of a pre-service history teacher mirrored those within the literature and to identify any emergent patterns across the participants. In vivo coding was also performed during first cycle coding to illuminate any patterns or trends that were missed by the literature review coding scheme.

Following first cycle coding, the quantitative results from this study were layered on the coded transcripts to enhance new ways to see how the experiences of the interview participants reflected the quantitative findings. Through this layering, new patterns emerged that supported the findings and the analysis of the quantitative data. The initial codes were then reduced to categories and then themes (Miles et al., 2013; Richards, 2009; Wolcott, 1994). This process not only elucidated the qualitative data, it also fostered an understanding between how pre-service history teachers learn at informal sites of learning compared to pre-service teachers within other disciplines. Figure 8 depicts the reduction process of codes to the development of new themes that emerged from the quantitative analysis and the analysis of the transcripts.

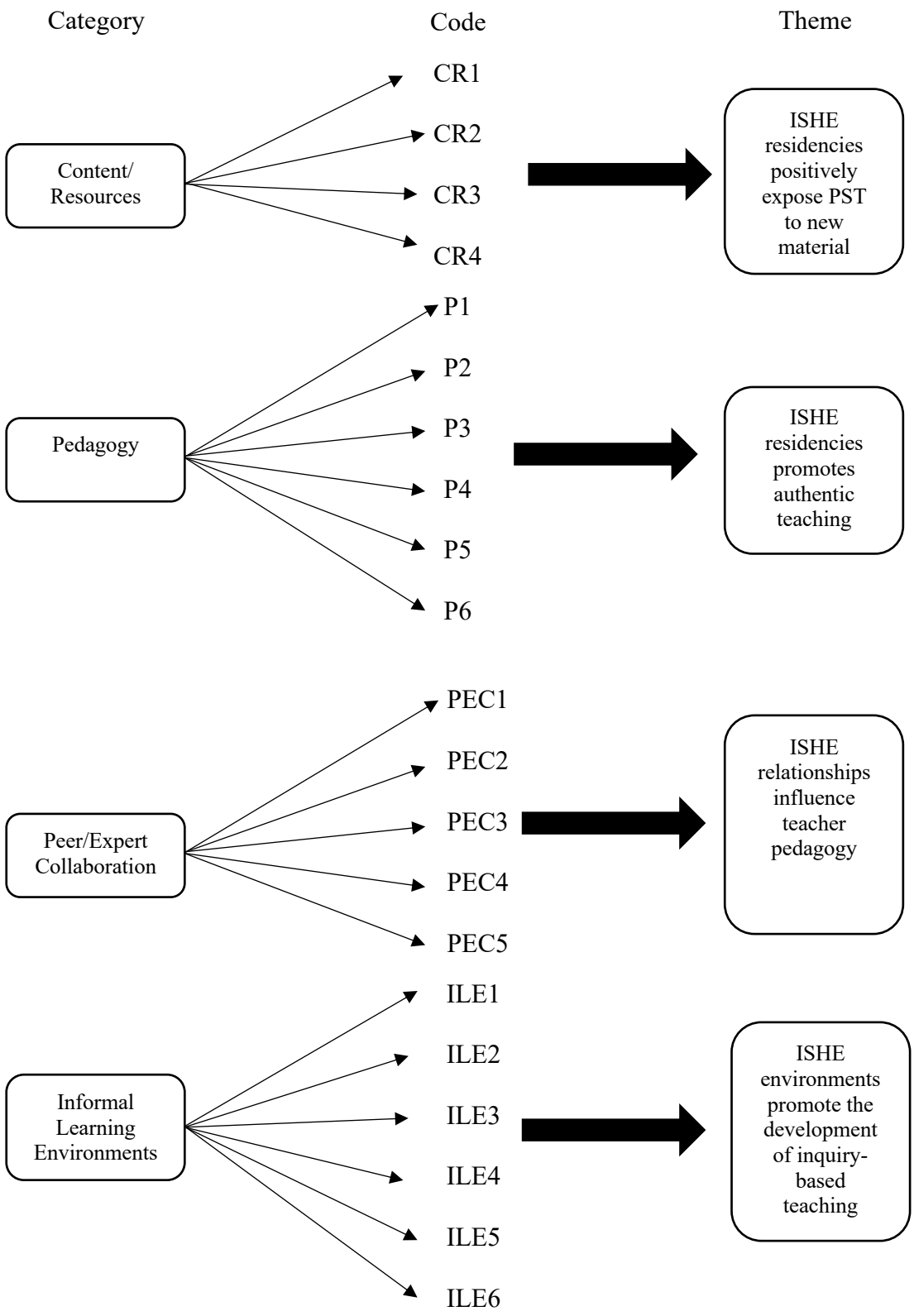


Figure 7. Initial Coding Design

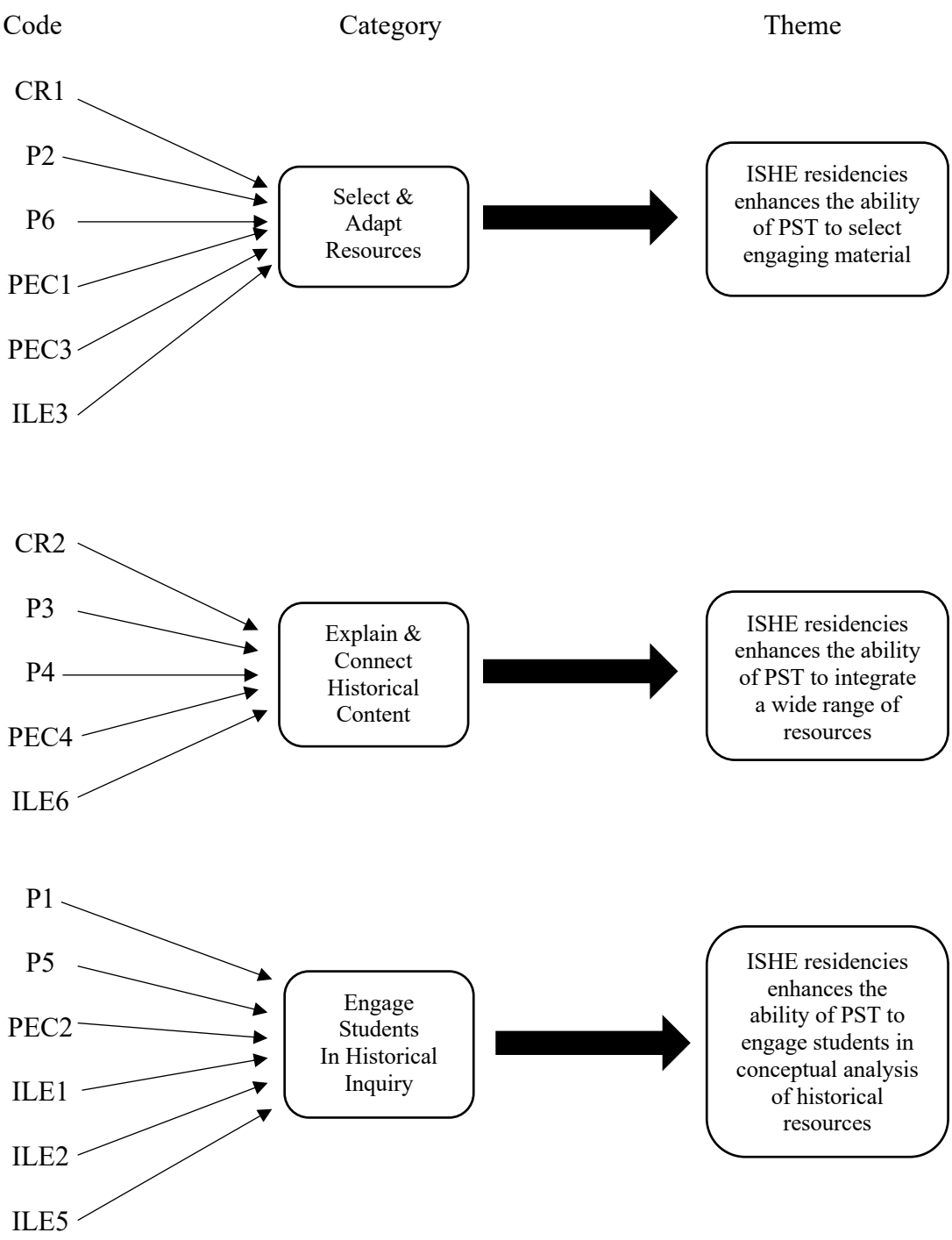


Figure 8. Revised Categories and Themes Following First Cycle Coding

The adjustment of coding framework after first cycle coding allowed for second cycle coding to identify emergent patterns that were statistically identified in the quantitative phase of

this chapter. The findings below summarize the collected and analyzed qualitative data from this study. It is organized in relation to the research questions.

The Outliers

Creswell's *data analysis spiral* (Creswell, 2009; Creswell & Poth, 2018) facilitated the identification of emergent themes and patterns through the process of memoing and a repeated rereading of the transcripts. The use of Creswell's *spiral* methodology highlighted a nearly universal experience by nearly all of the on-site ISHE participants of the study. It also facilitated the identification of a subset of the participants who had a distinctly different FRI experience. Specifically, the *spiral* identified two outliers in the interview pool. The reflections of the two outliers, Abe and Larry, illuminates the pedagogical growth of all of the other FRI participants and the potential uniqueness of a situated learning experience within an ISHE residency during pre-service teacher education.

The two outliers in this study, Abe and Larry, reflected that their FRI experiences had little or no impact on their teaching dispositions or how they conceptualized disciplinary teaching practices. Abe and Larry, interestingly, were the only participants who worked remotely from their homes via the internet during the residency: Abe worked remotely with a National Archives[8] research center while Larry worked remotely with a U.S. Presidential Library. They both still completed the required three hours a week working for their FRI site mentors and attended the weekly methods class meetings associated with the FRI; however, their testimonies indicated that they did not internalize the need to supplement their lessons with outside resources.

[8] National Archives in this paper is an abbreviation for the National Archives and Records Administration of the United States Federal Government.

The interviews of Abe and Larry provide the study with an important data set from which a comparison can be made against the rest of the interview participants' experiences. Their reflections contribute to the data by highlighting the conclusions drawn by participants who did not have a situated learning experience during their FRI. This is critical because it provides a basis for evaluating the influence of the effect of being *on-site* and working with site personnel *verse* the identical experience absent such site-based interactions.

Research Question 1

The results from quantitative findings indicate that three specific historical disciplinary practices that in-service teachers attribute to their FRI experiences during their pre-service teacher education: Fogo practices #2 (selecting resources), #3 (integrating resources), and #6 (engaging students). Creswell and Clark (2017) explain that while a quantitative analysis provides a general overview of the research, a qualitative component enables the study to refine and explain the statistical results by exploring participant experiences through their own personal lens. Anchored by this methodology, the following section focuses on linking participants with the identified historical disciplinary practices they claim to have developed.

Historical Disciplinary Practice #2: Selecting Resources. In synthesizing the interviews and noting the experiences of the participants, three specific FRI experiences, typical of all on-site participants, emerged that seemed to impel participants to go out of their way to select engaging primary source documents in the construction of their lesson plans: direct access to resources, collaboration with peers and mentors related to their work with said resources, and the non-threatening environment of the IHSHE.

When asked what was the major lesson learned from their ISHE residency, the participants universally placed an emphasis on pedagogy and Historical Pedagogical Content

Knowledge (HPCK) (Monte-Sano, 2011) instead of content knowledge. This is particularly interesting because it breaks from the body of literature, as noted above, that otherwise suggests that pre-service teacher residencies result primarily in the acquisition of knowledge, not pedagogy. For example, Alex, who worked at an archive within a university library, reflected, "For me, it was definitely more process. I learned how to develop a central question, how to link that to objectives, and then support that learning with primary source documents and activities with those resources." In saying this, Alex is highlighting how his ISHE residency influences that space where teaching, content, and students intersect: PCK (Monte-Sano & Budano, 2013).

The appreciation of the wide variety of primary sources is a theme that linked nearly all interviews. Many of the other participants in this study talked of the importance of being made aware, many for the first time, of the vast resources that are contained within an ISHE. Harry's FRI experience is typical of many participants in this study:

> Because of the FRI, I try to bring in documents as much as I can. And I don't transcribe them for the kids. I give them the actual documents, well, reproductions, but I let them work with them. One of the biggest things I remember from my FRI was struggling with the handwriting. But that was important to my growth. And I want my students to grow in the same way, so I try to replicate those experiences for each of the different classes that I teach. I mean, like the handwriting, it represents a different time, a different culture, and that is key to context. That is why primary sources are so important to learning.

Harry's residency introduced him to resources he had not heretofore known existed. This introduction provided him with a new base of knowledge that facilitated within him a foundational development centered on the importance differentiated content plays in teaching (Ball et al., 2008). More importantly, it provided him with a model for selecting and using engaging primary sources in his classroom (Ambrosetti & Dekkers, 2010; Bryant-Shanklin & Brumage, 2011; He, 2009). For the first time, Harry experienced an interaction with documents that were unfamiliar to him. The situated experience at the ISHE forced him to grapple and

struggle with unfamiliar material and ingrained in him an appreciation for primary sources that shapes how he conceptualizes teaching and what students need to learn. It is not the content from the ISHE that was important to Harry but the process of working with it, and for Harry that meant struggling with the unfamiliar.

Harry's experiences mirror those in other situated learning experiences who are introduced to new material and learn to master their tasks as they move from novices to members of a community of practice (Schell & Black, 1997). As Harry worked as a novice in the community, he developed a deep sense of admiration for the work he was doing, and that appreciation instilled in him a propensity to replicate that activity and teach it to others: his students.

Similar to Harry, Adrian's ISHE residency exposed them to a wide variety of primary source material that they had never worked with before. During their interview, Adrian talked at length on the importance of working in an archive located in a medical college.

> At Eastern State, I created lesson plans with documents that most people are familiar with: presidential stuff, speeches, treaties, and that sort of thing. But during my FRI, I was working with medical reports, personal memoirs of not so famous people, pamphlets, photographs, and very ground level sources that I hadn't worked with before. And that required a different approach that I hadn't developed before.

Adrian's reflection highlights the importance that they and their fellow FRI peers continually came back to in the interview: the influence that working with a wide variety of resources had on their pedagogical development. For Adrian, working with documents that were different from the typical historical documents they encountered during college history and pre-service teacher education course was critical to their appreciation of primary sources. Working with unfamiliar resources at their ISHE forced Adrian to think about how to use documents in their classroom differently. The unfamiliar documents opened up new possibilities on how and what to teach. It

created new opportunities for pre-service teachers to think about and consider how to reach students and broadened their perspective of how to best represent history (Monte-Sano, 2011; Monte-Sano & Budano, 2013).

Harry and Adrian's reflections highlighted the important transformational process that took place during their residency. Working with unfamiliar documents forced each participant to approach how to connect content to students differently. As they developed the new skills required to complete tasks during their residencies, the FRI participants internalized them to the point that they are now regularly deployed in their classrooms. They point back to these experiences as the basis of their teaching today and reflected that working with the unfamiliar was a significant part of their pre-service development.

Conversely, remote participants Abe and Larry did not reflect during their interviews on any newfound abilities provided by their ISHE experiences that allow them to select engaging resources for their current lesson plans. Instead, they reflected upon gaining content knowledge. This could be because remote participants were not required to select documents on their own for their projects, unlike the rest of the participants. Instead, their FRI mentors and staffs provided them the documents that the ISHE leadership determined applicable for the lesson plans. This is contrasted with the other residents who, like Adrian who had "playful experiences" with documents and artifacts at their ISHEs. For this reason, Abe and Larry were not encouraged to wander through the ISHE collections to find, select, and use what they deemed appropriate resources for their projects. They did not wander the stacks of the archives, walk through the museum displays on their own, touch the artifacts at the historic sites, or catalogue new material at a library. Instead, they worked with pre-assigned resources. Abe and Larry's experiences are in direct contrast with their onsite peers who, in the ISHE situated space, freely interacted with

the resources therein. It seems, from the interviews, that that interaction between the individual and the resources developed within the pre-service teacher an appreciation and respect for resources that was absent otherwise.

Direct access to a wide range of resources. The data from this study documents how participants gained a new appreciation for the variety of resources available at ISHEs. Working directly with documents, artifacts, and other resources during every visit informed them of the complexity of piecing together history and the importance of using a wide range of resources to discover what really happened. In many cases, participants who never appreciated resources, such as artwork, changed their perception of the utility of such resources because of their internship. For example, because he worked at a major art museum, Mike began to challenge what documents to select for his students:

> My typical day there was, I went twice a week. One day I would spend just walking around and looking at the collection and being exposed to what is available at the museum and the history of the art. It was a de facto art history course kind of. And the other day was spend using the art that I found to create lesson plans and make sure they were aligned with the Common Core Standards…. Eastern State is pretty set on Wineburg and the lesson plans that reflect that single way of using documents… So I think the FRI gave me exposure to primary sources being something beyond documents. And it was working with art and how to make art and sculpture a viable source of examination.

What can be understood from Mike's experience is the tendency for residents to begin appreciating a wider range of resources, not just traditional text documents. This new appreciation of resources comes from extended exposure and by working with them in the creation of new lesson plans. Mike is typical of FRI participants who leave their internships considering new types of resources as "a viable source of examination" that before they likely would never have considered. Another critical point to highlight from Mike's reflection is the influence his residency had on what he considers disciplinary teaching practices. In his

reflection, Mike highlighted the Eastern State standard of using Wineburg's Thinking Like a Historian model in the classroom: a program rooted in set-piece document analysis. Instead, the residency gave Mike the ability to see beyond the document-based analysis and include a wide range of resources, such as art, in his classroom instruction that are normally excluded from historical content analysis. By saying this, Mike illuminates the strong influence the residency has had on his conceptual thinking on what kind of resources he should select and integrate into his lesson plans in order to facilitate conceptual historical analysis.

Similarly, as part of his daily FRI experience, Hank worked at a historic site updating curriculum guides and reenactor dialogue. To do this, Hank was granted access to the site's historical database at which he spent numerous hours looking for just the right text or document that he believed would contain content that would resonate with students but would also be developmentally and reading-level appropriate. Through the process of "sifting through writings in a different style," Hank developed the skills to select documents for his current classroom.

> You have to be able to go through the text you are going to use and know if it is applicable and will resonate with your students. You have to be able to know what is age and capability appropriate. And that was a useful skill I sharpened during the internship. For example, as an ancient history teacher, you have to find the right document to use that students can understand and find a connection to. That can be really difficult with documents written a long time ago. So it was helpful to practice sifting through writings in a different style and knowing what to use.

As a novice at his ISHE, Hank was forced to grapple with unfamiliar material and master it, similar to Harry's experiences with sailor documents. Both Hank and Harry were challenged to work with new resources and determine what was useful and what was not. As they did this, they internalized the culture and norms of the ISHE community of practice, which were grounded in a deep appreciation of resources of all kinds and their potential in the classroom.

Similar to Mike and Hank, Leo's hands-on experiences during his residency widened the range of resources he now considers including as he creates lesson plans for his students. Working at the Eastern State main library was for him a completely new experience. Although he had visited the library many times before to do research for different college courses, the situated conditions of the FRI enabled Leo to appreciate resources in completely new ways.

> I think for me, it opened my eyes to what I can use in the classroom to supplement the textbook. It introduced me to the wide range of resources that I had no idea existed and then how to find those resources.

The exposure widened the range of what residents viewed as useful resources in a classroom. While in their college methods courses, they learned about using multiple types of resources, and it is the direct experience of working with them that seems to have provided the conditions necessary for internalizing their usefulness. However, appreciation for resources does not come after one encounter. Instead, it happened after continued exposure and repeated interaction at and within the ISHE community of practice.

Andrew's reflection exemplifies the impact that repeated exposure to a range of historical resources and the different tasks they had to complete with them had on pedagogical development.

> On a typical day, I was there three days a week for a couple of hours a day for the entire semester, myself and the other [FRI] students with me would do old school research by digging through the files of the boxes and look at all the primary sources and secondary sources. We would flag the material that was important and summarize the material for the archivist to use for the finished product… For me doing it firsthand, it reinforced the importance of it on me, and I think that definitely had a huge impact on me. I mean I definitely impress on my students the importance of always fact checking and doing their own research on anything they do.

Andrew's reflection emphasized several key points that underscore the importance of the situated nature of the residency experience. The first was the collaborative nature of the assigned tasks. Andrew was not working alone, but in a community of practice with other novices under the

direction of a mentor (an archivist). Note that he used the word "we" in his description. Secondly, it is critical to identify that Andrew was personally looking through the files of boxes and making decisions on what was important. Performing this function of searching and selecting resources from a wide range of documents had a "huge" influence on how he decides to create engaging lessons for his students. And as he impresses on his students the importance of always fact checking, Andrew is drawing upon his residency experiences and transferring those lessons learned to his current teaching.

Collaboration with peers and mentors. Both international and domestic pre-service education programs highlight the profound benefits of situating pre-service teacher education courses within ISHE settings (Brett, 2014; Geladaki & Papadimitriou, 2014; Lemon & Garvis, 2013; Yu & Yang, 2010). Specifically, the findings from the research suggest pre-service teachers often grow pedagogically because of the unique collaborative experiences they have with both peers and museum experts (Clark et al., 2016; Ferry, 1995; Gregg & Leinhardt, 2002; Jung & Tonso, 2006; Lemon & Garvis, 2013; McCarthy & Anderson, 2000; Tal et al., 2005; Watters & Ginns, 2000). These studies conclude that mentors in a collaborative environment are often the pivotal factor in scaffolding the learning process for novices and supporting their internalization of new material and pedagogical practices.

In an attempt to understand the pedagogical influence of peers/mentors on pre-service teacher development, one goal of this study focused on attempting to determine how relationships within ISHEs influence pre-service pedagogical growth. This section of the study will discuss participant reflections on how ISHE mentors and staff influenced participant learning during their residency and will ascertain if it continues to influence how they teach today.

The literature is well-documented on the influence mentors have on pre-service teachers and their pedagogical development and conceptualization of disciplinary teaching practices (Feiman-Nemser, 2001b; Feiman-Nemser & Carver, 2012; Hudson, 2007; Katz et al., 2011; Woyshner et al., 2013; Yuan et al., 2015). Data from the interviews highlight the emphasis each participant placed on the important role their ISHE mentor played within their FRI experience. While the particular work and degree of impact of the mentor varied from location to location, results have indicated that pre-service teachers model their teaching practices off the examples set by their ISHE mentors. For example, Alex's reflection indicated how he collaborated with his mentor at the ISHE and the mutual respect influenced his development.

> You know it was collaborative with my mentor. She was a historian and she would bring that to our meetings while I am an educator and I would bring that to our meetings. Together we would mingle the two together to make the lesson plans. I didn't feel at all like she was my supervisor. It was much more collaborative than that. I was never below her. It was like, we need to get this done, what do you think, and we together would come up with a joint answer. And with the other student, it was friendly, we would help each other, assist each other, help each other out, and together figure out where we could improve what we were doing.

Similar to Alex, Andrew's experiences working with his mentor highlight what an empowering atmosphere the ISHE environment provided for participants. In his reflection, Andrew makes an important distinction between learning in the classroom and learning in the ISHE space.

> There was a seriousness about it that wasn't in the classroom. I would just say that the level of work was the same, but whereas the stuff class was incentivized by getting the grade, I would say that the work in the archive was sort of a social incentive. We were working on an important project for the archivist and we didn't want to disappoint them. It just had a more serious air about it inherently. And I think it was just the literal environment of the archives. I mean everyone there is just working diligently, and it just inspired us to do the same.

Andrew and Alex highlight the importance of the "social incentive" in their work within a community of practice at the ISHE. Learning at the ISHE was a function of relationships fused with the tasks he was performing at the ISHE within an environment seen as more serious than a

college classroom. Integral to this in his reflections are the references to working with mentors and feeling part of the team. Becoming an equal in the learning space and being given the responsibility resulted in motivating the participant to work harder. The findings from these two interview selections highlight how the intersection of the environment and social relationship inspired FRI participants to work to work diligently and become part of the community of practice.

Alex and Andrew are not alone in their reflections that highlight the influence that a collaborative social environment can have on the transforming the learning environment. Adrian builds on the topic of comparing the work at the ISHE to the Eastern State college classroom and illuminates the unique learning environment of the FRI.

> I think I internalized the material at the FRI in ways that I would never have if presented the same things in a classroom. Again, it was that I had ownership of the material and I had to participate in different ways with my FRI mentor. In some ways, I was teaching him about education. And that was powerful. I learned a lot about what I was already learning. Having to explain the things I knew to someone in a different field was a pretty powerful experience. It helped me identify the things I already knew. It helped me prioritize what I was learning in the classroom and internalize it. And that changed how I looked at it [how to connect resources to student learning] and that made all the difference. And having the chance to walk through my thinking with my mentor helped me remember things better. And that I was in a different context was important. Not being in an educational context and having to condense the firehose of information that I was getting at the university into a set of priorities to relay it to this archive professional. That was helpful to me.

Adrian's passage is critical to understanding how the ISHE environment and the social interactions shaped pre-service development. Key to their reflection are three distinct points: 1) the first sentence of the reflection that identifies the ISHE space as fundamentally different than the Eastern State classroom; 2) that the experience helped them identify, prioritize, and internalize already learned material; and 3) that these experiences changed how they integrate resources into their teaching. From Adrian's reflection, it is clear that the collaboration between

them and their FRI mentor within the ISHE space was the reason these points were learned. Adrian linked what they are learning to the collaborative nature of the ISHE, not the acquisition of new skills or knowledge. For Adrian, it allowed them to identify knowledge they already knew. By saying this, Adrian was making an important reference: that knowledge learned prior to the residency was not realized as important or applicable until experienced in the ISHE space.

Adrian's reflection also indicates a data point that highlights the importance of informal learning spaces. For them, not being in the classroom and being treated as an equal was critical to their development. The standard teacher-student relationship was absent during the residencies and replaced with one rooted in collaboration and equality.

The key to learning for the participants of this study was the intersection of the ISHE environment and their mentors within a community of practice. The result was the creation of collaborative and inclusive environments in which to work and solve problems. Respondents reported that their mentors who, often from the first day, made them feel like an important member of the team and welcomed their ideas and suggestions on how to improve operating conditions at the ISHE. They were not simply following a rubric and attempting to reach predetermined answers—they were working collaboratively with ISHE professionals as partners. As they performed their duties at their residency, residents were incrementally given more difficult tasks to perform. With the completion of each task, participants perceived their standing in the community growing. As the resident moved to a more trusted member of the ISHE community of practice, they reflected upon this movement and internalized the practices that fostered the acceptance into the community (Kelly, 2000). With the establishment of a collaborative atmosphere where mentors encouraged new ideas and suggestions, the pre-service teachers of this study indicated that the ISHE spaces offer the pre-service teacher a unique

environment that, in their opinion, could never be replicated in the classroom. This analysis furthers the discussion by identifying the important role in pre-service development that is offered within an ISHE residency.

Non-threatening environment of the ISHE. The collaborative nature of the ISHE as described by the participants often highlighted the non-threatening environment that permeated the residency experience. Collaborative environments, such as the non-threatening types described by the residents, are well-documented in the literature as essential to promoting positive pedagogical development during pre-service teacher training (Daniel et al., 2013; Hoaglund et al., 2014; Van Keer & Aelterman, 2010). They become essential components because collaborative relationships foster dialogue, trust, and interaction. Within this study, the data reveals similar findings that mirror previous research. For example, Andrew reflected in his interview that working with a fellow student in an ISHE space often leads to a relationship that fosters trust, vulnerability, and collaboration.

> We worked really well together. It allowed us to break down barriers that grades create and collaborate together, to admit when we didn't have the best idea. To rely on your partner. To both lay out on the table your ideas and then go with the best one, which might not have been yours.

Andrew's reflection offers insight to how working on-site at the ISHE, a non-threatening environment, significantly changes the atmosphere of learning for the pre-service teacher. Much like the current scholarship that documents how non-threatening environments enhance learning (Jackson et al., 2014; Nichols, 2014b; Seligmann, 2014), Andrew highlights how the ISHE learning space created the conditions for participants to rely on each other—to be collaborative in a way that places the emphasis on the organization instead of the individual. By doing this, we see the participants embracing the community of practice and searching what is best for the group instead of focusing on themselves. Residents described a sense of the work as more

substantive than just a class project they were completing together for a grade. As relationships developed, the work by the residents took on new meanings. It became, as Mike states, "something larger."

> It definitely felt more collaborative. Maybe it is just me, but in a classroom setting it always seems a little more competitive. It feels as though you're working with somebody but still competing. It seems in a classroom that you are jumping through hoops to get something done, but at the internship it seemed like you were legitimately working toward a goal that was important and going to be used. Something larger. And it kind of brought us together because we were working on something larger. I found that my FRI partner and I created a pretty strong relationship, and that was because we were working on something we thought was important and in a way neither of us had ever worked before. We were able to approach the problems with novel eyes because we weren't completing a set-piece task. We grew together.

Mike's reflection digs deeper into what is happening at the ISHE and how the difference between the ISHE environment and the classroom influenced how work was approached and completed. The key for Mike was how the environment influenced his relationships. Collaboration brought hm and his FRI partner together. Coupled with the perception that the work was important, Mike and his colleague began to approach problems differently and develop new mythologies for completing their work. In an analysis of Mike and Andrews' reflections, it is possible to identify the importance of a community of practice where the participant views the importance of the work at hand and understand how these relationships significantly influence future actions (Hutchins, 1995; Schell & Black, 1997; Wenger, 2016). The relationships developed during the FRI influenced how work was approached and lessons internalized. From this, it is possible to understand the effect of collaborative learning in a non-threatening environment and appreciate how this environment changed student approaches to problem solving which created new opportunities for intellectual growth.

Historical Disciplinary Practice #3: Explain and Connect Historical Content. The majority of the survey respondents attributed their propensity to connect historical content to

their students through the use of primary source documents, artifacts, films, and other resources to their experiences during their residency. Reflecting upon the skills that enable them to explain and connect historical content to their students in the classroom, the participants pointed toward three specific experiences at their ISHE as the driving force in compelling them to integrate primary resources into current lesson plans and classroom activities: time and space to think deeply about lesson plan development, the real-world atmosphere of the IHSE, and mentoring students' National History Day research.

Time and space to think deeply. Unlike a university-based methods class assignment or student teaching lesson plan, participants spoke in their interviews about the importance of the time and freedom to think deeply about how to explain and connect historical resources to students. For students like Andrew, having an entire semester to wrestle with the material, provided him the environment he needed as a student to conceptualize how to teach.

> It gave you the entire semester to wrestle with the material and grapple with different documents, analyze it, and then do something with it. It gave me time to build that skill set to be able to quickly do those things for daily lesson plans… During my student teaching, it was rushed, and I had students right in front of me. At the FRI, I had time to think about what I was doing. There was no rush. I had space to figure things out.

Within the setting of the ISHE, Andrew was able to focus on how to explain and connect historical content with thoughtfully tailored lesson plans because he was given the time to think about primary sources, how to analyze them, and then how to use them toward a meaningful purpose independent of the need to immediately present them to students. The key for Andrew was that he was not rushed to create a lesson plan overnight or in just a few days. Instead, he "built that skill" during his residency and internalized to the point where he can transfer those skills from his FRI to his current teaching. Andrew was not alone in his experiences. For example, Harry also cited an abundance of time as critical to his development.

> I think a big thing was that I got to work on the archives for an entire semester. It wasn't just a quick assignment that I completed in a week and it was over. And that definitely helped me formulate and improve on how I create an overarching idea. That really played out in my student teaching and to this day.

Harry's reflection mirrors Andrew's in that he is able to transfer the skills he developed during his one-semester residency to his current teaching practices. In ways distinct from both student teaching and methods courses, the FRI provided a practice space that allowed participants to engage in long-term or recursive thinking about an historical person/event/era without the pressure to produce curriculum products for immediate student consumption. This time to not be rushed seems to have provided the conditions for participants to mentally digest the concepts and internalize them, as opposed to quick assignments that had no time to sink in.

The impact of having time and space to think about how to explain and connect historical content to students was cited as significant by nearly all the interviewees. Adrian provided a vivid metaphor for the time they experienced during their FRI.

> A lot of what I did before was churning out lesson plans. I hadn't been given enough time. I mean, at the FRI, I was given a general topic and told "go and make something great from all the resources we have." That kind of freedom is immeasurable. The space I was given to work on this and really think deeply about how to include different kinds of documents was really profound. Again, I wasn't just churning out a lesson plan…I think it had to do with the newness of the resources. To me it was like baking a cake from scratch without a recipe from a cookbook. When you are making it from scratch, you have to work with the ingredients and figure out how much of each to use. You look in the cabinet and have to decide. You have to figure out how the ingredients fit to together and how they will mix together. In a recipe, they just tell you what to use. And I think there is a different kind of ownership from creating a lesson plan like that which you don't get everything is handed to you. It let me take ownership of it. To be proud of it. And I think that had a very profound effect on how I create lesson plans now and how I think about using resources in a pedagogical context.

During their ISHE residencies students were given the freedom, as Adrian said, to build their lesson plans "from scratch" and discover what works and does not work in explaining and connecting historical content to students. The residency provided an experience that enabled

pre-service history teachers to look into the stacks of the ISHE where the documents are stored and select each one by hand. They were then provided the time to see how they fit together and support each other within a pedagogical context. This deliberate process that nearly all the participants described, facilitated how they select and integrate documents into lesson plan and most importantly, how they think about the usefulness of primary source material when designing lesson plans that engage students.

Providing time and space for self-discovery in an ISHE, as seen in this study, can be an important factor for processing and developing disciplinary teaching practices (Brush & Saye, 2009; Gregg & Leinhardt, 2002; Leinhardt & Gregg, 2000; Patterson & Woyshner, 2016). Being allotted the opportunity to work with a wide variety of resources and the time to figure out how to select, integrate, and connect them to student learning content mirrors previous studies that credit this variable as a key link to pre-service teacher development (Anderson, Lawson, et al., 2006; Jung & Tonso, 2006; Melber & Cox-Petersen, 2005). Unlike previous research, this study documents a semester-long residency to in-service practices and positions time on-site as an important variable in teacher education at an ISHE.

Real-world atmosphere of the ISHE. A second critical aspect of the FRI that dovetails with the variable of time is the participant perception that the real-world nature of the ISHE created the conditions that made the tasks meaningful. Unlike a classroom assignment at Eastern State that would be created and then discarded after it was graded, participants spoke deliberately and at length about how important it was that they were creating products that were actually going to be used by real students and real teachers. Mary notes how the ISHE environment and her interactions with fellow educators created the conditions for her growth.

> It is one thing to creating lesson plans for your teaching methods classes, whether it's for a grade or an assignment. It was like a requirement. But at the Historical Society I felt I

> was actually using real-world applications. I was interacting with other educators who would go into the Historical Society to do work or research. Doing that gave me an insight into how primary sources can be used in a real classroom for a real lesson. I learned how to use the tools of history instead of just teaching by the textbook. So, I think this time at the FRI internship really gave me the opportunity to see how to use them and offer a different perspective to standard textbooks.

Mary was deliberate in her distinction between creating lesson plans for her Eastern State methods course and her FRI experiences. The *real-world* environment of the ISHE that Mary refers to highlights how she differentiated the ISHE space from her college classroom space. Using a situated learning lens, it is possible to identify the conditions created by the intersection of environment and social interaction within the ISHE. It is in this situated intersected space that Mary was able to internalize conceptual disciplinary practices. As a current teacher, she is able to transfer experiences created under those unique conditions at the ISHE to offer different perspectives to students in her current classroom by supplementing the textbook with the insight she gained during her residency.

One of the reasons the connections between the theoretical and the practical were so strong is that the FRI students took on real-world roles at their ISHEs. They knew what they were doing would be used by actual students and not just an assignment that would be graded and discarded. In this way, the perceived *real-world* nature of the residency created the conditions the participants draw upon today as they design lesson plans which they teach today. For example, describing her FRI residency, Marjorie stated the following.

> It just became more important because I knew it was going to be used by real kids in real schools. So that definitely was something that helped me. And it helps me when I create my DBQs today and lesson plans. That is definitely a skill I got out of the FRI. I'm always trying to make the material we are working on relevant to my students. I can connect it to my students. It's always connected to my students. The Eastern State courses and student teaching were important, but the FRI really gave me the time and the feedback to make my teaching authentic.

For Marjorie, one significant factor that influenced her development was that she was creating material that she knew would be used by "real kids." Unlike Mary, who placed the emphasis on real-world collaboration with peers at the ISHE, Marjorie focused on the knowledge that her materials would be used by actual students in real schools. This is interesting because it acknowledges the importance of what she learned in her Eastern State courses and during her student teaching. However, for Marjorie, the residency was different. During her semester at the IHSE, she connected with the material she was creating differently than work in other education experiences, and those experiences at the ISHE are what influence her teaching today as she selects and integrates resources to engage students in learning.

The findings within this section are consistent with the literature that educative experiences within authentic learning environments improve pre-service teacher learning because the experiences highlight the relevancy and applicability of the material at hand (Barnes & Gachago, 2015; Condy, 2015; Dennen & Burner, 2008; Stein et al., 2004). This study supports the conclusion that real-world spaces provide situated learning opportunities that enhance the propensity to use authentic documents and internalize disciplinary teaching practices (c.f., Falk et al., 2007; Henry, 2004; Herrington et al., 2014). By identifying the perceived real-world nature of the ISHE by the participants, the FRI created a unique learning environment that facilitated the transfer of how to connect resource material to student interest—how to design meaningful and engaging lesson plans.

Mentoring students performing National History Day research. Within the interviews, participants reflected that mentoring middle/high school students conducting research for National History Day (NHD) provided them with the experiences they draw upon today when thinking about how to explain and connect historical content material to their students. NHD is a

national project-based research program for students grades 6-12 that challenges students to become historians by fostering research, analysis, and presentation skills. Each year, over a half a million students from across the United States and the globe research topics of their choice along an annual theme using primary sources as the basis of their projects. Students may work at the individual level or in collaborative groups building projects in several categories: exhibit, documentary, website, paper, and performance. Culminating at the national competition in College Park, Maryland, students gain firsthand experience researching, analyzing, and presenting their findings through a series of school, district, and state-level judged events.

One key feature of the FRI was the deliberate inclusion of an NHD mentor component. FRI residents were all scheduled to work at their ISHE during after school hours, which enabled them the opportunity to work directly with NHD students conducting research. This created the conditions for FRI participants to work directly with students conducting research using ISHE resources. For every participant, onsite and remote, there was a constant reflection on how mentoring NHD students influences their teaching today.

For nearly all of the residents, being an NHD mentor provided them opportunities to develop their pedagogical skills to explain and connect historical content to students. The NHD experience at the ISHE provided opportunities for residents to practice how to explain and connect historical content to students in an informal setting. During their residencies with NHD students, participants began to appreciate how to work with students and to create differentiated teaching styles based on student abilities and needs. It is upon these experiences that the residents draw upon today as they determine how to explain content and connect their students to the learning goal. The following passage from Lewis highlights this point:

> The textbooks are unwieldy and usually have one narrative, and that narrative rarely speaks to my students. That is why NHD is so important. The power of the NHD model

> that it is based around historical exploration...Working with teens doing their NHD research contributed greatly to my ability to infuse the principles of inquiry research into my classes. It just helped me think about teaching in ways different from more traditional styles. For lack of a better word, to teach authentically. And without the FRI, I don't think I would be doing that sort of thing.

In this passage Lewis attributes his disposition towards teaching authentically to his time mentoring NHD students. Examining the nuances of his reflection, it is possible to draw out that this experience allowed Lewis to understand the power of historical exploration. Although he learned historical exploration during his Eastern State methods courses, it was the time he spent mentoring NHD students that ingrained in him the utility of using historical exploration to connect students to learning goals. His reflection directly connects his NHD mentoring experiences to the principles that guide his pedagogical practices and what he as a teacher considers to be authentic teaching. In a final analysis, this reflection provides a vivid example of far transfer (Barnett & Ceci, 2002): the conceptual learning while working with teens during the FRI and the infusion of these lessons into his current teaching.

Dovetailing on Lewis's reflection, Mary's reflection provides insight on the importance NHD mentoring has had on providing her the skills to create strategies to connect and engage a wide variety of students in historical content analysis:

> So, most of the students who went to the Historical Society were doing NHD projects. I saw a lot of anxiety because a lot of students that I was helping out were kids that came from at-risk backgrounds, minorities, or were people of color. They had no idea how to navigate a library. It helped me realize how institutions like the Historical Society aren't used in many cities by those of that demographic. To understand how to get kids to care about the past, there has to be a connection because a lot of the kids didn't have a personal connection with a cultural institution. But when you connect it with something, they are really passionate about today, that is when you can break down those barriers. It really prepared me as an educator to enter into vulnerable communities or communities of color. Because of my NHD mentoring, I can now bring these spaces into my teaching.

For the residents, NHD was a critical component in their education because it provided experiences working with a myriad of types of students. Often in a student teaching stint, the

classrooms are homogeneous due to the school's location. However, from Mary's reflection, it is possible to identify the variety of students that an FRI candidate works with and how those experiences influence their teaching today. Although Mary, like each of the other FRI participants, had a full semester of student teaching where she worked directly with students in the classroom, it seems to be her NHD mentoring time that she draws upon to connect historical content to her students, especially at-risk students. It is within the ISHE space, working directly with students conducting NHD research, that Mary internalized how to connect content with student interest and, ultimately, understanding. Mentoring NHD students at the ISHE facilitated the connection Mary needed to move her teaching from theory to practice.

Historical Disciplinary Practice #6: Engaging Students in Historical Content Analysis. According to Fogo, expert teachers do not just select appropriate resources and present them in a way in which students are able to intellectually connect with them. Instead, a great teacher "illustrates how historical content explored in class connects to, or is representative of, historical concepts and creates opportunities for students to engage in conceptual analysis of historical events, sources, and artifacts" (Fogo, 2014, p. 192). This way of teaching, which is shifting from a teacher-centered lecture classroom to one where students learn to think critically and conduct analysis of the resources at hand, demands a pedagogical shift from traditional forms of instruction. In the traditional classroom, the textbook provides the narrative and the resources appropriate for discovery of the truth (Goodlad, 2004). Fogo's conceptual model and the NCSS C3 Framework (NCSS, 2018) set inquiry-based approaches to historical instruction, rooted in independent analysis of historical materials as the goal for the field.

Within the present study, 58% of the participants (*N*=79) credited their FRI experience as being most influential in teaching them how to engage students in conceptual historical analysis:

10 from a historic site FRI, 19 from a museum FRI, 13 from an archive FRI, and 4 from a library FRI (Table 17). For the participants, it was not enough to be able to know what kinds of documents to select, the ability to select the documents, or the ability to connect the material to students. For the participants, it was critical to develop the skills that enable them as teachers to teach in a way that engages students in their own historical analysis—a shift from a teacher-centered classroom to a classroom grounded in authentic teaching. From the interviews, participants pointed to three key areas of understanding and knowledge acquired during their residencies that they note was critical for engaging students: teaching from multiple perspectives, student-centered lesson plans, and the power of place of the ISHE.

Teaching from multiple perspectives. Although students believe in and appreciate the importance of teaching from multiple perspectives, most of the time they do not (Goodlad, 2004). Instead, they use traditional teaching methods that are rooted in the narrative perspective of their textbook (Nokes, 2010; Van Drie & Van Boxtel, 2008). However, FRI graduates were not bound by the limits and narratives of a textbook, but instead sought out multiple points of view for their students. It seems that working in an ISHE in a community of practice fostered within the resident the belief that multiple perspectives are important in order to engage students in active learning. For example, for many FRI participants, including Mary, the residency exposed them to a wide range of resources they never before knew existed. The exposure to new material opened a new world of possibilities for alternate historical possibilities Mary had never before considered.

> I think this time at the FRI internship really gave me the opportunity to see how to use primary sources and offer a different perspective to standard textbooks. The FRI introduced me to the concept of moving outside the library at hand and searching for resources in other places. And using different kinds of resources that are not located in libraries, like artifacts and objects.

With the understanding of the kind of resources available in the different types of ISHEs, FRI graduates feel empowered to depart from the textbook and teach from multiple perspectives, even when most teachers at their schools remain bound to the course textbook. Like many of his FRI peers, Leo came away from his residency with the propensity to integrate the perspectives of marginalized peoples by supplementing his course material with resources the FRI has equipped him to find.

> Like I said, the school wants us to use the textbook as much as possible, but I think to reach kids you have to provide much more. The textbook is just incomplete. So, at least for me, the FRI opened my eyes to all the different kinds of resources that are out there. During my FRI, I got to be exposed to the vast array of marginalized voices out there that are not included in most history books. So, I really try to bring those into the classroom with primary sources, none of which are included in the single narrative of the textbook. For example, the other day we talked the Trail of Tears in class. The textbook told the story, but only from a third person angle. So, I went out and got a lot of primary sources from the Indian perspective and tried to bring the lesson home by having students hear voices of the Native Americans, voices that are often omitted in history…

Leo's reflection offers the literature an important point to consider: an ISHE residency empowers teachers to challenge institutional norms and engage students with multiple perspectives of history even when it deviates from the normative practices of the organization. The reason Leo challenges the standard practices of his school is because his ISHE residency informs him to do so. Not only did the FRI expose Leo to a wide variety of resources, it provided the conditions for Leo to understand the importance of complicating the historical narrative in his classroom. When Leo is teaching, he looks at this textbook, is able to recognize the shortcomings in it, and then creates pragmatic solutions to addressing the limitations of the text. While identifying these limitations is important, it is equally important that he is able to find, select and then use relevant primary sources in his classroom. This reflection by Leo provides an important data point that indicates the influence the ISHE residency has on in-service perceptions, conceptions of expert teaching, and ability to act on those educational evaluations.

The propensity to examine the narrative of the textbook and think about ways to integrate primary source documents to present multiple perspectives was a constant thread connecting all on-site participants. Every interview participant spoke about the shortcomings of the textbook and the drive to complicate the narrative with multiple perspectives. It seems that they are, in many ways, replicating elements of their ISHE experiences with their students. They want their students to discover a love for research and a connection to history. Harry's reflection, similar to those of the other participants, indicates wanting students to struggle with analysis and discover the joy in that work.

The reflections from this section indicate that FRI graduates emerge from their residencies with the propensity to engage their students with multiple perspectives. They want to complicate the narrative and challenge their students to see events and people from different points of view. As they create lesson plans to engage their students, it is interesting to note that they are transferring their ISHE experiences to their current classrooms. It is likely that they are doing that because they believe the educative experiences they had during a residency are the best practices that they should be implementing in their classrooms. This is a critical point because it demonstrates the influence the FRI has on pedagogical practices of in-service teachers.

Student-centered lesson plans. As part of the interviews, participants provided sample lesson plans to the study that they identified as typical for any given class. Participants then provided commentary on each aspect of the lesson plan and described in detail what motivated them to include each particular element. Specifically, the participants were asked what aspect of their pre-service teacher education program most informed them that what they were doing was good practice. Performing a word query of the qualitative data using the NVivo12 program,

several words or groups of words trended throughout the transcripts when participants reflected upon their lesson plans: *connection, engaging, personal, relatable, real-world,* and *authentic*.

From the interviews, it is clear that the residency and the FRI instilled in participants the importance of centering their classes around material that would connect learning with each student. When planning lessons, one of the first priorities the participants focused on was finding and using material that they believe will enhance learning and understanding. They saw it as their role to make the material accessible to students and not just expect students to follow along in the textbook. They are looking to make a personal connection to each lesson. And this belief that personal connection is essential drives these teachers to supplement their course resources with engaging primary sources. Lewis's reflection explains how the FRI shaped how he creates student-centered lessons.

> During my FRI, I was working with a lot of personal letters and journals. And reading these allowed me to make a personal connection to the history. I don't think I would have been as interested in the material had they been boring secondary sources. And for me, I want to get my teens as excited as I was doing my research. So, when I select documents, I try as much as possible to get to the personal stories.

Lewis's desire "to get my teens as excited as I was doing my research" is a common line of thinking shared by the participants. The FRI provided them the opportunity to connect, many for the first time, with the joy of research and of discovery. In their classroom, FRI graduates such as Harry attempt to recreate that experience for their students by providing material they believe will resonate with their teens.

> I think the FRI allowed me to really see what connects with us as learners. And for me, working with primary sources and using images was really important to my growth at the archives. So, I use that experience to connect with kids in my classroom today. I try to replicate what I was doing at the archives with the sailors and sea monsters to the material they are working on, no matter what it is. And in this case, it was an English class and a novel. And I am able to think and figure out what will and won't work in the classroom and connect with students in engaging ways. I mean, it is always more meaningful to work with documents than it is to just read a secondary text.

It is important to appreciate that the prompt related to this reply was "What part of your Eastern State education program allows to you connect with students and why?" In their response, most of the participants, like Harry, pointed to their FRI residency as the main influence on connecting teaching material to students rather than their college courses or student teaching. Even more important was that the root of the FRI experience was the personal nature of the experience. Participants experienced something meaningful when working with primary sources and those experiences influence how they teach today. It influences what they consider expert practices to be and what resources should be integrated into those practices. Harry layers those FRI experiences into his current planning and, with those memories, develops lessons that he believes will resonate with students.

Similar to Harry, Adrian cited the FRI as being the basis for their understanding of how to create student-centered lesson plans and facilitate inquiry in their class. Their residency experience working with documents that recorded marginalized voices influences Adrian to use a wide range of documents to connect all types of students to their lesson:

> At the FRI, I learned how to ask questions of students and facilitate inquiry and exploration. Those tasks became very important to me as a teacher. So now when I create lesson plans, I make sure I include the voices and different kinds of documents that are different from the standard ones. If you don't include the marginalized voices, you will never be able to connect to students.

Adrian is very aware of the students they serve and makes the deliberate decision to connect the material to them using perspectives they find engaging. Working one-on-one with students at the ISHE, Adrian internalized the importance of creating lessons that speak directly to students. They learned how to ask questions of their students and then design engaging material that get students involved in their class. Adrian, through the FRI, developed the disciplinary teaching

skills to find, integrate, and then engage students with relevant material that they believe will connect with their class.

Transfer

The current research shows that participants do develop Historical Disciplinary Practices during a semester long residency at an ISHE. The question remains of how much of what they learned do they transfer from the FRI experience to their own classrooms. Near transfer for this study is characterized as the replication of skills and the use of similar resources between similar settings and populations over a short period of time. Far transfer in learning, however, is typified as the transfer of skills and practices between unlike settings and often dissimilar populations (Barnett & Ceci, 2002; Perkins & Salomon, 1988, 1989, 1992). To facilitate the assessment of transfer, this study used a modification of Baron's (2014) framework for transfer from historic site to classroom to chart participants' development across multiple functional areas in order to evaluate any near to far transfer that might have occurred across domains of knowledge, physical contexts, temporal contexts, functional contexts, and modalities.

This section explores two participant experiences with Table 19 and Table 20 that are reflective of the larger patterns of transfer seeing within the on-site interview population as a whole and present the degree of transfer from the residency to in-service teaching practices. During the coding phase, all interviews were repeatedly read to gain an understanding of how participants, if they did, transfer skills, knowledge, and practices from their residency to their classroom today. In both tables, examples of participant transfer are outlined for two specific periods: 1) preservice education, which includes college classroom work, the FRI, and student teaching and 2) in-service demonstration of transfer. Reading the chart from left to right, transfer is depicted along a scale that depicts the range of activities/skills/dispositions/practices

along the continuum of near to far transfer as assessed by the interviews. The first shaded area depicts the near transfer that occurred during Marjorie and Harrys' pre-service education. The final shaded columns represent the transfer of skills and historical disciplinary practices in the context of their in-service teaching. From these columns, Marjorie and Harry are demonstrating transfer along all functional areas of the near to far transfer framework.

The first participant, Marjorie, was selected because she worked with elementary school children at a living history museum during her residency and is currently working as a high school history teacher. As an FRI resident, Marjorie never worked with any population other than elementary school children. In her reflections, she stressed the importance of her FRI experiences and the work she did with a wide range of documents and artifacts across a range of pedagogical contexts. Like many of her colleagues, it is not the content she remembers or uses in her classroom today but the skills she acquired that enable her to understand how to use resources effectively in her classroom. This passage reflects her appreciation of how the residency influenced her growth and how she links her FRI experiences to her teaching today:

> So, my time at the museum gave me an idea of how to work with the different kinds of documents and historic sites and the experience on how to integrate them into lesson plans, which I do today. I was out in the field during my residency, so to speak, and at the historic sites…and the FRI gave me an idea of how to work with the different kinds of documents and historic sites and adapt them to whatever we are doing in the classroom or on a field trip somewhere. The experiences I got during the internship actually kind of helped me to understand how to use resources to teach a topic, and different topics, today. My typical day was going to the site and working with the educational staff and gathering resources… Because of the FRI I am now able to pick the right level of work and the right documents that meets my students where they are academically. At the museum I basically designed and gave tours to elementary students...So, I recently took the kids to the zoo. And even going to the zoo can be a learning experience because I know how to link experiences to learning and prepare students for being in a space. So, I feel like that experience at the FRI program actually helped me figure out how to bring the places and the location and the faces of the people we learn about in the classroom to life.

The linkage Marjorie acknowledges in her reflection provides a strong indication that far transfer did occur between the residency and her current teaching. That Marjorie noted that she is using the materials in her classroom "today"—as a high school World History teacher—indicates far transfer that the knowledge and skills she acquired transferred across temporal, physical and functional contexts. The selection and adaptation of historical materials from working with elementary children to working with high school students is one way in which Marjorie evinced far transfer in the knowledge domain from her FRI site to her classroom. However, Marjorie noted her increased abilities across these functional areas as further indication of the far transfer of what she learned in her FRI.

Table 19
Analysis of Marjorie's Near to Far Transfer

Context: When and Where Transferred To and From

Near → *Far*

	Transfer During Pre-Service Education			Transfer to In-Service Teaching	
Knowledge Domain	Differentiating between artifacts	Differentiating between artifacts of different eras	Using artifacts to draw conclusions	Using artifact knowledge from the museum to teach history to elementary school children	Using artifact knowledge from the museum to teach history to high school students
Physical Context	Same room at the museum with elementary school children	Different room at the museum with elementary school children	Museum to university classroom as a student	Museum to high school classroom	
Temporal Context	Same day	Next day	Weeks later	Years later	
Functional Context	Museum	Museum to informal professional setting	Museum to university classroom as student	Museum to in-service classroom	
Modality	Design a new tour for the museum in the same format and artifacts as observed	Lead a tour of the museum using different types of artifacts and formats than observed	Design and present a classroom lesson plan using information gained at the museum	Create a DBQ using museum and supplemental resources	Create and present an interactive lesson with new information to a different grade level

Analysis of her interview reveals that Marjorie transferred the teaching practices of selecting historical sources, integrating those sources into her lessons, and engaging historical content from her residency to her current teaching practices. Additionally, her experiences enabled her to find the resources necessary to teach her students to see "real history," as she indicated in one of her interviews. This is critical because it demonstrates that her experiences working with resources at a living history museum with elementary children shaped her conceptualization of what history is and how to teach it to high school students. This ability to teach and learn in a museum setting with elementary school-aged children and take those concepts and apply them to a high school class several years later demonstrates the influence the FRI has on pedagogical development and the possibilities for far transfer from a semester-long residency.

The reflections of the teachers in this study who attribute their ability to transfer historical disciplinary practices are not limited to history teachers. Although Harry's ISHE work was at a nautical museum transcribing historical documents, he is able to bring many of the skills he learned and internalized there into the 9th grade English class he currently teaches.

> While I was in the archives [of the historic site] I worked primarily transcribing sailor journals… I don't think I would be using primary sources [that much in my class today] had it not been for the FRI. It was just so cool to spend an entire semester on a ship [nautical historic site] doing research… Transcribing documents in the archives allowed me to see the importance of primary source documents in learning…I try as much as I can to replicate the experiences I had during my FRI to my classroom today, to have my students discover as I did, how interesting history can be when you let the primary sources tell the story. After I went through the ships logs and sailor documents [during the residency], I would create lesson plans and teaching guides using the material…And now that I am teaching English, I try to do the same…using primary sources to provide context and make the novel come alive.

Harry's interview presents interesting data in the discussion on transfer. During his residency, Harry worked almost exclusively alone with the documents he was transcribing. He

would exchange ideas with his FRI mentor, but essentially, he worked alone. However, his experiences during his residency, particularly working with unusual documents in cursive, developed within him the belief that primary sources are critical to providing context to learning objectives. He took away from his residency the conviction that personal interaction fosters an appreciation of historical events, regardless of the historical era, event, or persons involved. And for Harry, this belief in disciplinary practices is fundamental to learning, no matter what the subject. Harry acknowledges that his FRI residency has changed how he teaches English. Harry did not take away pure historical content from his residency: instead, he internalized the belief that it is critical to provide students with out-of-textbook contextual material to support their learning. He transferred historical disciplinary skills not just from a historic site to teaching history, but also from a historic site to teaching English. By doing this, Harry offers the field an interesting point that demands further research: ISHE residencies have the ability to influence teaching across disciplines, not simply from the ISHE to the history classroom.

Table 20 indicates the domain and contexts across which Harry transferred skills and knowledge from the ISHE experience to his in-service teaching practices. The acknowledgment that he uses primary sources in his classroom today because of his FRI experiences shows far transfer within the Knowledge domain. Far transfer across the physical, temporal, and functional contexts was evidenced by his reflection that it was the transcribing of sailor journals during his residency on the ship that convinces him to replicate those same experiences in his classroom today. Finally, far transfer in terms of modality is validated by the way he links his use of primary sources in his English class with his FRI residency.

Table 20
Analysis of Harry's Near to Far Transfer

Context: When and Where Transferred To and From *Near* → *Far*					
	Transfer During Pre-Service Education			Transfer During In-Service Teaching	
Knowledge Domain	Differentiating between types of documents	Differentiating between documents of different eras	Using artifacts to draw conclusions	Using knowledge of artifacts from the historic site to teach history to high school students	Using knowledge of artifacts from the historic site to teach English to high school students
Physical Context	Same archival room at the historic site	Different archival room at the historic site	Historic site to university classroom as a student	Historic site to high school classroom	
Temporal Context	Same day	Next day	Weeks later	Years later	
Functional Context	Historic site	Historic site to informal small-group setting	Historic site to university classroom as student	Historic site to in-service classroom	
Modality	Transcribe similar documents from similar era	Design and create a lesson plan using different types of artifacts and documents than observed	Lead a field trip to a museum using information gained at the historic site	Create a history class DBQ using historic site and supplemental resources	Create and present an interactive lesson for an English class with new information and different documents

A question central to this study is whether or not transfer occurred for the participants and, if so, to what degree. Evaluations of participant interviews indicate a pattern of far transfer was seen across all the on-site participants, concluding that on-site participants achieved near to far transfer of the historical disciplinary practices selecting engaging primary source resources, integrating those resources into classroom lesson, and engaging students in the conceptual historical analysis as a result of their semester long ISHE residency and that their in-service teaching practices reflect that transfer today.

The reasons for the transfer identified in this study can be attributed to several factors that were prevalent throughout all on-site participant interviews: working with a wide range of resources that were new to them; engaging collaboratively with peers/mentors; having multiple opportunities to work with different materials with different people and interacting the documents in what they described as a real-world environment. Each of these ISHE experiences created the conditions for participants to develop and internalize pedagogical practices that they use in their classrooms today. The only exception are the two remote FRI residents; for these two individuals, there was no near to far transfer of skills and core disciplinary practices from their ISHEs to their current classroom.

Qualitative Findings: Research Question 2

The findings of this study indicate that every ISHE site-type location plays an important role in pre-service teacher development if the participant experienced these spaces as on-site residents. No matter what role they played at their ISHE, from tour guide to archivist, participants almost uniformly answered the survey questions the same way and indicated that the ISHE site they worked at significantly influenced their pedagogical development. And while there are varying degrees of influence, these spaces were always found to be more influential in finding, selecting, and integrating resources to in-service teachers who had been FRI residents. This final section reports on the data and provides insight on how FRI site location seems to influence the construction of the perception of expert teaching practices during the residency.

FRI influence on ability to plan and lead field trips. An analysis of how participants at each type of ISHE responded to this question concluded that every ISHE sites contributes to facilitating the importance of integrating field trips in classroom curriculum. One trend that is prevalent in every interview is the belief that field trips are important for two particular reasons:

1) there is a connection one has when they are in the presence of an original document/artifact, and 2) that the material on display at the museum presents an unbiased view of history. As a result, participants stated that they believe students are able to connect with history in a way that they simply cannot in the classroom. Part of this reason, as documented by Rosenzweig and Thelen in their seminal mid-1990s study of Americans and how they view the past, is that ISHEs are the most trusted institutions in America (Rosenzweig & Thelen, 1998, p. 91). More recent research corroborates this study and confirms that populations around the world are drawn to ISHE to discover for themselves the "truth" about historic events and individuals (Bounia et al., 2012; BritainThinks for Museums Association, 2013; Griffiths & King, 2008). In short, ISHE are places that draw people to their locations because they are considered be to trusted institutions where the truth is on display. Once the public is in the ISHE, the institution shapes the visitor experience in a variety of ways that include but are not limited to: architecture, lighting, flooring, exhibit encasements, temperature, and background music (Chen & Tsai, 2015; Kottasz, 2006; Roppola, 2012). Each one of these factors influences the interaction between the object and the visitor and normally heightens the experience. The totality of the experience is designed to, and usually achieves, an increased sense of the importance of the object, particularly as it relates to the authority derived from its authenticity and the larger message the site presents through it (Brida et al., 2014)

The findings of this study conclude that when viewed in an ISHE setting, documents and artifacts also took on a greater sense of authority and believability for the resident and convinced them of the utility of bringing students to these sites of learning. FRI participants internalized not just the importance of field trips to ISHEs and the power they hold over those at their site—residents transferred these beliefs to their current teaching.

> It definitely gave me great ideas on how to use field trips as a teaching tool. It taught me how to take the material we learn in the classroom and bring it to life. And in many ways, that can only be done when you are right in front of the object, artifact, or document. My experience at the museum helped me figure out what I want to do in the classroom and how to make field trips a real part of my curriculum instead of going on one and just saying "that's cool." I learned how to prepare a class for a field trip. How to create material for the students before they go to a site so that they really get something out of it and then I can tie it all back to my learning objectives of the unit. So I feel like that experience at the FRI program actually helped me figure out how to bring the places and the location and the faces of the people we learn about in the classroom to life.

Marjorie's reflection is an important interview to consider for several key points. The first point is that her FRI experiences convinced her of the importance of taking students to ISHEs. Her experience changed what she considered to be meaningful learning conditions and embraced the belief that conditions beyond traditional classrooms are important to student intellectual development. Marjorie's FRI residency was so influential that she believes some learning can only be done in an ISHE. This can be contrasted with Abe and Larry, who both stated that field trips were beneficial but not necessarily essential to learning. Secondly, her time at the ISHE taught her how to prepare students for a field trip, create appropriate material to make the field trip meaningful for students, and then tie that learning back to unit objectives. This development is important because research studies indicate pre-service teachers normally do not learn these skills during their education programs or student teaching (Kisiel, 2005; Morentin & Guisasola, 2015). Thus, Marjorie's reflection informs the field of the influence the residency has on teacher development and the increased ability teachers perceive they have in planning and facilitating meaningful student experiences at ISHEs.

Building on Marjorie's reflection, Harry comments on how his ISHE experiences shape his conception of authentic learning within informal sites. The residency empowers him to move past the common scavenger hunt and teach students how to engage an object with historical inquiry.

> I know a lot of teachers when they take students to a museum, they hand the students a packet and say, "go to work." But I don't think that is the best way to connect with the museum. When I take students to a museum, I think it is so important to prepare students for what they are going to see. At the same time, I would not force them to do scavenger hunt. I would ask them to engage with an object or document and then come back and tell me why that item was important. What was it that they connected to? And then we can go from there. The post-class, in my opinion, is just as important as the visit itself. I want students to break down what they connected with and share it with me and the rest of the class. Now that said, I always go to the museum first and know what is on display. I have to do that because when my student engages with the museum, I need to be able to help guide them when they are done.

Harry makes a very important point regarding the skill of preparing students for the field trip. He points out that many teachers take students on field trips, but most lack the understanding of what to do when they are at the ISHE with their students. The connections Harry made to objects, artifacts, and documents during his residency motivate him to design activities during field trips for his students that replicate those experiences. Harry, like his FRI peers, has moved beyond scavenger hunts and replaced them with inquiry-based experiences that connect students to historical resources. The museum ceases to be an isolated event in the curriculum and instead becomes an extension of the student-centered classroom.

The power of place and the ISHE. Throughout the interviews, participants speak about their ISHE experiences in a tone of reverence and point back to them as significant in their development as teachers. One of the reasons participants noted that their ISHE experiences were influential was because they were working with real documents or were in the place that history actually happened. Participant experiences occurring in the same space as a historic event or working with or just being in the same room as documents/artifacts seems to have heightened the learning experience and influenced how they perceive the utility of ISHE resources in their current classrooms. Research into this phenomenon (Baron et al., 2019; Rosenzweig & Thelen, 1998; Trofanenko, 2006c) highlights the belief by most ISHE visitors that they are in the

presence of resources that reflect the "truth" of a given historical event/individual. In some cases, the sense of awe is so powerful that it created what scholars equate to a numinous experience. For years, scholars have applied the term numinous to describe the experience people can have when they are in the same space as historic artifacts, documents, or historic sites (Ashley, 2014; Cameron & Gatewood, 2003; Latham, 2013b, 2014). In the traditional sense, "numinous" refers to a religious connection, but Cameron and Gatewood (2004) contend that it can be extended to link people to their historic past:

> Strictly speaking, numen, in its Latin etymology, means a nod or beckoning from the gods. Otto (1946) uses it to describe a religious emotion or experience akin to rapture awakened in the presence of something holy. Oubre (1997), an anthropologist, sees numen as a transcendental quality of the mind. We have suggested that nonreligious contexts or objects can also stir such a response in people and that some people seek numinous experiences in their visits to historical sites and museums. (p. 208)

Numinous experiences are not common, and the term should not be equated to an experience that, although moving, does not connect the viewer to the object in transcendental ways. Latham's (2013b, 2013a, 2014) research defines the numinous experiences possible at ISHEs as a synthetization of four key elements (Latham, 2014, p. 552):

- Unity of the Moment: the numinous experience with museum objects is holistic, a uniting of emotions, feelings, intellect, experience, and object.
- Object Link: the object initiates an experience that links the experiencer to the past through both tangible and symbolic meanings.
- Being Transported: the experience is felt as if being transported to another time and place; it affects the experiencer temporally, spatially, and bodily.
- Connections Bigger Than Self: deeply felt epiphanic connections are made with the past, self, and spirit.

Latham's research and definition of the essential elements of a numinous experience is important because it allows research studies, such as this one, to appreciate the power of experiencing objects in the ISHE space while still guarding against the superficial use of the term numinous.

Within the data collected for this study, there does appear to be a strong link between the physical connection participants had with either a historic location or actual documents/artifacts and their pedagogical development. However, the reflections by the participants of this study do not reach the threshold of a numinous experience as defined by Latham. Many do include different aspects of her definition, but not in their entirety. For this reason, the powerful influence that the participants of this study experienced are referred to as *near-numinous* experiences. For example, Harry's reflection below clearly explains the influence being in the same space had on his learning.

> I think the FRI was the most impactful part of my pre-service teacher experience. And I think it was because I was working with real history. I got to touch those documents and look at them myself. I think it made a big impact sitting with the documents and making the analysis instead of reading them in a book or deciphered by someone else. Or listen to someone lecture about them. Holding the documents and reading someone's handwritten accounts just made it more personal and that made it more impactful.

Harry's experiences with documents are reflective of all the on-site ISHE participants. As history majors, they had often interacted with digital resources and with resources located in secondary sources. However, when Harry worked with "real" documents, the interaction changed. He seems to have viewed them differently. His emotional connection to the document changed because he was in the presence of the actual historical artifact. Harry did not have a numinous experience working with original documents; however, being in their presence did heighten their influence and impacts him today on the utility of integrating them into his classes. It seems, for Harry and his FRI peers, that their near-numinous experiences at their ISHE created

conditions that fostered different interpretations of how to integrate and use primary sources that is similar to parallel research on pre-service teachers in other museums (Chin, 2004).

Similar to Harry, Mike's reflection about his ISHE residency points to a near-numinous experience that he believes cannot be replicated online. In this space, with the original documents and museum experts, Mike envisions the teacher he can become.

> I found that being there and being in a setting like that was something very impressive... And I think had I done this distant learning; it would not have had the same impact. Just looking at a picture would not have done that […] There is also about being in front of the object that simply cannot be replicated online.

The near-numinous experiences Harry and Mike had at their ISHEs were typical of nearly all FRI participants. Adding to the responses of their peers, Andrew commented that "you can't replicate looking at a real document in the classroom." Helen noted, "So like when I show them the Liberty Bell in the textbook, they are like, oh, yeah, that's the Liberty Bell. But when we actually go see it, it is like, wow."

These examples from the interviews suggest that FRI participants experience near-numinous feelings at their ISHEs and that these experiences facilitated the internalization of pedagogical skills. These reflections can be contrasted with Abe and Larry who were silent on the influence of working with documents via the internet. Instead of being moved emotionally, they were detached from them and only took away the facts and figures of what they were working with. On-site participant reflections, however, indicate that there is something intrinsic to working with authentic documents and these experiences cannot be replicated virtually. These findings suggest that ISHEs are spaces that heighten the authenticity of documents/artifacts and instill in many pre-service teachers that primary resources should be integrated as often as possible into student instruction. As teacher education programs consider spaces that influence

pre-service development of core historical disciplinary teaching practices, this study recommends further exploration of ISHEs as potential enhanced learning spaces.

Chapter 5 – DISCUSSION AND IMPLICATIONS

Discussion

As educators from across the globe search for pragmatic and effective ways to improve pre-service history teacher education, this study offers important findings for consideration. Prior research in this field documents that while graduates of pre-service programs understand and believe in the expert teaching practices they are taught, few actually implement these authentic pedagogies when they enter the classroom (Goodlad, 2004; Hartzler-Miller, 2001). The mere fact of knowing what to do is not enough for the teacher to have the content knowledge, skills, and dispositions to reflexively teach authentically (Engle, 2006). Instead, recent research concludes that pre-service teachers need experiences in authentic learning environments (Barnes & Gachago, 2015; Condy, 2015; Duncan, 1996) in order to provide them with the lived experiences they need to move their teaching pedagogy from detached theoretical practices to applied and reflexive authentic ones (Calderhead & Robson, 1991; Kisiel, 2003).

Although authentic environments are defined and well-documented in numerous fields—military (Hutchins, 1995), skilled labor (Lave & Wenger, 1991), and medicine (Brown et al., 1989)—they remain virtually unquestioned in the field of history teacher education. The current conceptual model of pre-service history education (Figure 1) indicates a framework rooted in an antiquated past. In a search for a course of instruction that provides pre-service teachers the authentic experiences they need to transfer content knowledge and teaching skills from their teacher education programs to the classroom, scholars from a wide range of disciplines have begun researching the influence of pre-service residencies at ISE/ISHEs in the sciences (Morentin & Guisasola, 2015; Olson et al., 2001; Watters & Ginns, 2000), arts (Henry, 2004; Stone, 1996), and social studies (Leinhardt & Gregg, 2000; Patterson & Woyshner, 2016) on in-

service teacher pedagogical practices. The initial findings from these studies indicate that internalization of authentic teaching skills is enhanced when an ISE/ISHE component is added to the pre-service teacher experience (Figure 2).

The results of the current research offer important findings for the improvement of pre-service history teacher education because they isolate the specific in-service pedagogical practices and link those practices to specific pre-service education experiences, college education classes, student teaching, and a residency at an ISHE.

Based on the findings, this work indicates that a pre-service history teacher residency at an ISHE of at least one semester in length does influence the pedagogical practices of in-service history teachers in ways that can be differentiated from student teaching and college education courses. Specifically, the findings of this study indicate that the ISHE residency provides FRI graduates with the authentic learning experiences necessary to internalize three distinct core historical disciplinary teaching practices: 1) the ability to select engaging historical sources for lesson plans; 2) the propensity to integrate a wide range of resources into lesson plans; and 3) the pedagogical disposition to engage students in the conceptual analysis of historical resources.

The purpose of this chapter is to reflect upon, synthesize, and draw conclusions from the findings in order to identify the nuanced meanings within the data and their possible implications for pre-service education. This chapter is organized along the three emerging threads from the findings and illuminates their potential opportunities for social studies teacher education programs: 1) transfer of historical disciplinary teaching practices; 2) communities of practice; 3) historical conceptual analysis; and 4) beyond disciplinary practices.

Transfer of Disciplinary Teaching Practices

The findings of this study, as it sought to identify Historical Disciplinary teaching practices learned within a semester long residency at an ISHE, are predicated upon the ability of pre-service teachings being able to learn skills and teaching practices in one context and transfer them to their in-service classroom years later. The ex post facto methodology employed in this study created the reflective conditions to allow each participant to consider their current teaching and map out the links between current teaching practices and where those practices were learned. Although the findings of this study document far transfer occurring within all on-site participants, the degrees of transfer did vary from participant to participant. However, there are two specific factors that seem to influence transfer and internalize it in some more than others.

The first factor that this study identifies as influencing transfer is context. While learning does happen is traditional classrooms, transfer is maximized when it occurs in a situated environment with active learning strategies employed within authentic conditions (Burns, 2008; Pepper et al., 2012). Participants recognized not just what they were doing as being important to their learning, but also the real-world conditions under which they were accomplished. Additionally, performing these tasks over a prolonged period of time offered multiple opportunities to work with different materials under different conditions and facilitated reflective thinking, which encouraged deeper connections with both the historical materials and the learners with whom they worked. The situated nature of the environment, therefore, was assessed as a key factor in pre-service teachers' improved understanding of theoretical teaching strategies and transferring those disciplinary practices to their in-service pedagogy (Dreer et al., 2017).

A second factor that improved transfer was the collaborative relationships within the learning space of the residency (Richey et al., 2018). The culture and organizational education structure of the ISHE, rooted in a process of legitimate peripheral participation, seemed to increase the confidence of the participant to put into practice, often for the first time, previous learned material. The collaborative environments seem to increase participant willingness to be vulnerable to take risks in trying new techniques to solve the tasks at hand, findings which prior research supports (Alderman & Beyeler, 2008; Hui-Hua et al., 2015; Philpott, 2007). Additionally, as the residency progressed and participants took on more responsibility, they seem to internalize not just the norms of the ISHE culture, but also the core disciplinary practices they learned in their Eastern State education classes and were performing during the FRI. These findings, therefore, demonstrate the need to consider the critical role relationships play in pre-service teacher development, and support calls for a broader range of assessments be used rather than strictly cognitive indicators for growth such as licensure exams.

As this study assessed participants' ability to transfer their knowledge, skills, and dispositions from their FRI site to their classrooms, it is important to note that the designation of Far Transfer drew upon the totality of the interviews of each participant. Analysis considered how each participant linked their FRI experiences with their current teaching practices across all domains and contexts: knowledge domain, physical context, temporal context, functional context, and modality. Transfer was the result of not just a semester at an ISHE or relationships with mentors and peers. Instead, transfer developed and should be attributed to the intersection of the physical environment, social interaction, and the multiple opportunities to consider historical materials. Each of these elements contributed to creating the conditions that allow

participants to still draw upon their ISHE experiences today as they plan, integrate, and engage using core historical disciplinary practices.

Communities of Practice

In their seminal 1991 research, Lave and Wenger proposed that the construction of knowledge is dependent upon social interactions within institutional frameworks. Their work—and the corroborating studies that followed (e.g., Contu & Willmott, 2003; Dennen & Burner, 2008; Henning, 1996; Herrington & Oliver, 1995)—identified communities of practice (CoP) and the framework of legitimate peripheral participation (LPP) as the fundamental elements in creating the conditions that enable the novice to move learning from the theoretical to the practiced. Research of pre-service teachers at informal learning sites (Anderson, Lawson, et al., 2006; Aquino et al., 2010; Mercado, 2015) supports the conclusion that these learning spaces hold great potential fostering far transfer of core disciplinary teaching practices from college to the in-service classroom.

The findings of this study corroborate the research in this area and extend the literature of this field by identifying a difference in pedagogical growth of pre-service history teachers between those who complete the FRI remotely and those who complete it at the ISHE within a community of practice. It is reasonable to conclude that it is the situational context of the ISHE that generated the difference in pedagogical content knowledge acquisition. Analyzing the pedagogical growth of the participants within the framework of the ISHE learning space, one particular possibility for the epistemological difference in knowledge acquisition by the pre-service teacher emerges: communities of practice (Wenger, 2016).

When viewed through a situated learning lens, the findings reaffirm that acquisition of knowledge is not confined strictly to the cognitive, but rather is predicated and dependent upon

the interaction of social relationships, the environment, and the ISHE community of practice experiences specifically (Choi & Hannafin, 1995; Cobb & Bowers, 1999; Kirk & Kinchin, 2003; Qvortrup et al., 2016; Wortham, 2001). By extending the unit of analysis from the individual to the individual in context (Nolen et al., 2015), this research facilitates the appreciation of how the web of individual, social, and situational interactions at the ISHE influence future practices of in-service teachers. This understanding informs the education community by presenting the possibilities of pre-service teacher development within disciplinary content-based social groups and settings outside of the traditional college classroom.

Social interaction within communities of practice. The reflections of on-site participants stressed the importance of being part of a community that recognized them as valued and important members of that community as being essential to their growth as educators. As they entered the ISHE community of practice, the residents were given very simple and specific tasks to complete. Mentors were assigned to each resident to facilitate their transition into the community and ensure tasks were completed to standard and that the conduct of these tasks became habitual. As participants moved from completing novice tasks at their ISHEs to more complex tasks, their status and sense of belonging within the ISHE CoP grew. This movement by the resident from the periphery of the community to valued members of the community mirrors the LPP originally described by Lave and Wenger (Lave & Wenger, 1991; Wenger, 1998).

Inspired by their membership into the ISHE community of practice, residents spoke of their new sense of responsibility to produce meaningful products for the ISHE. The desire to become a respected and valued member in the ISHE community of practice created within each participant a new lens through which they viewed the tasks of their pre-service teacher education

curriculum. Instead of just another assignment that was due for a college class, the work they were doing for the ISHE took on greater meaning because they were producing it for their community of practice and because it was going to be used by *real* students. The tasks they were assigned and the skills they were using to complete those tasks began becoming part of who they were as teachers and what they perceived as expert historical disciplinary practices. Participants' experiences in this study support the conclusion that the LPP process was crucial to participants' embrace of authentic teaching pedagogies. These social connections, which are only prevalent when FRI students perform their residency on-site, seem to drive the construction of pedagogical content knowledge that participants attributed to being the foundation of their current teaching practices.

For the participants, the projects and work they completed for the their ISHE moved them from the theoretical space of the college classroom, where they talked about and studied what they would do when they became teachers, to the "real-world" setting of the ISHE in which they were creating educational projects for specific people and programs. The participants were able to see a difference between what they were doing in the classroom and what they were doing on the ISHE site. In essence, the FRI created two distinctly different learning environments: the college classroom and the residency location. While the college classroom does provide authentic learning conditions, there was something completely different for the resident about learning at the ISHE. For the resident, the ISHE was "real-world" while the college classroom was theoretical. FRI resident reflections indicate that the ISHE elevated the importance of the work and fostered a sense of community that the college classroom lacked.

Desiring to create products that gained the approval and acceptance of their ISHE colleagues within that CoP, participants spoke of working very hard to select the best resources

for their assigned tasks. In the pursuit of creating these products for their ISHE community, on-site residents reflected that they began to engage with the resources differently than they had before. In the words of Adrian, which echo the other on-site residents, "I think I internalized the material at the FRI in ways that I would never have if presented the same things in a classroom." Adrian's internalization of resources during their FRI is an important shift in pedagogical growth typified by on-site participants. Many participants noted that this was the first time within their teacher education programs that they began to understand and embrace the importance of primary sources in the creation of educational material and lesson plans.

The new appreciation the FRI participants began to develop for primary resources during their residency is also intricately tied the social relationships within the ISHE space. The findings reveal that as pre-service teachers began to engage with the resources at their ISHE differently, they also began to engage with their Eastern State peers working at the site differently. This supportive learning environment created an atmosphere that encouraged social collaboration, both vertically (between the ISHE staff and the resident) and horizontally (between FRI participants at the same ISHE) within the community. Participant reflections indicate that it is the social interaction of the community of practice that fostered the construction of historical pedagogical content knowledge and historical disciplinary practices, which these FRI participants transferred into the classes they teach today.

Within the situated environment of the ISHE community of practice, the competitive atmosphere of the college classroom was replaced with a collective purpose. As members of their ISHE communities of practice, participants reflected on how being part of a team empowered them to explore different aspects and functional areas of the site. Participants were encouraged to spend the first few days of their residency wandering through the collections and

getting to know the different ISHE site experts. Participants talked about being welcomed by the ISHE staff and made to feel like not just a college intern, but rather as a legitimate ISHE team member bringing something special to the site. This welcoming into the ISHE community and integration into the site facilitated in the participant an embracement of the site's different functional areas outside their assigned department, even though they were not working in those other divisions. As a result, when creating lesson plans and other projects for their ISHE mentors, the participants felt empowered to re-explore different departments within their ISHE, have candid talks with site experts, and develop innovative products because they were welcomed and valued as team members.

Being part of a community of practice appears to have been the critical element in facilitating the pedagogical foundation for finding, selecting, and using primary sources in their practice as teachers. This new understanding of how social relationships influence learning offers educational reformers an important point of understanding: that non-competitive collaborative learning environments enhance student motivation to perform and this performance fosters a deeper understanding of learned material, which leads to the internalization of the desired competencies that education programs want their graduates to be able to perform as in-service teachers.

The outliers. The construction of this study did not include a control group. However, two of the students in this study participated in the FRI remotely, working for their ISHEs and communicating with their ISHE mentors strictly via the Internet. The data from these two individuals created a unique participant grouping that enabled a comparison between them and the other students who were physically situated at their ISHE sites and worked directly in the presence of their mentors, other peers, and high school students conducting research at the ISHE.

These two distinct groups allow for the examination of participant experiences through a situated learning lens and differentiate the creation of pedagogical content knowledge within these two pre-service history teacher groups. It is important to note that all the participants took the same methods courses simultaneously at Eastern State and completed similar student teaching experiences. The only difference in their teacher education programs was their FRI experiences.

Absent from the remote FRI experience was the direct social engagement with peers and mentors within a community of practice as defined and explained by Lave and Wenger. For those who participated in the FRI remotely, there was a no discussion on the importance of learning with or from peers and mentors. This can be explained, from a situated learning perspective, as the result of the truncation of the social interaction within a community of practice at the ISHE. The remote participants never mention that they felt like an important and valued part of the ISHE team, as the on-site participants stated.

Instead, their experiences resemble that of a disengaged assistant who performed specific task as directed by their ISHE. Social interactions between remote participants and their ISHE experts were referenced by the participant as detached and non-collaborative. For example, remote participants were provided the resources for their projects and not encouraged to find innovative solutions, which is the opposite experience from the onsite participants who were encouraged to develop creative solutions to the educational challenges they faced. Additionally, remote residents did not view themselves as members the ISHE community of practice, but instead more like contractors performing specific tasks as assigned. This resulted in the remote residents never entering the social world of the ISHE, the community of practice, nor participating in the process of LPP, which seems to have prevented them from internalizing the

nuances of that community and developing the disposition to embrace the importance of the resources they were using during their residency.

This can be contrasted with on-site FRI participants who believed they were important and valued members of their ISHE teams. Within their ISHE community of practice, they were seen, or at least they perceived they were seen, as bringing valuable skills and unique experiences to their FRI site. They saw themselves as fully integrated into their ISHE community as trusted members of the collective. This welcoming into the ISHE community fostered within the on-site residents the motivation to go beyond minimum expectations and do their very best because they believed the ISHE community depended upon them. It created an atmosphere that encouraged social collaboration, both vertically and horizontally. It seems that it is within this social interaction and community of practice that on-site participants created conditions that fostered the construction of pedagogical knowledge, which these FRI participants transfer into their classes today.

As new members of a community of practice, on-site residents deeply desired to be valued and respected by their ISHE colleagues. Accordingly, participants stated that the projects they completed at their ISHE (creating lesson plans, improving the website, conducting tours, performing research, etc.) became something much more than a regular college course requirement, which, technically, it was. Inspired by their induction into the ISHE community of practice, residents spoke of their new sense of responsibility to produce meaningful products for the ISHE instead of just "churning out lesson plans" for a methods course assignment. This desire to become respected and valued in the ISHE community of practice, and through the social interactions with ISHE colleagues, created within each participant a new lens through

which they viewed the tasks of their pre-service teacher education. They began to be very deliberate in what they were doing and creating at their ISHE.

For the on-site participants, the projects and work they completed for the their ISHE moved them from the theoretical space of the college classroom, where they talked about and studied what they would do when they were teachers, to the real-world of creating educational projects. Desiring to create products that gained the approval and acceptance of their ISHE colleagues, participants spoke of working very hard to select the best resources for their assigned tasks. In the pursuit of creating these products for their ISHE community, on-site residents reflected that they began to engage with the resources differently than they had before.

A comparative analysis between remote and on-site FRI graduates through a situated learning lens is critical to understanding the data of this study. The data from these two groups document the gap that is prevalent in learning when social relationships are removed from the learning experience. The findings provide a basis for appreciating the dynamics of how social interactions influence the learning process and what pre-service teachers learn in situated environments. They also document what is not learned when pre-service teachers are detached physically from the learning environment. The findings illustrate the ways in which learning is not singularly a cognitive function, but instead is predicated upon the social and environmental conditions that comprise the learning environment. Thus, this study extends the research by documenting how communities of practice within FRI settings foster are essential elements of on-site ISHE residencies.

Historical Conceptual Analysis

For much of the past two decades, research seeking to improve history teacher instruction has focused on teaching educators how to use primary source documents in the examination of

historical issues through historical conceptual analysis (Bain & Mirel, 2006; Fogo, 2014; Van Drie & Van Boxtel, 2008; VanSledright, 2004). By teaching with historical conceptual analysis, history teachers complicate the single narrative found in most textbooks, move away from the singular focus on factual data, and teach students to engage in historical inquiry with primary source documents, artifacts, objects, etc. Fogo (2014) advances the suggestion, as do other researchers (Bain & Mirel, 2006; Seixas & Peck, 2004; VanSledright & Kelly, 1998), that K-12 students need to acquire critical thinking skills if they are to analyze documents relating to historical events with comprehensive understanding. Transfer of historical thinking skills from teacher to student is facilitated, according to the research, by the teacher modeling disciplinary practices and creating opportunities for students to engage in authentic historical research (Grossman & McDonald, 2008; Van Drie & Van Boxtel, 2008; Van Hover & Hicks, 2018; VanSledright, 2004). These scholars conclude that unless teachers have had authentic experiences themselves, it is doubtful that they will be able to teach their students to think and act authentically. This study builds on this research by providing much needed data for how a pre-service residency at an ISHE influences in-service historical practices.

In college classrooms, future history teachers learn details of historical facts in their history classrooms and theoretical pedagogy in their pre-service education classes. Because these two strands of higher education were taught in different departments of Eastern State University in ways that stovepipe the information, participants struggled with synthesizing historical content knowledge with pedagogical content knowledge. Reflections, such as those by Alex, recognize the residency as an important aspect of their pre-service growth because it became the “bridge” between the content knowledge of their history classes and the pedagogical content knowledge of their education classes.

The findings of this study indicate that the construction of such bridges between historical information and pedagogy is possible when pre-service teacher learning is situated within ISHE communities of practice. Participants often attributed their learning to what they described as the real-world conditions of their residency. They explained that it was within the context of the real-world conditions that they were able to appreciate for the first time the importance of working with and integrating out-of-textbook material into their lesson plans. This real-world experience, which the participants repeatedly described in their reflections, seems to have internalized within the participants a propensity for teaching students the importance of seeking out and acknowledging multiple perspectives surrounding every historical event as well as the ability to transfer those research skills to their students. With this understanding, pre-service teachers realize during their residencies that ISHEs have much more to offer than what's on display. The data from this study builds on previous work (Grossman & McDonald, 2008; Harris, 2014; Monte-Sano, 2011; Van Hover et al., 2012) that has concluded that ISHE participants develop an instinct to want to teach with empathy and empower their students to see beyond the dominant, and often singular, narrative offered to them in their textbook—to teach authentically and transfer those skills to their students.

However, knowing that the narratives in most high school textbooks are incomplete does not necessarily translate into a teacher being able to integrate the missing stories into their classrooms. Teachers need to be able to find those stories in order to use them. As Leo said, "if you can't find resources you can't use them." In most cases, the participants noted that they already understood the theoretical teaching concepts, including using primary source documents in the classroom and teaching with inquiry; however, the place they internalized those concepts was at their ISHEs and when they interacted with mentors or peers at the FRI site.

This study builds on previous research that concluded that teachers who complete an ISHE residency enter the teaching profession with the ability to leave the single narrative of most textbooks and conduct historical conceptual analysis with their students (c.f., Gregg & Leinhardt, 2002; Pershey & Arias, 2000). This research also builds upon previous studies that have documented the unique learning environment the ISHE holds for the education profession (Aquino et al., 2010; Morentin & Guisasola, 2015; Olson et al., 2001). Specifically, this research underscores the importance of learning within a situated environment on the ability for in-service teachers to construct and instruct using historical conceptual analysis.

The trends identified in this study are consistent with other studies that indicate pre-service educative experiences that do not have a residency component built into it will not adequately prepare teachers to understand how maximize the resources and expert assistance available at ISHEs (Henry, 2004; Leinhardt & Gregg, 2000; Melber & Cox-Petersen, 2005; Patterson & Woyshner, 2016; Stone, 1996). Additionally, the data from this study indicates that when pre-service teachers watch and work with expert museum educators, they internalize the importance of and gain confidence in teaching with documents and artifacts. This does not mean the pedagogical strategies that methods course teachers advance is different from those practiced by ISHE educators: participants indicated they were the same. However, participants report working at an ISHE provided the lived experiences they draw upon when planning lessons and teaching.

Process over content. Although previous studies noted earlier in this paper (Aquino et al., 2010; Avraamidou, 2015; Ferry, 1995; Frechtling et al., 1995; Jung & Tonso, 2006; Kalin et al., 2007; Wissehr & Hanuscin, 2008) highlight the important gains made in acquiring content information during a residency, participants in this research were all but silent on the issue of

content. Only the two remote site participants discussed how the content they were exposed to during their residencies influenced their teaching. Instead, the rest of the participants focused their responses on their newfound abilities to find, select, and engage historical sources in their classrooms. Unlike the research highlighted in most pre-service science and art residencies, the interviews in this study are typified by an emphasis on process over content as explained by Lewis: "The FRI allowed me to figure out how to find those documents, vet those documents, and decide which documents would be useful to my students." Lewis typifies the participants of this study in his reflection with an emphasis on the historical disciplinary instructional practices he learned, not specific content knowledge. This is a critical point for researchers to consider as they analyze what is happening during the residency. It is not the information that participants themselves believe is important. Rather, it is the validation and understanding of the theoretical concepts they had previously been exposed to in their methods course.

Real-world influence of the residency. The pre-service teachers in this study consistently referred to their ISHE residencies as *real-world* experiences—a trend found in similar studies on pre-service teacher experiences at ISHEs (Barnes & Gachago, 2015; Condy, 2015; Dennen & Burner, 2008; Stein et al., 2004). They differentiated between the experiences at their ISHEs and those in their college classrooms and during their student learning. Their reflections highlight the importance of their ISHE relationships and the products they were creating at these locations. Residents repeatedly expressed the important role the real-world nature of the ISHE had on their learning and because they knew the products they were creating would be used by real students and teachers. The perceived real-world nature of the ISHE created the conditions for the residents to internalize the concepts that they had already learned in their college methods course, but up to that time had failed to absorb.

The findings suggest that because the pre-service teachers were working in an authentic space, making lesson plans that would be used by teachers and students, participants seemed to come to new understandings on the utility of ISHEs and how they offer resources they can draw upon as they create material for their own classrooms. FRI participants ceased "churning out lesson plans" for a college class requirement and started thinking deeply about primary sources and how to authentically use them. This motivated them not to settle for the first resource they found that related to their project, but instead to dig deeper into the archives of their ISHE for one they thought was best. The quest to find the best resource provided them with the opportunity of examining various types of resources, comparing resources for appropriateness, and selecting those they evaluated as applicable. The result was a shift in pedagogical conceptual practices. FRI participants, because of the authentic space provided by the ISHE, develop an intrinsic ability to create student-centered lesson plans that connect students to historical conceptual analysis.

The reflections by this study's participants indicate the real-world, non-classroom situations residents experienced at their ISHEs influence their current perspective on the integration of outside material into student learning. Instead of being tied to the narrative within their classroom textbooks, FRI participants overwhelmingly included multiple-sources and perspectives into their lesson plans.

Beyond Disciplinary Practices

Although the findings of this study do not indicate that specific site locations (museums, archives, libraries, and historic sites) influence the pedagogical development, the study does illuminate the influence on areas outside the scope of disciplinary practices as defined by Fogo (2014). These areas, although beyond Fogo's research, play a powerful role in shaping how the

in-service teacher conceptualizes best practices in teaching and facilitating the movement away from the textbook and to a pedagogical disposition that embraces alternate views of history with resources not provided by the curriculum. Furthermore, they encourage the in-service teacher to explore spaces outside the classroom with their students and make room for alternate versions of history. By doing this, the teacher expands the possibilities for student understanding and encourages the creation of knowledge rather than the replication of a dominant narrative.

ISHEs as extensions of the classroom. For several decades, there have been a range studies examining how to effectively plan and engage K-12 students at ISHEs (Braund & Reiss, 2004; Leinhardt & Crowley, 2002; Marcus, Levine, & Grenier, 2012; Rudmann, 1994). A litany of suggestions have been offered through this literature to guide teachers as they seek to use an ISHE and its collection as a place of learning: visit the ISHE before the field trip to become familiar with the space and all it offers; set an agenda and clearly define learning objectives; communicate with ISHE staff to ensure highlighted ISHE artifacts/documents/objects are linked to classroom learning; allow some opportunities for students to explore and self-discover during the trip; and develop post-ISHE visit classroom activities to link the field trip to learning objectives.

However, despite the recommendations of experts about how to plan and facilitate meaningful experiences at ISHEs, evidence over the years suggests that the disciplinary practices learned during both pre-service education and in-service professional development are rarely followed by in-service teachers (Cox & Barrow, 2000; DeWitt & Osborne, 2007; Griffin & Symington, 1997; Griffin, 2004, 2011). In an effort to counter this trend, colleges of education around the United States have created partnerships that situate college methods classes at ISHEs (Clark et al., 2016; Gregg & Leinhardt, 2002; Kaschak, 2014; Kingsley, 2016; Pershey & Arias,

2000; Trofanenko, 2014). While these studies provide the field important data for review, they provide no linkage between pre-service teacher education at ISHEs and in-service pedagogical practices.

The findings from this study are important because they provide valuable points of reflection that bridge the divide between the pre-service teacher education and in-service practices. Furthermore, this study identifies the ways in which ISHEs can support teachers' work in the K-12 classroom and identifies the experiences within the residency that increase the likelihood of participants incorporating historical disciplinary practices into their curriculum.

Field trips and the influence of the FRI. The findings of this study outline the detailed protocols participants observe as in-service teachers when they prepare for and lead field trips with their students. When evaluated against the best reported practices of how to lead field trips as defined by current research (DeWitt & Storksdieck, 2008; Kisiel, 2005; Rohlf, 2015), the findings of this study indicate that FRI graduates performing at a level which few in-service teachers ever reach. As one participant said, "Anyone can take students to a museum on a field trip, but you really need to know what you're doing if you are going to connect the things in the museum to the students in a meaningful way." The process of learning how to create meaningful field trips is neither simple nor easily accomplished. However, it does seem to be a skill developed by the on-site residents. On-site FRI participants left their residency convinced that detailed and exhaustive field trip preparation is worth their time because it will lead to student connections with in-class curriculum and enhance overall learning. In many cases, as reflected in the interviews, participants often spend upwards of two months planning, coordinating, and integrating field trips into their curriculum. From the findings of this study, it is possible to tease out the following pedagogy that on-site residents took away from their FRI: 1) visit the ISHE

personally and connect with ISHE experts; 2) introduce students to ISHE primary resources they will see prior to the visit; 3) team teach the material at the ISHE with ISHE educators; 4) encourage students to engage in critical thinking during their ISHE visit instead of passively moving through the ISHE space; and 5) link all learning back to classroom learning objectives.

In order for a teacher to invest the time and energy required for planning a field trip, the literature (Anderson, Kisiel, et al., 2006; DeWitt & Storksdieck, 2008) documents that learners must acquire two distinct attributes during their pre-service teacher education: 1) they must come to believe in the potentially advantageous outcome of the preparation, and 2) they must have experiences that provide them with the proper framework to plan and facilitate a meaningful field trip. However, research indicates that most teachers do not have practical, in-depth opportunities during their pre-service education to develop the skills necessary to properly plan and facilitate a field trip (Behrendt & Franklin, 2014; Tal & Morag, 2009). This realization that they lack the skills to design and lead meaningful experiences at ISHEs (Michie, 1998) disposes them to not engage in the process when field trips are scheduled by their school, which results in most field trips becoming one-off days outside the classroom with no link to curriculum goals (Anderson, Lawson, et al., 2006). The totality of this perception by teachers results in ISHEs rarely being leveraged by in-service teachers as possible components to supplement and improve instruction.

The findings of this study suggest that FRI participants develop the skills and the organizational dispositions required for a teacher to independently plan and facilitate a meaningful field trip. A significant point that can be extrapolated from the survey data and the transcripts is that participants from every ISHE location attributed the lesson learned during their FRI as the major contributing factor to their conception of what constitutes best practices

concerning student field trips. It does not seem to matter if an FRI participant worked as a tour guide at a Revolutionary War historic site or in the archives of a museum cataloging the diaries of sailors' reported encounters with sea monsters—every on-site FRI participant credited their current abilities to plan and lead field trips to their residency. This is particularly interesting because the topic of field trips is not part of the specified FRI goals or learning objectives as directed by Eastern State College of Education to the FRI mentors. What this may indicate is another layer of yet unidentified and unexamined influence of the community of practice on pre-service history teacher pedagogical development during the residency.

Encountering objects. Previous studies of educator experiences at ISHEs (Ashley, 2014; Cameron & Gatewood, 2003; Hein, 2000) document the influence that in-person encounters with documents and artifacts can have on learning. These encounters, because they are in-person and not detached, are able in some instances to create a near-numinous and even numinous experiences for the participant. According to Latham (2014), these connections between the observer and the object can create a new cognitive connections that strengthen learning. The result of repeated exposure to original documents/artifacts by the resident in an ISHE setting is a strengthened belief in the utility of primary sources as a fundamental part of in-service pedagogical practices.

Throughout the interviews for this study, participants continually noted the importance of the direct engagement with artifacts at the ISHE. Being in the presence of artifacts or at a historic site stirred within the participants near-numinous experiences that fostered within them a new appreciation for the objects/documents/artifacts with which they were working. This emotional, near reverent connection that the participants experienced with the artifacts transformed their FRI from a college project to a personal experience that shapes their teaching

today in singular ways. For many, being at the FRI and in the presence of "real" objects was the most influential part of their pre-service teaching experience and showed them how they could potentially teach in the future. For both of these individuals, as well as the other on-site residents, it was not the content that they draw upon from their FRI experience. Instead, the environment created by the near-numinous encounter created conditions for these pre-service teachers to understand, embrace, and internalize the practice of integrating authentic resources as often as possible into their teaching.

Recent research has documented the transformative experience that uniquely occurs when humans confront artifacts at ISHEs and the intellectual formation that occurs in that space (Cooke & Frieze, 2015; Soren, 2009; Wood & Latham, 2016). The encounter and multi-sensory engagement of authentic objects creates a "transformative experience in which we develop new attitudes, interests, appreciation, beliefs, or values in an informal, voluntary context focused on museum objects" (Lord, 2007, p. 19). Additional research indicates that physical experiences with objects at ISHEs cannot be virtually replicated to the same degree of authenticity (Cooke & Frieze, 2015). Engaging with an object at an ISHE can "stimulate critical and analytical thinking, arouse us, engage us, and play an important role in our emotional and social development. Emotions are what sustain and preserve the connection between ideas, values, and objects" (Varnalis-Weigle, 2016, p. 1).

This research highlights the importance the participants attribute to the FRI and how they now view the use of authentic resources in the classroom. They reflect not on the content knowledge gained at the ISHE, but rather experience of working with real-world historical artifacts or walking the same steps as historical figures of the past. These experiences created a desire for replicating authentic teaching practices that simulated and built upon the near-

numinous experience that they uniquely encountered at their ISHEs. This seems to explain why the remote site students did not provide reflections that echoed the importance of the residency as their on-site peers did. A comparison between on-site and remote data from this study illuminates the importance of encountering objects at ISHEs and how these encounters inform the pre-service teacher of best practices once they enter the classroom.

Implications

Teacher Education

Recent pre-service history teacher literature (Van Hover & Hicks, 2018) highlights the continuing debate of how to best prepare pre-service history teachers to teach authentically. The current study is important to the literature because it looks at an emerging area that has little research available for scholarly review: the pedagogical implications of a semester-long residency at an ISHE on pre-service history teachers.

The findings contained within this study indicate that a semester-long residency at an ISHE significantly facilitates the far transfer of historical disciplinary practices from pre-service education to in-service classrooms. It can be concluded from this study that learning information and skills within the ISHE is different than in a college classroom, even when the same skills are taught and the same learning objectives stressed. This study concludes that methods courses and student teaching programs, while comprehensive, do not alone provide a learning environment which results in the acquisition of authentic teaching. Instead, it was the on-site FRI component, linked to the methods course and student teaching, that provided a situated experience which instilled in the pre-service teacher a propensity to internalize core historical disciplinary practices and transfer those practices to their in-service teaching pedagogy.

As colleges of education move forward redesigning and improving their pre-service history teacher education programs, this study suggests they incorporate, whenever possible, experiences outside the traditional classroom and student teaching environments that include experiences at ISHEs.

Future Research

As stated earlier, research studies focusing on pre-service history teacher education are thin. Although the data from this study is encouraging, it would be prudent to reserve any definitive conclusions without further studies along the same lines with an increased number of participants from different geographical locations and institutions. Building on this study, future research should examine and investigate three specific areas of pre-service education.

ISHE learning space. The first area identified by this study for further research is the pre-service teacher's experiences at an ISHE. Although this study identified the influence of the ISHE experience on the pre-service teacher, it did not observe and interview participants while they were in this learning space. Future studies might add to the literature by observing pre-service teachers at their ISHE placements and collecting field notes and interviews during these residencies. This study would encourage focusing on the social interactions between the pre-service teacher and their ISHE's staff as they become members of the ISHE community of practice.

A second area of additional investigation at the ISHE is the pre-service teacher's interaction with middle and high school students conducting research for their National History Day projects. The results of this study identified this experience as important to the development of pre-service teacher pedagogical dispositions. The data from this study indicated that working with students in an environment outside a traditional classroom is conceptually different for the

pre-service teacher. The environment of the ISHE seems to have provided the conditions for pre-service teachers to reflect on their interactions with students in unique ways and draw different conclusions on best practices in teaching. Future studies should observe the pre-service teacher mentoring students as they conduct research at an ISHE in order to understand and gain an appreciation for how these experiences are different from student teaching experiences. This future research should then observe the same teacher working with the same students in a traditional classroom. Comparing the observations from these two locations may provide researchers insight on these learning environments.

The college classroom experience. While this study identified the importance of college education classes on in-service pedagogical practices, it did not examine, observe, or investigate pre-service teacher experiences in any education or history course. Since research studies indicate that novice teachers rely on their lived experiences to build and instruct classroom lessons (Calderhead & Robson, 1991; Goodlad, 2004; Hartzler-Miller, 2001; Kisiel, 2003), future research should observe college students in these environments to discern the lessons they are learning in these spaces. Additionally, since history courses are an important experience for pre-service history teachers, it would be critical for future research to include the study of what the pre-service teacher is internalizing during their college history courses. Observations of pre-service history teachers in these classes and interviews afterward should be of significant importance.

Shared practices. Although this study focused on the pedagogical practices of in-service history teachers, it was noted that several of the teachers are crossover educators who currently teach subjects in addition to history. The findings highlight that as these teachers instruct other subjects, they transfer pedagogical practices they learned at their ISHE to these

different disciplines. The reflections show how the participants link what they are doing in non-history classroom settings to their experiences at an ISHE. By doing this, the participants provide valuable data to the field on how a residency shaped pre-service teacher conceptions of expert practices and continues to influence current pedagogical dispositions. Future studies might consider an examination of only those former FRI pre-service teachers who are teaching in other fields in order to identify pedagogical practices that are transferred from an FRI to those disciplines.

Conclusion

This research study emerged out of years as a classroom teacher and working with both novice and in-service teachers on implementing authentic teaching strategies in a variety of professional development programs (e.g., workshops, seminars, summer institutes, and year-long mentorship programs to name a few). From these experiences it was clear that while teachers knew what they should be doing in the classroom, most of the time their pedagogical practices reflected a different behavior. This observation concluded that different professional development strategies had different impacts on teacher actions in the classroom: working with primary sources in an LPP framework within a CoP fostered authentic teaching while lecture-style professional development did little to influence teaching practices. From casual and professional conversations in these educative spaces, teachers attributed their teaching practices to their lived experiences. This realization prompted questions concerning how we educate pre-service teachers and if we should consider possible research strategies that may offer a way forward for the profession as it seeks to adopt and maintain an authentic teaching standard.

This research study began with the hope that the findings might add to the literature and further the discussion on pre-service history teacher education. In the implementation of the

research protocols, every phase was designed and implemented to foster neutrality of the researcher and let the data tell its own story through the facts gathered as well as the words and beliefs of the participants. While this study does have several limitations and is narrow in focus—one university in the eastern United States—the findings do offer areas that demand scholarly research in the future as the field searches for strategies to improve pre-service history teacher education.

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Appendix A

Participant Questionnaire

Demographics

1. Full Name: _____
2. Email Address: _____
3. What is your current age in years?
    a. 20-24
    b. 25-29
    c. 30-34
    d. 35-39
    e. 40 or older
4. What race/ethnicity best describes you (you may select more than one)?
    a. American Indian or Alaskan Native
    b. Asian
    c. Black or African American
    d. Hawaiian/Pacific Islander
    e. Hispanic or Latino
    f. Middle Eastern
    g. White/Caucasian
    h. Multi Ethnic / Other (Please Specify): _____
5. Which gender best describes you?
    a. Male
    b. Female

c. Nonbinary

d. Other (please specify): _____

6. What type of degree did you earn from Eastern State University? You may select both if you earned both degrees from Eastern State University.

    a. Bachelor

    b. Master

7. What year did you graduate from Eastern State University? You may select two different years if you earned more than one degree from Eastern State University.

    a. 2013

    b. 2014

    c. 2015

    d. 2016

    e. 2017

    f. 2018

8. What year did you participate in the Cultural Field Initiative (FR) internship?

    a. 2013

    b. 2014

    c. 2015

    d. 2016

    e. 2017

    f. 2018

9. Which location best describes your FR internship?

    a. Historic Site

b. Museum

c. Archive

d. Library

10. I would classify my current employment as the following:

a. I work at a public school.

b. I work at a private school.

c. I work in the field of education outside of a K-12 school (museum, historic site, library, archive, or in the private sector).

d. Other.

INFORMATIONAL NOTE: PLEASE READ

For the remainder of this survey, select only *one choice* for each question. If more than one choice is applicable, choose the answer that most significantly influences your pedagogical disposition.

The following defines the choices available to you for this section of the survey:
1. Eastern State University classroom-based teacher education courses: those courses you took at Eastern State University (likely in Ritter Hall) in a standard classroom.
2. FR Residency: this selection denotes the semester-long residency at a museum, historic site, library, or archives you participated in at Eastern State University during your one of your methods course (course number 3278 or 5466).
3. Student Teaching: this selection refers to your student teaching experience in a middle/high school during your pre-service teacher education at Eastern State University.
4. Other experiences: this answer reflects experiences, other than those outlined in selections 1-3 above, which influenced your pedagogical development concerning this question.

1. I am able to create strong historical guiding questions which I use to structure lesson plans because of my _____.
    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.
2. I am able to select engaging historical sources for my lesson plans because of my _____.
    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.

3. I am able to integrate a wide range of resources (e.g., documents, artifacts, timelines, maps, films) into my lessons plans which allows me to connect historical content to my students because of my _____.
    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.
4. I am able to support student historical reading skills because of my _____.
    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.
5. I am able to model how to use historical evidence when examining historical events because of my _____.
    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.
6. I am able to engage students in the conceptual analysis of historical documents/artifacts because of my _____.
    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.

d. other experiences.

7. I am able to facilitate discussions on historical topics because of my _____.

    a. Eastern State University classroom-based teacher education courses.

    b. FR residency.

    c. student teaching experiences.

    d. other experiences.

8. I am able to support student historical writing skills because of my _____.

    a. Eastern State University classroom-based teacher education courses.

    b. FR residency.

    c. student teaching experiences.

    d. other experiences.

9. I am able to assess student thinking about their understanding of historical topics because of my _____.

    a. Eastern State University classroom-based teacher education courses.

    b. FR residency.

    c. student teaching experiences.

    d. other experiences.

10. I frequently consider how I can use a wide range of resources (e.g., pictures, maps, graphs, film, novels, and first-person accounts) to supplement the course textbook because of my _____.

    a. Eastern State University classroom-based teacher education courses.

    b. FR residency.

    c. student teaching experiences.

d. other experiences.

11. I am able to teach students how to question historical perspectives depicted in textbooks because of my _____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.

12. I believe that most history textbooks do not portray a holistic view of historical persons/events because of my _____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.

13. My ability to research historical topics was most strengthened during my _____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.

14. My ability to teach students how to research historical topics was most strengthened during my _____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.

d. other experiences.

15. I believe designing student-centered lesson plans is important because of my _____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.

16. I am able to design lesson plans that present multiple perspectives from which to view historical events because of my _____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.

17. I believe I am more likely to integrate field trips into my curriculum because of my _____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.
    c. student teaching experiences.
    d. other experiences.

18. My ability to design inquiry-based lesson plans was most strengthened during my_____.

    a. Eastern State University classroom-based teacher education courses.
    b. FR residency.

c. student teaching experiences.

d. other experiences.

19. I focus more on student analysis of historical persons and/or events rather than rote memorization of facts because of my _____.

a. Eastern State University classroom-based teacher education courses.

b. FR residency.

c. student teaching experiences.

d. other experiences.

20. My ability to collaborate with educational professionals was most strengthened during my _____.

a. Eastern State University classroom-based teacher education courses.

b. FR residency.

c. student teaching experiences.

d. other experiences.

21. My ability to create a network of education professionals, whom I am able to draw upon for support as a classroom teacher, was most significantly developed during my _____.

a. Eastern State University classroom-based teacher education courses.

b. FR residency.

c. student teaching experiences.

d. other experiences.

22. The peer feedback I received during my _____ was significant in my development to create inquiry-based lessons.

a. Eastern State University classroom-based teacher education courses

b. FR residency

c. student teaching experiences

d. other experiences

23. The expert mentor feedback I received during my _____ was significant in my development to create inquiry-based lessons.

a. Eastern State University classroom-based teacher education courses

b. FR residency

c. student teaching experiences

d. other experiences

Appendix B

Semi-Structured Interview Questions

Interview #1 Pre-service Teaching

1) Social studies education at university and the FR Placement.
   a) Can you begin by telling me a little bit about your FR experience? What was your typical day like?
   b) Was your FR placement different in any way than the courses you took on campus? If so, how? Provide an example.
   c) Was there anything you learned during your residency that you did not learn in your pre-service coursework classes that you think is important?
   d) Did you have a chance to work with high school students during your residency? If so, can you provide an example? What did you learn from helping high school students do research at your FR placement?
   e) Were there any other Eastern State students at your FR? If so, did you work at the same time and collaborate with the other Eastern State grad(s)? Was working with fellow students at your FR different in any way than working with them in a traditional classroom? If so, in what way(s)?
   f) Describe your interaction with your FR mentor during your residency? How often, on a weekly basis, did you work with your mentor? Does that interaction influence how you teach today? If so, how?
   g) Have you used any contacts you made during your FR experience to help you in the classroom? Have you asked them for advice or for any resources? If so, please provide an example.
   h) What was your biggest take away from the residency?

Interview #2 Current teaching strategies and practices

1) Content/Resources
   a) In what ways, if any, did your FR residency influence your emphasis/de-emphasis on content in your instruction today?
   b) What influence, if any, does your FR experience have on how you select resources for your students today?
   c) Is conducting historical inquiry part of what your students learn how to do in your classroom? If so, in what ways, if any, did your FR experience influence how you organize and use content/resources when teaching historical inquiry skills?

2) Pedagogy.
   a) Looking at other history teachers in your school, do you think that you teach in any different ways than they do? Are your lesson plans similar or different than the peers you work with? If so, how?

b) When planning a unit, do you integrate outside resources into your lesson plans? Why or why not? If yes, which ones? How do you determine which ones to use?
c) Reflecting back on your FR experience, do you think it influences how you plan individual lessons today? If so, how?
d) Do you think your FR experience influences how you plan a unit? If so, how?
e) Do you consider yourself an educator who teaches with inquiry? If so, do you think your FR experience fostered your ability to teach with inquiry in ways you otherwise would not be able to? If so, how?
f) Do you think your FR experience allows you to find and use material that you would otherwise not be able to? If so, how?

3) Informal Learning Environment
   a) Have you taken your students on a field trip to an ISHE as part of a class? If so, can you provide an example? Why did you take your class to an ISHE rather than teaching in a classroom?
   b) Building off the previous question, do you think ISHEs offer learning opportunities which cannot be replicated in the classroom? In other words, does your teaching and student learning "in the same space" as the document or artifact influential to student learning?

Interview #3 Final comments

1) Final Comments.
   c) Do you think your FR experience was a worthwhile part of your pre-service teaching experience? If so, how and provide an example of why?
   d) Do you think your FR experiences will continue to influence how you teach? If so, how?
   e) Thank you for assisting me with my research, is there anything you would like to add about your FR experience that we have not already discussed?

Appendix C

Historical Disciplinary Instructional Practices

Practice Number and Title	Description	Coding Abbreviation
1. Use Historical Questions	The teacher plans lessons and units around historical questions. This practice focuses on the use of questions that have driven historical scholarship and debate (e.g., Was Reconstruction about emancipation or reconciliation? Could the United States have avoided involvement in World War I? How did the Chinese Communists succeed in establishing the PRC?) to organize instruction. Further, this practice involves presenting questions focused on historical analysis that elicit and support the development of students' historical thinking and understanding, raising questions in response to students' ideas, and creating opportunities for students to generate their own historical questions.	HDIP1
2. Select and Adapt Historical Sources	The teacher centers instruction on appropriate and engaging historical sources that include various types of texts and artifacts and illustrate multiple perspectives and interpretations. Sources should include both primary and secondary texts and may include images, political cartoons, documentaries, movies, graphs/charts, and maps. This practice also focuses on how the teacher prepares and/or adapts historical sources—such as excerpting documents or utilizing scaffolding questions—to help make them accessible to students.	HDIP2
3. Integrate a Wide Range of Historical Resources	The teacher uses historically appropriate and comprehensible explanations to describe and connect historical content, concepts, and accounts. This practice includes how the teacher uses various tools (e.g., timelines, maps, films) and strategies (e.g., lectures, storytelling, examples, analogies) to help students develop knowledge of different periods of history and specific historical contexts. When appropriate, the teacher connects historical content and concepts to the personal and cultural experiences of students and also helps students see the distinctions between their personal and cultural experiences and historical content under study. This practice includes making relevant connections between historical and contemporary events and phenomena.	HDIP3
4. Model and Support Historical Reading Skills	The teacher models and provides students opportunities for guided and independent practice of discipline-specific reading skills. This practice focuses on how the teacher illustrates and supports different historical reading skills, such as evaluating and comparing different source materials, considering the historical	HDIP4

	context in which different artifacts and documents were created, or corroborating evidence and historical accounts.	
5. Employ Historical Evidence	The teacher demonstrates the use of evidence in addressing historical questions and developing and evaluating historical claims. This practice focuses on how the teacher uses, and supports students in using, multiple forms of evidence—for example, both primary and secondary sources, visuals, maps, charts, and graphs—to develop and support historical claims and understand the connections between claims and evidence.	HDIP5
6. Engage Students in Historical Conceptual Analysis	The teacher plans lessons and units that focus instruction on first- and second-order historical concepts (e.g., nationalism, revolution, cause and effect, change and continuity, chronology, significance). The teacher illustrates how historical content explored in class connects to, or is representative of, historical concepts and creates opportunities for students to engage in conceptual analysis of historical events, sources, and artifacts.	HDIP6
7. Facilitate Discussions on Historical Topics	The teacher creates opportunities for students to engage in extended discussion with teachers and among peers about historical questions, controversies, sources, or artifacts. This practice focuses on how the teacher demonstrates—and has students practice—considering, clarifying, presenting, and supporting ideas and comments with evidence, and the extent to which discussion is grounded in historical questions, texts, or artifacts.	HDIP7
8. Model and Support Historical Writing	The teacher models and creates opportunities for students to develop and communicate historical analysis through writing. This practice focuses on the extent to which the teacher designs classroom activities that support students in using writing conventions to construct historical accounts, formulate historical claims and arguments, address counter-arguments, and use evidence.	HDIP8
9. Assess Student Thinking about History	The teacher crafts and implements formative and summative assessments that gather valid information about students' ability to engage in historical analysis and understanding of historical accounts and concepts. This practice focuses on the extent to which a teacher identifies and evaluates student thinking and provides feedback to help students improve their historical knowledge, reasoning, and communication.	HDIP9

(Bain & Mirel, 2006)

Appendix D

Descriptive Coding Scheme

Content/Resources

- (CR1) Provided me opportunities to learn new material by working with primary source documents and artifacts which are essential to understanding and teaching history. [InTASC: 5(c), (Bain & Mirel, 2006), (Trofanenko, 2006c)]

- (CR2) Provided me the opportunity to gain new content knowledge and realize how minorities are often left out of mainstream historical narratives. [InTASC: 2(o), (Sleeper-Smith, 2009), (Hopper-Greenwell, 1992)]

- (CR3) Being exposed to new evidence provided me the learning environment to change my mind on what I thought happened in the past. [InTASC: 5(m), (Gabella, 1994)]

- (CR4) Provided me the opportunity to realize that what I don't know about historical events and persons impacts how I create lesson plans as much as what I do know. [(Marcus, Stoddard, & Woodward, 2012b), (Segall, 1999)]

Pedagogy

- (P1) Provided me experiences that strengthened my ability to teach students how to conduct historical research. [(Powers, 2004), (Seligmann, 2014), (Pershey & Arias, 2000)]

- (P2) Provided me experiences which strengthened my ability to find, use, and teach with primary sources/artifacts in my classroom [InTASC: 5(c), (Wunder, 2002)]

- (P3) Provided me experiences which strengthened my ability to design student-centered lesson plans. [(Reidell & Twiss-Houting, 2015), (Sundermann, 2013)]

- (P4) Provided me with the experiences and tools I need to design lesson plans that present multiple perspectives from which to view historical events. [(Grenier, 2010), (Brugar, 2012)]

- (P5) Provided me the chance to learn new strategies on how to create learning experiences that draw upon students' personal lives and backgrounds. [(Barnett & Ceci, 2002; Baron, 2014a)]

- (P6) Provided me opportunities to model disciplinary historical practices which allowed me to develop skills to support far transfer of history teaching pedagogical dispositions. [(Meichtry & Smith, 2007)]

Peer/Expert Collaboration

- (PEC1) Working with peers and experts provided me a unique opportunity to improve my research skills. [InTASC: 10(r), (Schrum et al., 2016)]

- (PEC2) Working with peers and experts increased my ability frame historical questions and create inquiry-based lesson plans . [(Watters & Ginns, 2000)].

- (PEC3) Working in an informal environment with peers and experts improved my collaboration skills. [InTASC 10k, InTASC 10(i), (Aquino et al., 2010)]

- (PEC4) Gave me the opportunity to build a network of peers and professionals who I am able to draw upon for support as a teacher. [InTASC: 10(c), (M. K. Stein & Smith, 1999)]

- (PEC5) Because of the informal, low-risk environment of the ISHE, I will able to process feedback from peers and experts in ways that improved my teaching skills. [InTASC 10(r), InTASC 10(t), (Rosenzweig & Thelen, 1998)]

Informal Learning Environment

- (ILE1) Allowed me to realize how important ISHEs, and the documents/artifacts they contain, are in connecting students to their historical past. [(Grenier, 2010), (Marcus, Stoddard, & Woodward, 2012a)]

- (ILE2) Helped me realize how influential it can be to view artifacts and documents in a space outside the classroom. [(Leinhardt & Gregg, 2000), (L. Melber & Cox-Petersen, 2005)]

- (ILE3) Showed me that everything I really need to teach history is not always available on the internet or in the course textbook. [(Gregg & Leinhardt, 2002), (Wright-Maley et al., 2013)]

- (ILE4) Improved my understanding of history by providing immediate access to the places, documents, and artifacts critical to understanding historical events. [InTASC: 4(a), (Darling-Hammond, 2016)]

- (ILE5) The real-world environment of the ISHE enabled me to internalize the importance of authentic teaching pedagogy. [(Feiman-Nemser, 2001a), (Ashley, 2014)]

- (ILE6) Provided me a numinous experience that uniquely allowed me to appreciate primary source documents, artifacts, places, and other material in ways that I do not think I would have if I had not been in the same shared space. [(C. M. Cameron & Gatewood, 2003), (Latham, 2014), (Latham, 2014)]