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The Impact of National History Day Curriculum on Mathematics and Reading Achievement of Middle School Students

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Abstract

The National History Day program has been utilized in a Southeastern Minnesota school on and off since Minnesota began participating in the program in the 1980s. This secondary data analysis sought to determine the impact that embedding National History Day programming would have on the achievement of students on two standardized tests, the Minnesota Comprehensive Assessment III and the Northwest Evaluation Association Measures of Academic Progress. Existing research identified that National History Day curriculum was a disciplinary literacy strategy that would transfer skills to other subjects including reading and math when compared to scores from students that did not participate. The findings show that students in Grade six significantly outperformed their peers on one math and reading assessment. Students in Grade seven demonstrated the same performance, and actually were outperformed by their peers on a couple of measures. National History Day has many free resources for teachers to implement as a form of disciplinary literacy into social studies, and due to the fact that it has little to no cost to districts, even the mixed results of this study provided additional support for implementation. This research contributed to the field and should help support administrators, curriculum support specialists, and teachers in selection and evaluation of disciplinary literacy strategies.

Dedication

This paper is dedicated to my wife, Erin, and my son, Landon, who have given me unconditional love and support throughout the process of obtaining this degree. I would not have been able to complete this program without sacrifices on their part, and I will be forever grateful for them. I hope that this can serve as an example to Landon of the importance of education and inspire him to become a lifelong learner.

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List of Abbreviations

CCSS	Common Core State Standards
IBL	Inquiry-based learning
IRB	Institutional Review Board
MCA–III	Minnesota Comprehensive Assessment 3rd Version
MTSS	Multi-tiered Systems of Support
NHD	National History Day
NWEA MAP	Northwest Evaluation Association Measures of Academic Progress in math and reading
PBL	Problem-based learning
PjBL	Project-based learning
RtI	Response to Intervention
SPSS	Statistical Package in the Social Sciences

Chapter I: Introduction

Introduction to the Problem

Many students are entering middle schools and junior high schools with limited social studies content knowledge because their social studies instruction has been replaced for intervention or it has been combined with literacy. It is no longer the norm for social studies to be taught as a stand-alone class in elementary school. Many schools are implementing tiered systems of intervention in the form of response to intervention or multi-tiered systems of support in efforts to increase student scores in reading and math. Schools' master schedules need to be changed to accommodate for intervention time (Higgins Averill, Baker, & Renaldi, 2014). Students placed into intervention classes in addition to core classes in reading and math are doing so within a fixed school day meaning that other subjects, including but not limited to core subjects, lose time, are combined, or are not taught at all. In response to the increase in demands, schools are reducing the amount of time spent in social studies classes or combining social studies and language arts classes into one block at the elementary level and some middle school grades (Leming, Ellington, & Schug, 2006). These are not the only constraints that are placed on the time demands for social studies teachers, who already have upwards of 40 standards or more to teach in the middle-level grades; there are 43 standards required at the sixth grade level according to Minnesota statute (Minnesota Department of Education, 2013; Required Academic Standards, 2016).

The state of Minnesota adopted Common Core Language Arts standards, which added a focus on literacy in History and Social Studies, Science, and Technical Subjects (Minnesota Department of Education, 2010). This added 20 standards to the social studies curriculum that were intended to be divided up between Grades six through eight, placing additional demands on

the subject. Nation-wide advocacy groups have been actively lobbying against common core and the impact it is having on diminishing high school content knowledge (Savit, 2009). Social studies teachers had to adapt and look for support to determine what is the most impactful way to teach content, integrate literacy standards, and support students with strategies that transfer skills to standardized testing. Inquiry-based learning (IBL) research, with project-based learning (PjBL) being a subset, provides evidence as a framework to develop curriculum to meet these demands in authentic ways (Kim & Olwell, 2005; Kuhn & O'Hara, 2014; Sargent Wood, 2012b).

Teachers across the nation have adopted practices associated with PjBL into their curriculum through school-based initiatives such as science fair, science technology engineering and math (STEM), and National History Day (NHD). More research is necessary to determine the educational impact of the program related to the transference of skills to standardized assessments in reading and math (MNHS, 2016). Rockman and Sloan (2010) identified that skills learned through participation in NHD transferred to other content areas, based upon the assessments utilized in their study, but a teacher would not necessarily expect students to grow in math and science areas related to participation in NHD. Additional research is necessary to determine if NHD has an impact on Minnesota standardized assessments and nationally-normed measures of student achievement.

Background of the Study

National History Day has been taking place in schools across the United States for more than 40 years (NHD, 2017). The program requires students to research a yearly thematic topic and create projects related to one of five categories: research papers, websites, exhibits, performances, or documentaries. Students can choose to work individually or as a member of a

group of up to six students. According to the national organization, over 500,000 students from across the world participate in local competitions every year with a fraction of students advancing to regionals, state, and nationals every school year (NHD, 2017). A program with such a storied history and increasing participation numbers should be well supported by research; however, there are a limited number of quantitative studies demonstrating the effectiveness of the program and methodology, and only one quantitative study identified by either the state or the national organizations associated with NHD. Additional research is necessary to determine and assess the impact NHD has on not only content-knowledge but on the transference of skills to other subjects.

Rockman and Sloan's (2010) propensity-matching evaluation of the program determined that NHD was effective at increasing student achievement scores across a variety of content areas. The executive research summary posted on the NHD website stated the findings in the following way, "NHD students outperform their non-NHD peers on state standardized tests in multiple subjects, including reading, science, and math, as well as social studies" (NHD, 2011, p. 5). Previous research reports do not include reviews of literature (Adams & Pasch, 1987; Rockman & Sloan, 2010), but NHD calls their methodology research-based (Day, 2017). Through the framework of IBL, further research is needed to determine if this inquiry-based approach does indeed have transference effects to other subjects due to the increase in time compared to traditional PjBL or IBL completed inside of one unit.

Statement of Problem

Teachers are looking for the most effective way to implement the required state and national standards into their curriculum. With the amount of time spent studying social studies in elementary schools declining (Leming et al., 2006) and questions regarding teacher

(Anderson, 2014) and student (Chapin, 2006) beliefs in the importance of social studies education, it is necessary to find a way to balance the demands of the standards with authentic experiences that demonstrate later uses for social studies methods. Locating a strategy that engages students, allows teachers to address content-standards, and transfers skills to additional core contents would be worthy of large-scale implementations across states and the nation.

One method of authentic engagement related to social studies instruction that demonstrates promise is inquiry-based learning (IBL). One form of IBL, PjBL has detailed an impact in the social studies classroom even with students of special populations (Hernández-Ramos & La Paz, 2009; Okolo, Englert, Bouck, Heutsche, & Wang, 2011). The research related to NHD frequently associates IBL or PjBL with the program (Kim & Olwell, 2005; Kuhn & O'Hara, 2014; Sargent Wood, 2012b). The difference between traditional PjBL and NHD is the time and intensity associated with the activity (Rockman & Sloan, 2010; Taylor, Brunvand, & Rahman, 2015). The only study to address the transference of skills learned in the NHD program to this intense requirement was the Rockman and Sloan (2010) study that found positive impacts when the NHD research process was compared to a control group that conducted an alternate form of research.

There is room to grow the existing body of research related to the impact of NHD programming. Rockman and Sloan (2010) identified differences across measures used in Texas, South Carolina, New Jersey, and Colorado for their study groups. There is no research available on the impact NHD has on scores on the Minnesota Comprehensive Assessment – III (MCA-III) in reading and math or on a nationally-normed assessment such as Northwest Evaluation Association Measures of Academic Progress (NWEA MAP) in math and reading testing.

After reviewing the available research, one Midwestern middle school decided to implement the suggestion of integrating 50 days of instruction related to NHD into the curriculum (MNHS, 2016). It is necessary to identify if this implementation was impactful and should continue as is, grow, or to consider another method of content-area literacy instruction.

Purpose of the Study

The purpose of this secondary data analysis study was to determine the impact, of embedding NHD project into the curriculum, on reading and math state standardized assessments of reading and math and nationally-normed tests for general education students in Grades six and seven attending a Midwestern middle school during the 2016-2017 school year.

Significance of the Study

It is necessary to determine the impact NHD has as a content-area literacy technique in the social studies curriculum, with the reduction of social studies time (Leming et al., 2006) and the integration of literacy skills into social studies (Shanahan & Shanahan, 2008). Teachers and administrators in the research district can use the information from this study to determine next steps in curriculum revision. The discipline specificness of the NHD project fits with how content-area literacy is being redefined based upon the failure of generalized systems of implementation (Shanahan & Shanahan, 2008). A survey of NHD Minnesota educators revealed that 88% of schools and or districts that participate in NHD have all their students enter the competition (MNHS, 2016a). This decision to participate in NHD programming does not have a significant cost to districts because there is just a small fee for regionals and state competitions that can be passed along to students, but the program impact is a significant issue for an already stressed subject.

Districts with similar populations and demographics may be able to generalize the findings of this research to their schools. The results of this study provided additional support for schools in reviewing their current practices related to social studies curriculum development, instruction, and integration of content-area literacy. According to survey results conducted by the Minnesota Historical Society, 72% of students found NHD project work more interesting than typical coursework and 86% of the same students said that they put more time and energy in NHD projects than into other social studies assignments (MNHS, 2016c). These results align with the 87% of educators who felt student learning from NHD was greater than that of typical social studies assignments (MNHS, 2016a). This perception data builds the case for implementation, but additional research that moves beyond perception to assessment is necessary to support Rockman & Sloan (2010).

Schools may want to consider a controlled adoption of NHD curriculum if it is found to have an impact. Teachers may want to reconsider their integration of NHD into the curriculum and may want to reduce the number of days or set NHD up as an after school activity that is optional if it does not have an impact. Ninety-six percent of teachers believe that students are developing skills necessary for college (MNHS, 2016c) and 71% of NHD Minnesota regional participants stated they are more interested in attending college after their regional NHD experiences (MNHS, 2016a). It is no wonder why 73% of parents believe that NHD should continue in Grades 6 - 12 social studies curriculums across the state (MNHS, 2016d). The current study sought to provide information to confirm these perceptions through the lens of standardized testing or provide evidence of the additional need to determine the impact relative to curricular time and energy invested in the project.

Rationale

National History Day curriculum is conducted across the nation as a way to authentically engage students in research in history and social studies classes. Limited research exists on the impact NHD has on standardized testing and the transference of skills taught in NHD to other curricular areas.

Nature of the Study

This study was a secondary data analysis because the researcher could not add new assessment information to the data set, but could describe the conditions of the original testing and the implementation of the NHD program. The group being studied self-selected to be in the treatment group that implemented NHD curriculum or the control group that received traditional standards-based classroom instruction. The researcher statistically controlled for the selection bias through the use of prior year test scores on the state standardized assessment or fall test scores on the nationally-normed assessment depending on the timing and frequency of the testing. The independent variable is the utilization of NHD resources for students in the curriculum compared to control groups receiving traditional Grade six and seven social studies curriculum following state standards. The dependent variable is assessment scores on state-required assessments in reading and math (MCA-IIIs) and nationally-normed assessments in reading and math (NWEA MAP).

Definition of Terms

Inquiry-based learning (IBL). This instructional framework is one in which the teacher or student identify a question or a problem to answer regarding the topic or unit of study. It requires students to research to reach a conclusion related the theme.

General education student. The term general education student referred to students enrolled in social studies class, language arts, and math class. Students that are diagnosed as having an emotional behavior disorder (EBD) or specific learning disability (SLD) or are labeled, as an English Learner (EL) were not included in this study if they receive replaced instruction in reading or math.

Minnesota Comprehensive Assessment–III (MCA–III). This study analyzed student test scores from the state of Minnesota standardized assessment in reading and math. The current version is the third iteration of the test, based upon the most recent revisions to the Minnesota Language Arts and Mathematics standards.

National History Day (NHD). For this study, NHD was an inquiry-based curricular project integrated into the traditional standards-based curriculum, which meant cutting content material from the curriculum to accommodate for the 50 days of time provided for students to research and develop a project of their choice.

Northwest Education Associates Measures of Academic Progress (NWEA MAP). NWEA MAP is an online assessment of reading and math skills that are adaptive based on student answers to grade level questions. It is an untimed test taken over two or more days in the research district. The assessment may be taken up to four times per year, but for this study, it occurred in the fall and spring of the research year.

Problem-based learning (PBL). Problem-based learning is one form of IBL. The focus of this methodology is solving a problem presented to the student. Materials are provided for the students to utilize, but no method is prescribed.

Project-based learning (PjBL). Project-based learning (PjBL) is one form of IBL but is different than problem-based learning, both of which are referred to in research articles as PBL.

Using the work of Oguz-Unver and Sertac (2014) this study used the abbreviation of PjBL to reference project-based learning which involved student or teacher selection of an authentic project that utilized content methodologies to answer a question and create a project to demonstrate their knowledge, such as NHD.

Social studies. For purposes of the Minnesota standards in social studies, the course work included information divided into the disciplines of citizenship and government, economics, geography, and history.

Transference. This term was used to discuss the development of critical thinking and analytical skills that while working in one area, social studies for this study can be measured regarding growth in another core academic area such as reading, math, or science.

Assumptions and Limitations

This literature review focused on the impact that the inclusion of NHD curriculum into social studies had on student test scores. This review focused on literature related to NHD, but did not look at all programs that stress research skills in social studies or other content areas. Most sources available related to NHD are qualitative studies that provide testimonials and an analysis of award-winning projects (Adams & Pasch, 1987; Fehn & Schul, 2011; Scheuerell, 2007; Taylor et al., 2015). There is a need for additional quantitative research, analysis of the impact on test scores and learning for all students participating even those who do not make it out of regionals, and studies reviewing the research base for NHD as a form of IBL.

Research Questions and Hypotheses

- Research question one. What difference exists on state standardized assessments (reading and math MCA-III) between general education students in Grades six and seven

receiving curriculum with NHD embedded within it compared to peers receiving traditional standards-based social studies curriculum?

- Hypothesis 1a0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading MCA-III.
- Hypothesis 1b0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading MCA-III change scores.
- Hypothesis 1c0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math MCA-III.
- Hypothesis 1d0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math MCA-III change scores.
- Hypothesis 1e0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading MCA-III.
- Hypothesis 1f0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading MCA-III change scores.
- Hypothesis 1g0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math MCA-III.

- Hypothesis 1h0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math MCA-III change scores.

- Research question two. What difference exists on a nationally-normed assessment (reading and math NWEA MAP) between general education students in Grades six and seven receiving curriculum with NHD embedded within it compared to peers receiving traditional standards-based social studies curriculum?
  - Hypothesis 2a0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading NWEA MAP assessment.
  - Hypothesis 2b0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading NWEA MAP change scores.
  - Hypothesis 2c0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math NWEA MAP assessment.
  - Hypothesis 2d0. General education students in grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math NWEA Map change scores.

- Hypothesis 2e0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading NWEA MAP assessment.
- Hypothesis 2f0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading NWEA MAP change scores.
- Hypothesis 2g0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math NWEA MAP assessment.
- Hypothesis 2h0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math NWEA Map change scores.

Organization of the Remainder of the Study

The information remainder of the study is organized into chapters reviewing available literature, study methodology, results, and discussion. The literature review focused on the topics of a historical overview of social studies curriculum, IBL with a focus on PjBL, the research base for NHD, and gaps in the research. The study methodology detailed the use of secondary data analysis for developing this quantitative study including procedures for data analysis to account for bias. The results sections presented data in tables based upon available information. The discussion related the data analyzed to the purpose of the study as it relates to

answering the research questions and implications the study has to the district where the research occurred and beyond.

Chapter II: Review of Literature

This literature review focused on the impact the inclusion of National History Day (NHD) into social studies curriculum as a form of inquiry-based learning (IBL) has on student test scores. Since IBL has its foundation as a science-based methodology, science inquiry was touched on and then transitioned into the curricular integration in social studies. The review looked at some but not at all programs that stress research skills in social studies or other content areas. Most sources available related to NHD are qualitative studies that provide testimonials and an analysis of award-winning projects (Adams & Pasch, 1987; Fehn & Schul, 2011; Scheuerell, 2007; Taylor et al., 2015). There is a need for additional quantitative research, analysis of the impact on test scores and learning for all students participating even those who do not make it out of regionals, and studies reviewing the research base for NHD. For this review, only articles that looked at the transference of skills between Common Core State Standards (CCSS) and social studies were synthesized. Math does not have specific standards for social studies to integrate into the curriculum and the standards have not been adopted for Minnesota the review did not focus on CCSS math integration. Minnesota does not have middle-level state assessments for social studies or writing; so the focus of the research is on methods that can transfer skills from the content of social studies to other core content areas.

Historical Perspective on Social Studies Standards and Curriculum

Middle school movement and social studies curriculum. Throughout the last few decades, history's place in education has come under attack on multiple occasions. In the 1970s, social studies curriculum was under attack as there was a movement to focus on middle school models, which focused on the role of the teacher in curriculum and the weaknesses of the curriculum (Schaefer, Malu, & Yoon, 2016). Changes designed to strengthen the curriculum and

increase rigor were determined to be necessary to fill in the gaps. At this same time, colleges and universities were seeing a shift to a greater concern about the now, resulting in curriculums that were teaching through a reverse chronology focus (Misco & Patterson, 2009). The reverse chronology process demonstrates a loss of care or concern about learning from the past (Adams & Pasch, 1987), which resulted in the formation of NHD. Steps would be necessary to ensure that the role of social studies education in a democratic society remained, and this provided a stepping point for Dr. David Van Tassel to NHD (Gorn, 2001).

As time has moved forward from the 1970s and 1980s to today, a number of additional changes have occurred. Pedagogical beliefs changed from isolated instruction focusing on the role of teachers to working together to achieve goals through cross-curricular approaches focused on similar topics and/or themes (Schaefer et al., 2016). This movement lessened the additional burden on social studies teachers to be experts of other contents such as language arts or math. Sung and Yang (2013) identified in their study of Taiwanese teachers that history expertise had a positive impact on social studies tests of knowledge, which point to a need for content experts in the classroom. Time has continued to evolve what practice and curriculum look like within a social studies classroom.

Most recently, the focus has been upon working on the integration of the required Common Core State Standards (CCSS) initiative. These new standards require instruction in more than one content area and are supposed to develop student skills and help them be ready for college or a career (Evans & Clark, 2015; Lai, 2012). The goal was to integrate standards into the curriculum within units through additional development (Evans & Clark, 2015). But, many social studies teachers have felt that common core standards add additional demands on curriculum because they are independent of the content already integrated into the curriculum.

Teachers need to be guided through the process of developing the skills necessary to teach these new elements of the curriculum with maintaining a focus on the content. Analysis of primary sources can help support student development of advanced skills required under CCSS, because as Fragnoli (2013) noted, students can form opinions, establish perspective, and recognize multiple interpretations, among other skills. Other methods that integrate primary sources into a broader methodology are also possible solutions to help support the goals of CCSS. Project-based learning can unite CCSS into social studies curriculum, because the projects become the curriculum (Thomas, 2000). Not all teachers are prepared to implement literacy standards into content-areas. Sargent Wood (2012a) acknowledged that changes need to begin with training preservice teachers through "problem–based learning, history labs, the inquiry process, and reflective practice" (pp. 563-564). The lack of training to implement historical inquiry may be one of the reasons that Anderson (2014) found that the 50 teachers he interviewed were not opposed to teaching a more prescriptive curriculum, but made a conscious choice not to spend much time teaching social studies.

Content-area literacy. With the inclusion of CCSS into curriculum, the pendulum is swinging back away from cross-curricular implementation. There is a renewed effort to have all teachers teach literacy skills. A problem for middle school teachers is that there is a lack of research to help guide a teacher to effective strategies (Reidel & Draper, 2011). Existing research demonstrates that general strategies offered in the past have failed to be implemented by many teachers because the strategies may not support the teaching of content (Shanahan & Shanahan, 2008). As a building leader, it is important to let teachers know general reading is not the goal unless it is their choice, but that it is necessary for them to use strategies that fit their discipline. To gain momentum and adoption by content teachers, the name of the concept and

the strategies proposed may need to change. Most content-teachers feel the pressure and need to teach their content standards, but many would hesitate when they are asked to be responsible for improving reading comprehension (Vaughn et al., 2013).

The idea of teaching general strategies to all content-areas may diminish teacher implementation when the overall goal was to increase the importance of content knowledge (Rockman & Sloan, 2010). One way of keeping the integrity of the content information and integrating CCSS and literacy would be to offer teachers discipline-specific reading strategies. Monte-Sano, De La Paz, and Felton (2014) identified the importance of aligning content and tools that help foster content acquisition. The three-year study of teachers demonstrated that teachers could learn how to utilize tools that can help students access knowledge more easily (Monte-Sano et al., 2014).

Successful disciplinary literacy implementation would require professional development and knowledgeable coaches to support teachers with discipline-specific strategies. Fordham, Wellman, and Sandmann (2002) identified strategies that have research support to help with the acquisition of many different social studies topics. Teacher preparation programs, graduate work, and professional development need to start integrating more of these disciplinary strategies into their content, because teachers that are left to find these strategies on their own do not typically increase student scores (Fordham et al., 2002). A teacher can feel more prepared to support students in attacking content-area texts that are written at or above grade level, which is a requirement of the CCSS (Vaughn et al., 2013). Vaughn et al. (2013) found effect sizes ranging from 0.17 to 0.29 with content acquisition being the lowest and content reading comprehension being the highest. Hattie (2017) noted that an integrated curricular approach to teaching has an approximate effect of 0.47 in his meta-analysis, and Guthrie and Klauda (2014)

found an effect size of 0.26 for their month-long study of adolescents compared with effect sizes of 0.49 to 1.20 in their reviews of research of the components of the concept-oriented reading instruction strategy with elementary students lasting longer time frames. These effect size reviews provide additional rationale for literacy integrated into social studies instruction.

Authentic engagement in social studies. Many of the strategies that are discipline-specific are similar to the actual skills that professionals in the field utilize, exposing students to possible careers within their grade K-12 coursework. One of the original program goals was to increase communication between teaching professionals in middle school through college levels through the project and evaluation by content professionals (Twining, 1976). These interactions could spur interest in history and increase the number of students taking courses at the middle school, high school, and college levels. Through engagement in these processes, students would learn real-world historian skills.

Historical skills are taught individually (Fordham et al., 2002) or the skills are integrated within a process approach (Adams & Pasch, 1987; Duhaylongsod, Snow, Selman, & Donovan, 2015; Mandell, 2008). The NHD process helps students develop a historical research process broken into the following component categories: background, build-up, thesis statement, main-event, short-term impact, and historical significance (long-term impact) (MNHS, 2016b). According to Gorn (2001), NHD "requires young people to conduct extensive primary and secondary research, interpret information and draw conclusions about the meaning of the past" (p. 230). The process of interacting with sources is important within the social studies classroom. Colby (2008) identified that the process of students interacting with secondary sources could increase comprehension, develop a broad knowledge base, and support inquiry. Oshima and Mitchell (1999) acknowledged that history day project criteria are the same criteria

used to evaluate professional historical research, which adds another dimension to the authenticity of the project. When placed together within a single framework, the analysis of primary and secondary sources should allow students to engage in social studies in an authentic way that increases knowledge and transfers skills to other contents such as language arts.

Even though NHD has been able to expand and reach more students over time with their approach to authentic engagement in social studies, not everyone agrees with the method of integration. "Rather than throw students directly into the sophisticated, and often laborious, tasks of a professional historian, we motivate them to do a 'lighter' version of this work by offering discussions and debates about controversial topics" (Duhaylongsod et al., 2015). Foster and Padgett (1999) also argued that not all students need to be historians, but the process of historical investigations has merit.

These views go along with more current research associated with the middle school movement from 2010-2015 because disciplinary literacy and motivation were topics of emphasis (Schaefer et al., 2016), but the literature does not demonstrate that historical research is the most motivating to students. Mandell (2008) advocated for an approach that asked teachers to "think like a historian" using the concepts of the field broken up into the following categories: change and community, turning points, through their eyes, using the past, and cause and effect. Regardless of the name of the disciplinary framework, strategy or type of project, they all seem to fit in the category of IBL.

The Changing Role of the Social Studies Teacher

Constructivism. Lecture and recitation practices dominated the educational landscape throughout history, especially in college classrooms preparing teacher education candidates (Hernandez-Ramos & De La Paz, 2009). Changes in preparation needed to occur in grade K-16

settings to accomplish more authentic learning. Constructivist approaches developed putting the learner at the center of the classroom, not the teacher (Meece, 2003). Savery and Duffy (1995) identified three primary ideas concerning the constructivist philosophy including interaction with the learning environment, conflict leads to learning, and knowledge grows based upon the evaluation of one's understandings. These ideas support the need for a different method of instructional delivery. Constructivist learning principles include larger tasks or problems, ownership of learning, authentic tasks, authentic learning environments, ownership of procedures, challenge, opportunities to test, and reflection (Savery & Duffy, 1995). Scheurman and Newmann (1998) added to this idea of principles by stating that constructivist learning in social studies should construct knowledge, teach inquiry in a disciplined manner, and have a value beyond the classroom. Lecture and recitation alone do not support these instructional principles, so additional methods needed to be developed to encourage this approach to learning.

Enquiry-based learning. Most literature suggests the development of IBL, more appropriately termed enquiry-based learning, was derived from the field of science education. In a 1962 Harvard lecture, Joseph Schwab laid the foundation for what is known today as inquiry-based learning (Schwab, 1964). Test-based sequence was not the unit of study, but it demanded that the teacher design a problem, determine data needed to solve the problem with access to students, interpret the available data, and then derive conclusions (Schwab, 1964). This process took science education away from an emphasis on teaching in design to an emphasis on learning (Gill, 2014). Which also created another discussion among teachers implementing curriculum standards, because it brought up the issue of depth verse breadth, because the process takes time to implement, so a teacher would not cover as much material (Edelson, Gordin, & Pea, 1999). An IBL methodology is a change away from lecture-based instruction and is procedural not just

application. Abdi (2014) noted in a small scale study of Grade five students being taught using inquiry in science, there is a significant difference in scores between traditional instruction and inquiry, even though it may not have a large effect.

Students were invited to enquire about problems raised based upon doubt of scientific theory across one of three levels: (1) questions are provided along with materials needed to answer them; (2) questions are provided with the method and answer to be determined by the students; (3) problems are open for students to create their own questions and answers (Schwab, 1964). This process takes conscious effort to implement effectively. Students need training because of the new skills and habits that have to be developed to be a successful learner (Schwab, 1964). Researchers are still identifying the implementation process as having an effect on successful implementation (Bass & Rosenzweig, 1999; Edelson et al., 1999; Gill, 2014). Edelson et al. (1999) identified five challenges that need to be overcome to ensure a successful implementation: motivation, accessibility, background knowledge, management of activities, and constraints of the learning context. Many of these factors should be able to be mitigated as planning is taking place and scaffolding is implemented.

The process can be transformative for a learner and the teacher. The teacher can learn new content along with students as well as students learning from the teacher (Kuhn & O'Hara, 2014). Schwab (1964) also advised teachers that there are side effects to this process, which include an increase in student engagement, collaboration among student groups, and development of more personal relationships between students and teachers. Most teachers would gladly accept these side effects of IBL, but not all research supports these as the only side effects.

Concerns about inquiry-based learning. Furtak, Seidel, Iverson, and Briggs (2012) conducted a meta-analysis of science-related studies between 1996 and 2006 which did find some studies that produced negative effects, but the overall effect of IBL in those studies was an effect size of 0.5, which has a moderate impact. Scheurman and Newmann (1998) noted that even though students may enjoy a student-centered classroom more, there is no guarantee that more learning is taking place than in a teacher-centered classroom. Kirschner, Sweller, and Clark (2006) reviewed literature and identified studies that documented the failure of constructivist strategies, and they also noted that teachers are using ineffective strategies even though knowledge of their ineffectiveness exists. School size may play a factor in the implementation of new learning models (Ravitz, 2010). Schools may need to begin implementation with a smaller number of teachers or subjects, and not just jump into school-wide implementations. Inquiry has moved into other content areas with these methodological inconsistencies within science studies.

Expansion of enquiry to inquiry in other contents. As enquiry has expanded across contents, many of these effects are still researched in an attempt to raise achievement. While Schwab (1964) may have been joking about the side effects, additional research has demonstrated that the process can be stressful for students engaging in the methodology even at the college level (Litmanen, Lonka, Inkinen, Lipponen, & Hakkarainen, 2012), which can lead to students that give up (Gill, 2014). This may be related to the challenges of implementing into the curriculum or the fact that students were not trained to implement this new, old-style of learning. Companies have capitalized on the methodology and are creating pre-packaged units that could cost a district approximately $100 per year (Dionisio, 2017), which provides schools with the challenge of finding an economical way to implement IBL.

Inquiry has made its way from science to almost all other content areas. One natural form of inquiry is historical inquiry. McCormick (2008) studied the impact of inquiry on Grade five students in social studies and determined that student motivation increased. It is not surprising that other content areas such as family and consumer sciences, health, and industrial technology, are using inquiry-based approaches because of this increase in motivation. Many of the science, technology, engineering, and math (STEM) contents are utilizing the methodology.

Changing the model of inquiry. Schwab's (1964) original conceptualization of the enquiry process has been changed in a number of ways since the lecture presentation. Banchi and Bell (2008) have moved beyond a three-level system of inquiry into a four-level system consisting of students confirming existing knowledge, using procedures to answer questions, guiding through the process, or investigating on their own. The three or four level system does not seem to be of the utmost importance, because many different versions of IBL exist today. According to the Stripling model of inquiry, there are six stages to the inquiry process: connecting, wondering, investigating, constructing, and expressing (Kalmon, O'Neil-Jones, Stout, & Sargent Wood, 2012; Stripling, 2011; Sargent Wood, 2012a; Woyshner, 2010). Kalmon et al. (2012) further changed the Stripling model to accommodate a model they termed as dual inquiry in which the teacher grows through the process both as a learner and as a teacher in association with implementing NHD.

One of the most dramatic changes has been the adoption of the methodology across other content areas. There have been some misunderstandings related to units of study and inquiry-projects with the expansion of inquiry to social studies and other contents, as well as greater development of science-based inquiry. One of the misunderstandings that result from implementation of IBL is the idea that projects are separate from the curriculum, but in reality,

projects are supposed to be the curriculum (Thomas, 2000). Students and parents may get this sense from projects like the science fair or NHD because it is not the norm in education or possibly because teachers felt uneasy about the process and how it came across to students (Gill, 2014). Foster and Padgett (1999) identified the following reasons for using historical inquiry:

> The primary purpose of introducing historical inquiry into the classroom is not to tum children into mini-historians. Rather, historical inquiry equips students with the tools to examine the human experience, to make sense of competing perspectives, to evaluate arguments based on available evidence, and to reach informed decisions. (p. 358)

If teachers can support students in developing this understanding, then the methodology should be effective. Lazonder and Harmsen (2015) conducted a meta-analysis of 72 IBL studies from 1993-2013 and determined that all six forms of guidance studied supported student learning. The teacher plays a vital role in designing and implementing effective IBL activities. Inquiry-based learning has seen an increase in effect size data between 2009 and 2015 with a 0.14 increase to a total effect size of 0.35 (Hattie, 2017).

Foster and Padgett (1999) identified nine key considerations when developing a unit of historical inquiry, which would be overwhelming except for the fact that the NHD organization has already provided answers to these questions and more in the form of an inexpensive IBL program. Hill (2015) acknowledged the Minnesota Historical Society NHD program provides a set of common curriculum materials that include built-in formative assessments for the NHD inquiry process at no cost. This review looked more specifically at one form of IBL, PjBL and how it relates to NHD.

Inquiry-based learning as a classroom instructional strategy. A concise definition of PjBL as an IBL strategy is learning that is structured around a project (Thomas, 2000). The

definition is circular in nature because it raises questions related to the nature of the term project. Oguz-Unver and Sertac (2014) further distinguished between IBL, problem-based learning (PBL), and PjBL as questioning, solving problems, and producing products, respectively. This helps separate the forms, but many researchers still refer to the methods interchangeably, so it is necessary to define how they are using the term in their respective study.

Lam, Cheng, and Ma (2009) clarified the definition by adding qualifiers that students work in small groups to solve a problem with the teacher facilitating learning. Problem-based learning alone with an effect size of 0.12 has not shown the impacts of the cooperative learning approach, 0.40 effect size (Hattie, 2017). Marzano (2007) identified a body of research on PBL in which it was mentioned that producing examples had a 0.7 effect size, understanding principles had a 0.8 effect, and that applying knowledge had a 0.34 effect, and then went on to summarize a few research articles from the 1980s through the 1990s in which the effect size was from 0.38 to 0.79. The problem-based approach has a low to moderate effect by itself, so it is no wonder that changes were made to integrate other methodologies together to create PjBL.

Wanzek et al. (2015) noted effect sizes between 0.17 and 0.29 in their study of Grade eight students using a team-based approach to increase knowledge of social studies using a reading based approach measuring written performances. Noted in this example is an important shift in IBL from teacher led instruction to engagement in authentic processes. Projects are broad in nature, but they unify standards with student strengths (Weiss & Belland, 2016). Thomas (2000) broke the ideal project into five components: projects are the curriculum, questions guide learning, students analyze and synthesize material to form a new perspective or answer, there is no preconceived outcome but learning is based upon student goals, and the project must be authentic. If a curriculum is re-written with projects as the means to learning, it

is necessary to determine the impact before undertaking the work. For this process to be integrated more seamlessly into curriculums across the nation, more work needs to be done to prepare teachers and pre-service teachers to train them in effective practices (Grant & Branch, 2005).

Assessment of PjBL varies, which makes quantifying gains difficult. Most teachers remove any form of end of the unit testing, with the project being the graded assignment (Savery & Duffy, 1995). A more common practice is that the teacher evaluates the project along with feedback from students related to peer-equations and self-evaluations (Lee & Lim, 2012; Savery & Duffy, 1995). These evaluations present a number of additional areas for the teacher to work within, because within their study, Lee and Lim (2012) identified those students valued managerial roles more than the role of construction of knowledge. The difference between roles is probably not meaningful to a teacher who has an independent criterion for evaluation of the project. It is easier to identify the impact of instruction when teachers have defined measures.

Data may be qualitative or quantitative depending on the purpose of the investigation. Interviews reveal that students talk about the creative aspects they experience over the course of these self-guided processes (Taylor et al., 2015). Student surveys reflect improvement in attitudes and motivation (Hernández-Ramos & De La Paz, 2009; Lam et al., 2009). Lam et al. (2009) further clarified their research by identifying that the teacher role is critical and that student motivation increased when teachers were more supportive and had greater buy-in to the process. Thomas (2000) reviewed research that demonstrated growth of schools using PjBL compared to other treatments, but the review noted that the research schools did not control for other reform efforts in place that may have caused the calculated differences. Additional research is necessary to demonstrate the impact PjBL has, and the impact specific curricular

programs have such as NHD. Programs such as NHD can support better quality instruction with less reliance on recall tasks such as worksheets (Oshima & Mitchell, 1999).

National History Day as Inquiry or PjBL

Components of NHD. The core elements of NHD have remained consistent throughout the history of the program. Students compete in one of two divisions based upon their grade, sixth through eighth and ninth through twelfth participated in three levels of contests: regional, state, and national (Adams & Pasch, 1987; Scharf & Zoslov, 1983). The original project categories from which students can participate include individual or group projects and individual essays (History Day Flier, n.d.) transitioned to individual history paper, individual project, individual performance, group performance, individual media presentation, and group media presentation (Adams & Pasch, 1987). Each year presents a new change for the student researchers competing in the program because the theme changes (Adams & Pasch, 1987; Fehn & Schul, 2011; Kuhn & O'Hara, 2014; Sargent Wood, 2012a; Scharf & Zoslov, 1983). As the program expanded, Dr. Van Tassel (1979) sought additional funds to expand from the "National Endowment for the Humanities and partnered with organizations, including the American Historical Association, Organization of American Historians, American Association for State and Local History and the National Council for the Social Studies" (p. 2). In conjunction with the project, all project entries but research papers must include a student process paper describing the research process along with a bibliography of sources used (Adams & Pasch, 1987). These components helped to structure a foundation from which NHD could grow from the original participants to participants across the country.

The components have changed slightly over the course of the 40-year history of the program. Due to the expansion of NHD, more than 600,000 student "participants come in all

shapes and sizes, colors, and backgrounds, and from public, private, and parochial schools in urban, suburban, and rural areas" (Gorn, 2012). The levels have remained the same, as well as the changing of themes (Fehn & Schul, 2011; Kuhn & O'Hara, 2014; Sargent Wood, 2012a). A change to the components was the project categories in which students compete: individual exhibits, group exhibits, individual documentaries, group documentaries, individual performances, group performances, individual websites, group websites, and individual research papers (Gorn, 2012; Rockman & Sloan, 2010). The changes to the types of projects have kept the integrity of the process along with keeping up with technology.

Schools throughout the United States implement the program in different ways. Some schools offer the program within the school day, thus taking time away from other curricular material and others offer it as a before or after school alternative. Ingram (2012) stated that "Making their NHD participation a course requirement is how I motivate my students...I doubt I would have many students participate in NHD if I offered it as an extracurricular activity" (p. 35). With the implementation of the program that is research and time intensive, each district that implements NHD has to determine if the time costs outweigh the benefits gained using other research procedures.

Research process. Students can be taught the elements of research in social studies classes using historical resources. Tally and Goldenberg (2005) documented that teachers who taught students how to analyze primary sources had more success with students applying the methodology to new units of study than students that did not receive primary source instruction. Implementation of this process may occur across multiple different social studies curriculums. Primary sources are difficult to analyze and may be left out of classroom instruction entirely, especially with the proliferation of new primary sources that present teaching problems for

teachers due to the lack of context surrounding the documents (Stripling, 2011; Woyshner, 2010). Woyshner (2010) identified that students need to determine their understanding of the past based upon the analysis of the documents. Many students cannot do this without practice and access to necessary resources.

Ferster, Hammond, and Bull (2006) identified that another challenge to this type of instruction is finding the resources necessary to undertake the project. The teacher has to be able to step in and provide sources or links to collections where the students can locate the type of research that they need. A basic internet search may not always work to find primary documents of significance to a topic, even though new digitized copies are uploaded daily (Stripling, 2011; Woyshner, 2010). Another option for students that are not able to access the content of the material that they wish to study may be the virtual field trip model. According to Stoddard (2009), teachers can engage students in research related to authentic materials through virtual trips to historic sites but cites that many of the current virtual field trips are not of the highest quality and teachers need to make sure to facilitate student learning related to these activities. It took training to support teachers in the use of authentic situations and how to use technology to their advantage in the classroom.

In a study of preservice teachers, Brush et al. (2009) identified that even when provided with a database of resources, over two-thirds of teachers could not access the materials required for a study. Students are not setup for success using robust databases such as those necessary for researching primary sources as part of their NHD projects without support. Students were provided access and guided along a path, but not all decisions can be made for them. At this point, students need to select a project where resources are more readily available to them, such as is the case with a local project as identified by Meeker (2012).

Student choice and collaboration. One of the main components to NHD is empowering a student through making choices. Since a theme is identified for students, it might be that all the student has to do is choose a topic and research, but much more has to go into the process to ensure success. Students' choices around topic, project, and group size, may be related or independent. Beginning with the selection of a topic, some schools may allow students to choose any topic or to pick within a defined range of topics (Kuhn & O'Hara, 2014). A topic choice may come first for some students and others may choose based on their preference for a group or project type. Bartle (2012) noted in his dissertation using survey methodology of IBL that this form of limited autonomy is perceived necessary by students to feel like there is enough structure to succeed.

Some project types do not relate well to the topic that students are most interested in creating. A concern is whether or not the sources necessary to complete the project are available (Ferster et al., 2006). It may not work well to do a documentary when no audio or visual sources are available for integration. As Meeker (2012) stated, it is a challenge for some students to access particular sets of materials, even with the Internet, so it may be practical for students to select to complete a project on a local or state topic in which they can physically access the materials.

Students' choice of individual or group process also has to be considered. Roberts et al. (2014), promoted a collaborative approach to learning through their research by stating that it has potential to impact standardized testing scores as well as meet CCSS requirements. According to Hattie (2017), the effect size for students involved in cooperative learning in the classroom has remained stable in the body of research analyzed at about a level of 0.4. Page (1993) noted that the key element of choice to students is empowerment through the selections that they make in

relation to their NHD projects. This feeling of empowerment lead to engagement in social studies class.

Technology as authentic engagement and assessment. Technology has enabled history teachers to enhance access to resources and increase the effectiveness of instructional delivery and student learning. The virtual history museum approach was studied in groups of Grade 8 students and had the effect of increasing student test scores, but in the absence of control, the actual impact is unknown. Multiple authors have acknowledged that students can use technology sources to enhance the effectiveness of unit content knowledge (Hernández-Ramos & De Le Paz, 2009; Kingsley & Boone, 2006). Kingsley and Boone (2006) studied Grade seven students for seven months, compared to the Grade eight study of one unit for two weeks by Hernández-Ramos and De Le Paz (2009). Both studies resulted in increased student scores. Student choice added value to NHD curriculum when students present research through a website or documentary project.

Impact of NHD. A program that has been able to remain over the course of four decades must have demonstrated effectiveness compared to other methodologies. Cathy Gorn (1998), executive director of NHD summed up the impact of NHD in this way:

> Participation in NHD demonstrates that students learn history when they do history. NHD is not a secondary school version a "bee" type of competition in which students memorize information that they regurgitate in response to questions. Rather, it requires that they thoroughly and deliberately examine the world of the past through direct contact with original materials including documents, photographs, films, historic buildings, newspapers, and oral history interviews with those who experienced history firsthand. In the process, students study – not memorize – a topic in depth, thereby learning historical

content; they gain an appreciation for the importance of historical understanding; and they hone important research, analytical, and communication skills. (pp. 345-346)

The above quote provided a depth of qualitative research about many variables, which may not be measurable through studies.

The major quantitative analysis that is available on the efficacy of the program was created and paid for by the U.S. Department of Education along with the NHD organization and Kenneth E. Behring (Rockman & Sloan, 2010). Rockman and Sloan (2010) identified that Texas students had increases in grades compared to peers across language arts, math, science, and social studies. Additionally, Monaco, Lu, and Wood (2009) looked at the impact that NHD had on the Ohio state test scores of 24 Grade 10 students when compared to a matching set of peers, and found that there were significant differences in scores across reading, writing, and social studies in favor of greater achievement for those students that participated in NHD. There are additional research articles that discussed the impact of NHD, but the majority are from a qualitative perspective.

All additional qualitative studies indicated that NHD had a positive impact on student higher order thinking skills (Adams & Pasch, 1987; Fehn & Schul, 2011; Kuhn & O'Hara, 2014; Sargent Wood, 2012a). Teacher testimonials also supported the program stating how NHD has changed their perceptions about history instruction, changed their practices, and encouraged students to take an active role in their learning of history (Kuhn & O'Hara, 2014; Scharf & Zoslov, 1983; Sargent Wood, 2012a). Even parents have engaged in the discussion of the importance of NHD at such a low cost, "From a cost-benefit viewpoint, I know of no superior education program offered..." (Whifield, 1992, p.1). Additional research is necessary to

demonstrate the impact of NHD on the achievement of all students that participate in the competition.

Research Gaps

The research support for PjBL and NHD is prevalent, but there were additional areas that future research studies need to investigate to make our understandings more complete. One distinct topic where there is a gap in literature was middle school curriculum and instructional decisions related to CCSS and content-area literacy (Reidel & Draper, 2011; Schaefer et al., 2016). This placed social studies teachers at a disadvantage, because there is not a great deal of research to drive their curricular decision-making in regards to the demands of literacy instruction.

Most of the research discussed in this review of literature relates to the implementation of the CCSS standards in language arts, not the math common core standards. Minnesota did not choose to adopt the math CCSS. However, research should be available that discusses math in relation to CCSS. At the time of this study, there was little research on the transference of skills from social studies to math or science, aside from the findings of Rockman and Sloan (2010).

The research relating to NHD was limited in its scope and coverage. The issues may result from sampling and access issues across states (Rockman & Sloan, 2010), but additional research is needed to determine the impact project choice and grouping have on student achievement within NHD participants. Additionally, Rockman and Sloan (2010) indicated more data are necessary to determine how demographic variability, curriculum implementation, and teacher demographics, impact student achievement related to NHD participation. There did not seem to be longitudinal data to demonstrate how NHD impacts students within the spectrum of one year of participation compared to a student who participates for up to seven years as allowed

based upon the current structure of NHD, and how participation in NHD relates to achievement in college through a longitudinal study. Additional research also needed to address the impact that project choice has on achievement, group versus individual instruction, and the impact on students that range from only participating in the local competition to those that participate in and eventually win the national competition.

Summary of Literature Reviewed

Dr. David Van Tassel started NHD in an attempt to combat the minimization of history education in schools (Gorn, 2001). It seemed as though the roller coaster of educational change is reaching its peak, and social studies is under attack once again. It is not a surprise that the number of students that participated in NHD is at an all-time high (NHD, 2017) because of the reduction of social studies in the elementary grades (Leming et al., 2006) to the emphasis of literacy skills into secondary social studies classrooms (Shanahan & Shanahan, 2008). School districts are pushing teachers to find instructional methodologies that supported not just college and career readiness, but that demonstrated transference of skills to other tested content areas, such as reading, math, and science in the state of Minnesota.

Many teachers are turning to research for support in determining an appropriate direction to choose when adopting an instructional methodology that supports student growth in content knowledge, and that develop skills in across other domains. For this reason, many teachers are turning to constructivist strategies such as IBL, PBL, or PjBL (Meece, 2003; Savery & Duffy, 1995; Scheurman & Newmann, 1998). There is a large body of research that supported the use of these methodologies as a means of increasing student achievement (Furtak et al., 2012; Hattie, 2017; Marzano, 2015; Vaughn et al., 2013; Wanzek et al., 2015), but not all of the research

painted a positive picture of the impact of constructivists methodologies (Furtak et al., 2012; Kirschner et al., 2006; Scheurman & Newmann, 1998).

It is the ultimate responsibility of the school district and teachers to take control of curricular and instructional decisions. Many history teachers turned to NHD for a variety of reasons including its low cost, availability of materials (Hill, 2015), research process, focus on primary and secondary source integration (Tally & Goldenberg, 2005), and flexibility to meet the demands of a wide variety of students across different disciplines (Kuhn & O'Hara, 2014). A strategy that offers students so many choices can also place a lot of demands on the teacher to provide appropriate guidance throughout the activity (Lazonder & Harmsen, 2015). Training is critical for teachers to implement the methodology in an effective manner (Anderson, 2014; Sargent Wood, 2012a).

With all elements in place for success, the research for NHD positively associates it with academic achievement. It has even demonstrated transference into other content-areas (Rockman & Sloan, 2010), including areas not directly taught during NHD. Additional quantitative research is necessary to provide support for the implementation of NHD because there are trade-offs associated with the implementation of NHD such as up to 50 fewer days to teacher required content standards (MNHS, 2016). Dr. David Van Tassel noted that "History Day alone is not enough to improve the quality of history courses at the secondary level" (Wexler, n.d., p. 13), but he continued to say that it is a step in the right direction and may lead to other fair formats; the kind that do not stress memorization of facts, but that focus on the skills and content needed for a career in that profession.

Chapter III: Methodology

Introduction

A pragmatic worldview was utilized in approaching this research topic. The problem of identifying the impact of the National History Day (NHD) curriculum was researched as though it was a problem that needed to be able to be solved to provide the best education possible to students in social studies classes. As Muijs (2011) identified, the purpose of this study was to determine whether or not NHD works as a method of developing skills in other content areas.

Theoretical Framework

NHD programming was integrated into the curriculum because of teacher desire and external pressures to participate in the program after the research district discontinued gifted and talented instruction at middle school, where NHD had been a part of the curriculum in the past. The theoretical framework for the idea to implement NHD follows a step-by-step process. Utilizing elements of Schwab's (1964) IBL model along with PjBL research and information from NHD, the following is a framework for how a teacher would implement programming: (1) teachers design and integrate NHD into the curriculum; (2) students self-select to register for the class; (3) teachers select the method of inquiry for the NHD project within their environment; (4) students are guided in the process of selecting a theme-based topic, but students get to choose their project and group types; (5) teachers scaffold student learning with individual, state, and national resources; and (6) students present their learning in class and at the competition level. These elements relate to the components of effective IBL, which should promote engagement, collaboration, and relationships (Schwab, 1964) and result in increased student achievement.

Research Method and Design

Research design. The current study was a secondary data analysis of existing school testing data to determine the impact of NHD. Students self-selected to be in the treatment or control group when they registered for social studies courses for the 2016-2017 school year. There were no attempts to sway students to go into one treatment or another during this first year of implementation. Students were provided with a course overview that detailed the differences between the courses and made the decision to register with their parents (Appendix A). It fits into the method of secondary data analysis because the data were collected for different purposes; Minnesota Comprehensive Assessment–III (MCA-III) data were collected for accountability and state reporting purposes and the Northwest Evaluation Association Measures of Academic Progress in math and reading (NWEA MAP) data were collected as part of the school district's screening/progress monitoring plan. All of the data collected as a part of the school history fair were compiled to put the event together and have enough judges for the presentations. Two of the data sets, MCA-III and NWEA MAP, were uploaded into the Technology and Information Educational Services data warehouse by the district, downloaded, and then were combined with the NHD student data to complete the information needed for this study. The study also fit the definition of action research Fraenkel and Wallen's (2012) provided because of the limited generalizability and implications the study had for the stakeholders involved to better register for future courses. Additional teachers in districts can replicate results across the nation to add to the generalizability of this study and the NHD methodology.

Research Questions

- Research question one. What difference exists on state standardized assessments (reading and math MCA-III) between general education students in Grades six and seven

receiving curriculum with NHD embedded within it compared to peers receiving traditional standards-based social studies curriculum?

- Research question two. What difference exists on a nationally-normed assessment (reading and math NWEA MAP) between general education students in Grades six and seven receiving curriculum with NHD embedded within it compared to peers receiving traditional standards-based social studies curriculum?

Hypotheses

- Hypothesis 1a0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading MCA-III.
- Hypothesis 1b0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading MCA-III change scores.
- Hypothesis 1c0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math MCA-III.
- Hypothesis 1d0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math MCA-III change scores.
- Hypothesis 1e0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading MCA-III.

- Hypothesis 1f0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading MCA-III change scores.
- Hypothesis 1g0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math MCA-III.
- Hypothesis 1h0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math MCA-III change scores.
- Hypothesis 2a0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading NWEA MAP assessment.
- Hypothesis 2b0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading NWEA MAP change scores.
- Hypothesis 2c0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math NWEA MAP assessment.
- Hypothesis 2d0. General education students in Grade six receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math NWEA Map change scores.

- Hypothesis 2e0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the reading NWEA MAP assessment.
- Hypothesis 2f0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing reading NWEA MAP change scores.
- Hypothesis 2g0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum on the math NWEA MAP assessment.
- Hypothesis 2h0. General education students in Grade seven receiving curriculum with NHD embedded within it will not significantly outperform their peers receiving traditional curriculum when comparing math NWEA Map change scores.

Variables

Dependent variables. There are four dependent variables that come from assessment scores on state-required assessments (MCA-IIIs) and nationally-normed assessments (NWEA MAP).

The 2017 reading MCA-III scores are presented as interval data in the form that represent achievement across the strands of literature and informational text (Test Specifications, 2017). Scale scores are calculated between the ranges of 601-699 or 701-799 depending on the student grade level. The first number represents the grade and the next two numbers represent the scale score. Grade level indicators were removed for this research. Reading MCA-III change scores were calculated by subtracting the 2016 score from the 2017 score to determine the amount of change.

The 2017 math MCA-III scores are represented as interval data in the form that represent achievement across the strands of number and operations, algebra, geometry and measurement, and data analysis and probability (Test Specifications, 2017). Fifth grade assessments utilized in calculations for this research do not assess probability, but probability is assessed in sixth and seventh grade assessments. Scale scores are calculated between the ranges of 601-699 or 701-799 depending on the student grade level. The first number represents the grade and the next two numbers represent the scale score. Grade level indicators were removed for this research. math MCA-III change scores were calculated by subtracting the 2016 score from the 2017 score to determine the amount of change.

The 2017 spring reading NWEA MAP scores are interval data represented as Rasch Units (RIT) scores across the areas of literature, informational text, and vocabulary. The score range is from 100-350 (NWEA, 2016). Reading NWEA MAP change scores were computed by subtracting the fall score from the spring score to determine the amount of change.

The 2017 spring math NWEA MAP scores are interval data represented as Rasch Units (RIT) scores across the areas of same substrands as the math MCA-III. The score range is from 100-350 (NWEA, 2016). Math NWEA MAP change scores were computed by subtracting the fall score from the spring score to determine the amount of change.

Independent variables. The independent variables are the utilization of NHD resources for students into the curriculum compared to control groups receiving traditional Grade six and seven social studies curriculum following state standards.

Covariate variables. There are four covariates for consideration. The covariates are the baseline testing data used to statistically control for group differences. MCA-III covariates are

prior year test scores from fifth or sixth grade. NWEA MAP covariates are fall scores from the research school year.

The 2016 reading MCA-III scores are presented as interval data in the form that represent achievement across the strands of literature and informational text (Test Specifications, 2017). Scale scores are calculated between the ranges of 501-599 or 601-699 depending on the student grade level. The first number represents the grade and the next two numbers represent the scale score. Grade level indicators were removed for this research.

The 2016 math MCA-III scores are represented as interval data in the form that represent achievement across the strands of number and operations, algebra, geometry and measurement, and data analysis and probability (Test Specifications, 2017). Fifth grade assessments utilized in calculations for this research do not assess probability, but probability is assessed in sixth and seventh grade assessments. Scale scores are calculated between the ranges of 501-599 or 601-699 depending on the grade level. The first number represents the grade and the next two numbers represent the scale score. Grade level indicators were removed for this research. The cut score for students that exceed standards on the math MCA-III was calculated at 662 for Grade six and 760 for Grade seven students. The cut score for students that exceed standards on the reading MCA-III was calculated at 667 for Grade six and 767 for Grade seven.

The 2016 fall reading NWEA MAP scores are interval data represented as Rasch Units (RIT) scores across the areas of literature, informational text, and vocabulary. The score range is from 100-350 (NWEA, 2016). Cut scores for the NWEA MAP reading fall assessments were set at 211 for Grade six and 214 for Grade seven, and the spring cut scores for the reading were set at 216 for Grade six and 218 for Grade eight (NWEA, 2015). Additional research that related specific to Minnesota scores was conducted and recommended higher cut scores for passage of

the MCA-III assessments (NWEA, 2016). The calculated scores will be used to describe group performance and will compare Grade six to fall math scores of 224 and spring scores of 232, and Grade seven calculated scores for fall of 231 and spring of 237 (NWEA, 2016).

The 2016 fall math NWEA MAP scores are interval data represented as Rasch Units (RIT) scores across the areas of same substrands as the math MCA-III. The score range is from 100-350 (NWEA, 2016). Cut scores for the NWEA MAP math fall assessments were set at 218 for Grade six and 223 for Grade seven, and the spring cut scores for the math were set at 225 for Grade six and 229 for Grade seven (NWEA, 2015). The higher calculated scores will also be used to describe group performance and will compare Grade six to fall reading scores of 213 and spring scores of 217, and Grade seven calculated scores for fall of 222 and spring of 224 (NWEA, 2016).

Sampling Design

The sample for this study was a convenience sampling of Grade six and seven students. Students self-selected to be a part of the study through registering for the honors or traditional courses at their grades, and the researcher did not have any part in placing students in one group or the other. Information about the groups was presented to students and their parents in the form of course proposals that described the differences between the classes, which included an explanation of the NHD project for honors students. Students and parents decided they wanted the additional challenge of the project or that they did not want the challenge. Students were not restricted from participating in the honors course; they did not have to meet any form of selection criteria.

Sample student population. This sample of convenience was composed of students from a Midwestern town of approximately 30,000 people. The school district is composed of

approximately 3,000 students in K-12 with the following demographic breakdown: 6% African American, 3% Asian, 82% Caucasian, 4% Hispanic / Latino/a, 4% two or more races, 3% EL, 21% Special Education, and 40% Free and Reduced Lunch (FRL) (Minnesota Report Card, 2017). The middle school selected was comprised of approximately 900 students in Grades five through eight. The schools demographic breakdown includes 5% African American, 1% American Indian, 3% Asian, 84% Caucasian, 3% Hispanic / Latino/a, 4% two or more races, 3% EL, 20% Special Education, and 37% (FRL) (Minnesota Report Card, 2017). This study did not focus on demographic variables, because limited demographic variability in the district and school would not result in large enough group sizes to analyze. Students receiving special education and EL services were only included in the study if they were had social studies class and did not receive replaced reading or math instruction. All students that tested during both sample periods of one or both assessments were included in the final sample.

The Grade six sample consisted of 196 students. The sample included 61 students in the treatment group and 135 students in the comparison group. There were 105 female students in Grade six and 91 male students. The ethnic breakdown of the grade six sample included 1.5% American Indian, 2.6% Asian Pacific Islander, 6.1% Black, 1.5% Hispanic, and 88.3% White. Grade six students identified as limited English proficiency were 0.5% and 13.3% were identified as receiving special education services.

The Grade seven sample consisted of 229 students. The sample included 49 students in the treatment and 180 students in the control. There were 109 female students in Grade seven and 120 male students. The ethnic breakdown of the Grade seven sample included 1.3% American Indian, 5.7% Asian Pacific Islander, 4.8% Black, 2.2% Hispanic, and 86% White.

Grade seven students identified as limited English proficiency were 2.6% and 13.5% were identified as receiving special education services.

Sample teacher population. Four teachers participated in this research study, two sixth grade teachers and two seventh grade teachers. All four teachers were new to NHD and worked on developing the timeline and planning sequences together after previewing available YouTube tutorials on NHD through the state organization. The two sixth grade teachers were both in their fifth year of teaching Grade six, and both have more than 10 years of experience in education. The two Grade seven teachers have been teaching social studies for one and two years respectively. One teacher was a second year probationary teacher and the second teacher has over 10 years of experience in education. All students were randomly assigned to a teacher at the beginning of the school year based upon whether or not they self-selected honors social studies (NHD) or traditional social studies. Students in sixth grade were taught the Minnesota Studies standards, and students in Grade seven received United States History standards beginning with the Civil War through today. The teacher groups created a timeline to follow for implementation of NHD by reducing the number of days spent on units throughout the school year. Grade six teachers reduced the time from topics covered in first through third quarters and kept the schedule similar for the fourth quarter due to the emphasis on juvenile justice system standards as shown in Appendix B, Table 1.

Research Implementation Timeline

Preparation for the honors course began in November of 2015. For students to be able to register for courses, the research district established the December curriculum committee meeting as the point in time when course changes were to be approved. A course proposal was submitted for Grades six and seven because those are the grades that elected to participate at that

time. The curriculum committee approved the courses, so they could become part of the course offerings and be listed on the registration form.

Students typically register for courses in March and April. Students that are new to the district may register outside of that timeline. Students were scheduled without teacher knowledge; Grade six and seven teachers did not know how many students were registered and if they had any honors courses until August 2016. Teachers began with professional development as a group in June 2016 and continued to develop and integrate state and national resources until the end of August 2016. Honors coursework began being implemented with the start of the school year in September. Students were exposed to a brief introduction to NHD in the opening week of school as a reminder of the expectations of the courses.

Students worked sparingly on NHD in the first quarter. During the first quarter, most students decided on working with a group or individually and they chose their project type. Most of the work took place during the second quarter with students identifying a research topic, beginning to research, and then starting on their projects. Students were provided with a completion timeline of February 21, 2017, because that was the night of the building history fair.

Instrumentation and Test Administration

MCA–III. The Minnesota Comprehensive Assessment–III series assessments are the standardized accountability test for the state of Minnesota. The only information provided about the tests is located on the Minnesota Department of Education website. Information about the elements of the test, question types, and other general information can be found in the test specifications, which were updated for reading and math in 2016 (Test Specifications, 2017). Information regarding validity and reliability is hard to find; the only information came from the MCA–III technical manual. According to the Technical Manual (2017), reliability exits through

field-testing and validity is achieved through "Evidence Based on Test Content, Evidence Based on Response Processes, Evidence Based on Internal Structure, and Evidence Based on Relationships with Other Variables" (p. 140). The manual states that test-retest reliability is not calculated and that alternate form reliability is not possible; it does say that marginal reliability is calculated by subgroup in another document. Math marginal reliability scores ranged from 0.69 - 0.95 and reading from 0.78 - 0.91 for online assessments of both Grade six and seven across groups (Yearbook Timetables, 2017).

Since the MCA-III assessments are adaptive and interactive computer-based measures, the need for validity data is important. Cheng and Basu (2009) identify that there are many interactive formats that are available to test different contents, but that interactive elements may not be appropriate for every grade level and that students should have prior exposure to interactive elements before using them on the test.

NWEA MAP. Much of the body of research conducted on the NWEA MAP assessment has been conducted by the company and is not independent research. Minnesota participated in a study of the validity of NWEA MAP and Rasch Units as an indicator of achievement as one of the states that support the use of NWEA MAP (Wang, McCall, Jiao, & Harris, 2013). The Center for Response to Intervention provides a comprehensive overview of NWEA MAP assessment. The math test has measures of reliability across the following categories: internal consistency, test-retest, marginal, and accuracy and consistency classification decisions. Reliability estimates range from 0.588 to 1.000 with most between 0.7 and 0.9 (Center for Response to Intervention, 2017). The Center for Response to Intervention (2017) also lists concurrent, predictive, and criterion-related validities with ranges of 0.472 to 0.724. The assessment itself did not increase student scores, as evidenced by comparison group research

conducted by the Midwest Regional Education Laboratory (Cordray, Brand, Molefe, & Toby, 2012), which found no difference in a sample of Illinois schools that implemented testing in either Grades four and five when compared to students not taking the assessment. Since students are familiar with the assessment, a testing threat would not exist.

MCA–III test administration. Minnesota state testing occurs in the spring of the year. The window for testing math and reading opened on March 6, 2017, and ended on May 5, 2017. To make the testing session run as smoothly as possible and to make sure that ethical concerns are reduced, test proctors are required to complete the following training: assurance of test security and non-disclosure module and form, active monitoring for test monitors module, and the online test monitor certification course for Minnesota Comprehensive Assessments – active monitoring module. Teachers have to wait for the district to make students' profile data available, and then add students to their testing schedule. After adding students to the testing schedule, all students need a ticket printed so that they have the correct information to access their testing session. The teacher must start the session in order for students to begin the assessment, and then students can stop at the end of a section or story in reading or stop after a problem in math.

Before testing, reading and math teachers took students through the online student directions. It takes approximately seven minutes, but students were familiar with some of the interactive elements of the test. There was a 25 question online practice test available, but it was not adaptive at this time. All students that would have been enrolled in a Minnesota public school during the prior school year would have experience with this testing format, unless they had formal exemption documentation for the prior year.

Students in Grades six and seven took the assessments as much as possible in 60 and 90 minute blocks over two days each for reading and math. Students tested online using Google Chromebook computers in a core content teachers classroom except two classrooms of students testing in the school media center on desktop computers. The media center was closed to other students during testing, and dividers were used to separate students. Students have previously tested online and had access to Chromebook carts but did not have the ability to use their device. Grade six students tested for reading on Thursday and Friday, April 20 and 21, and they tested for math on Tuesday and Wednesday, May 2 and 3. Grade seven students tested for reading on Tuesday and Wednesday, April 18 and 19, and they tested for math on Wednesday and Thursday, April 26 and April 27. Additional time was provided for students who had not completed the test since this is not a timed process.

Student scores were submitted online through PearsonAccess Next. Data received from the state of Minnesota through the PearsonAccess Next system are then loaded into a data warehouse for purposes of downloading for this study. The data download provided the start of the spreadsheet for this study, and additional demographic and variable was added to this chart, to eliminate data entry errors for student test scores.

NWEA MAP test administration. NWEA MAP testing occurs in the fall and spring of the year. According to NWEA's 'Guidelines for Selecting Test Window Dates' (2017), the fall window should be open for the first seven weeks of the school year and the spring testing window should be open for the last six weeks of the school year with approximately 32 weeks in between testing administrations. The actual window used for fall testing of math was September 19 through September 27, and reading was from September 29 through October 6, 2017. Students in Grade six took fall NWEA MAP math tests in the media center with their math

teacher on September 19, 20, and 21, and reading tests in their language arts classrooms with their language arts teacher on laptop computers on September 29, 30, and October 3. Students in Grade seven took math tests on September 22, 23, and 26, and they took their reading tests on September 29, 30, and October 3. Spring testing for Grade six and seven students for math occurred on May 10, 11, and 12, and reading assessments took place on May 23, 24, and 25; all spring testing occurred on Chromebooks in the content classroom. The media center was closed to other students during testing, but students that were testing in their classroom may have had distractions from other classrooms located in the same area. Additional time during the testing window was provided for students who were not completed, since this is not a timed process. Students taking the NWEA MAP encountered approximately 40 questions in reading and 50 questions in math through four sections of the test (Wang et al., 2013).

Student scores were submitted online through the NWEA MAP website. Data were available through the NWEA MAP website to teachers and were then loaded into a data warehouse for purposes of downloading for this study.

Data Collection Procedures

The data used for this research study were collected by the school district independent of the research study. Before collection of the data, the researcher had completed the Collaborative IRB Training Initiative (CITI) requirements for the university (Appendix C). The information that follows detailed how the school district collected data. Data were available to the researcher through the district data warehouse once permission was received, because the data was secondary in nature. The school district collected data throughout the 2016-2017 school year for purposes of screening and state reporting requirements. No additional data were collected for the purposes of this research. The research school district approved access to the data on August 10,

2017, and August 18, 2017; approval was granted by the building principal, director of teaching and learning, and district superintendent (Appendix D). Bethel University's IRB granted the researcher access to compile and analyze data on January 28, 2018 (Appendix E); no data was accessed before IRB board approval. Both instruments that provide study data are computer-adaptive assessments. The data are easier to gather through computer-based measures, but researchers have not determined that there is a motivational advantage to using computer-based assessments (Ling, Attali, Finn, & Stone, 2017) and some research is identifying that the validity of the procedures needs additional research (Way et al., 2010).

Data Analysis

Descriptive. For Grade six and seven, frequency tables reported the number and percent of participants in each of the treatment and control groups. Mean scores and standard deviations were reported by treatment status for each reading and math assessment (MCA-III 2015 and 2016 and NWEA MAP fall and spring). All descriptive statistics were reported by grade level.

Inferential. To determine if there were differences between students in the NHD treatment compared to traditional instruction on MCA-III and NWEA MAP scores, a series of ANCOVAs were conducted by grade level. Effect size, partial eta squared (η^2), was also computed. Comparisons were made to Cohen's cut points, where 0.1379 represents a large effect since additional research has determined that these points are not too strict (Richardson, 2010). The independent variable was entered as the curriculum condition of having NHD curriculum or traditional. The dependent variable for each ANCOVA was the spring 2017 assessment scores with fall or prior year scores included as covariates.

To determine the differences between students in the NHD treatment compared to traditional instruction on MCA-III and NWEA MAP change scores, a series of ANOVAs were

conducted by grade level. The independent variable was entered as the curriculum condition of having NHD curriculum or traditional. The dependent variable for each ANOVA was the computed change scores for each assessment.

Limitations of Methodology

Limitations. Due to the use of secondary data analysis as a methodology, the research was limited in a number of ways. The researcher was not able to control the assessments that were administered or at what time they were administered. State testing only occurs one time per year, so prior year testing was counted as a pretest and the study year was used as posttest data. The school district sets its testing dates for the nationally-normed assessment and can test up to four times per year, but chose to test only during the fall and spring assessment windows. The two testing windows overlap in the spring, and a decision was made to assess the state standardized tests first and then the nationally-normed tests upon completion of state testing. Students may have been experiencing a sense of test overload in the spring, but that is a district decision, not the researcher's decision. The researcher did not implement any additional assessments. An instrumentation threat exists in this secondary research, because the state assessment differs across years, so it is not a direct comparison. The assessment does not even test the same grade level bands in the case of Grade six, because Grades three through five are in one band and Grades six through eight are another band (Test Specifications, 2017). No state assessment exists for social studies. A measure of social studies content knowledge would have been preferential, but the common assessments utilized by the district have not been tested for reliability or validity. Students that miss testing dates do not necessarily make-up missing common assessment data.

Parents were allowed to exempt students from state testing. Determining a sample set is a difficult enough task, but there were students that did not take the state or nationally-normed test, some did not take the state but did take the nationally-normed test, and some took all of the tests. There were not any students that took only the state test. As a result, the number of students for analysis may differ between tests. Only students that have a pretest and a posttest were analyzed in order to determine the impact, which limited any students that were only in the district for the research school year. Mortality became an issue for this study because more students that were in the honors social studies class had parents that exempted their student from standardized testing. This may create an unintended selection bias, but with the reduction of the comparison group for reasons other than testing exemption, this may have evened out. Sample populations analyzed were unequal sizes, because the researcher did not believe that propensity matching across multiple variables would produce a population adequate for analysis. Statistical analysis was used to account for differences in the sample using prior year and fall testing data.

Action research results have limited generalizability to external populations. The results of this study were supportive to district leaders and its stakeholders to improve curriculum offerings, but do not mean the same results occur in every setting. The sample for this study was not diverse regarding race or ethnic background.

Delimitations. A number of intentional decisions were made during this secondary data analysis that impact the ability of this research to provide answers to additional questions. The sample population did not analyze the impact of special education students, students of different ethnic groups, or English Language Learners. The decision to exclude these groups of students was made to control additional variables such as to limit the number of additional teachers involved in language arts instruction and to limit students that may not have been in social

studies classes. Student demographics in the research school were not diverse enough to include as a covariate. A propensity matching design was not used, because the researcher statistically controlled for any differences between student groups participating in NHD or traditional instruction as a result of class choice.

Additional analyses of the data may examine variables not included in this study. All project types were counted as one category in this study, because there were not enough student projects in each category for analysis. Only one student participated in the individual or group performance category, so it could not be compared. Analysis of student success based upon their level of passage to the next round of the competition could also be studied, but was not the purpose of this beginning research. The impact on all students was studied instead of the impact of NHD on students that only presented at the building level fair compared to those that made it to regionals or state. Additional could include an the difference in performance within each grade level calculated with the project type as the independent variable, but was not included in this study.

National History Day at the junior level spans from Grade six through eight. This study only included students in Grades six and seven that completed projects during the research year. The researcher did not include Grade eight samples from the building, because their honors course did not integrate NHD into the curriculum. In the research school, there were two social studies teachers at each grade level and each teacher taught one class of NHD and four classes of traditional curriculum. Additional analyses may calculate the impact of the social studies teacher or the differences between teams of core teachers as independent variables, but they were not conducted in the current study.

Ethical Considerations

Data collection. Since both assessments were computer-based, there was less of an ethical threat during testing administration. Teachers could see student progress on the assessments, but did not see individual student test questions. Teachers were trained in the administration of both assessments, with the MCA-III requiring the most training and yearly refresher. Teachers were to report any incidences with test administration that may impact the validity of student assessment results. No incidents were reported during this administration period.

Data privacy. Any time student data are collected for statistical analysis, there is a privacy concern. No data were collected before approval from the district and additional permission from the Bethel University IRB. The data remained confidential in the fact that only the researcher saw the raw data. The data download included student names, which were recoded as an identifier unique to only this research; the researcher did not utilize district identification numbers that could be used to track data back to individual students. Student names were removed upon the recoding of students into numbers. No data on birthdate, ethnicity, free and reduced lunch status, or special education status were included in the analysis. Student rosters were used to determine which students were in social studies and language arts, and then those rosters were shredded, and no paper copies of the data exist. Upon sharing data with the statistician, all unique identifiers were removed so that students remained anonymous. No tables or reports have any unique information. The researcher, under password protection, kept all unique information and was the only one able to identify students to make sure that data were correct upon request from the school district's data warehouse. Upon completion of the

research data table, the original data download was deleted and removed from email and trash so that no identifiable copies exist.

Informed consent. Informed consent is typically required when there is data collection as part of the research process. All of the data analyzed for this research was collected during the 2016-2017 school year. MCA–III assessments are given based on state requirements and all data collected is for accountability reporting; only students whose parents opted out of the assessment should have missing data. The NWEA MAP assessments were part of the district assessment plan. Since all of these data sets were archival data, and students self-selected to participate in the treatment or control, informed consent was not required. District approval to access the data was approved by three levels of district administration in August 2017. The building principal was the designee that provided access to the data upon approval of Bethel University IRB.

Chapter IV: Results

This chapter describes the results relating to the study's two research questions. The Statistical Package for the Social Sciences (SPSS) program was used to analyze the data through a series of ANOVAs and ANCOVAs for Grades six and seven.

Research Approach

Both research questions for this study were broken down into four hypotheses. Demographic information that describes the sample of each research question was analyzed first and was broken down by grade level. Tables include the sample number (N) and the percent of the total population (%). Additional demographic information included breakdowns of grade level information by treatment group and category.

The results of this study are presented by grade level and broken down into descriptive and inferential statistics that address each hypothesis. The first two hypotheses for each question were analyzed utilizing ANCOVAs to control for prior scores, and the second two hypotheses were analyzed utilizing ANOVAs. Descriptive statistics are referenced by grade level and divided into treatment groups including the sample size (N), the average (Mean), and the standard deviation (SD). Inferential statistics are broken down by grade level and then further broken into treatment groups and reviews the sample (N), the average (Mean), the standard deviation (SD), the significance of all variables (F), the significance level (p value), and the impact of the variable (effect size).

Demographics

Grade six. Demographics for students in Grade six are broken down between the treatment and control groups and compared to the overall sample population (Table 2). Grade six had 61 students that selected to participate in the treatment (NHD Curriculum) and 135 students selected the control (traditional curriculum). The largest demographic group for both samples were White students, which ranged from 85% to 93.4% of the sample. No other demographic group represented more than 10% of the population, and only Black students in the traditional curriculum group represented more than 5% of the sample. The breakdown of ethnicity across treatments was within eight percentage points when comparing White students, but no other difference was greater than 5%. The largest difference between treatment groups was the 14.5% difference between students identified as receiving special education services, but all students were mainstreamed into social studies and language arts classes. Gender between the two treatments groups was similar with a difference of only 3.1%.

Table 2

6th Grade Demographics

Demographic Variables		Total (N=196)		NHD (N=61)		Traditional (N=135)	
		N	%	N	%	N	%
Ethnicity	AI	3	1.5	0	0.0	3	2.2
	API	5	2.6	1	1.6	4	3.0
	Black	12	6.1	2	3.3	10	7.4
	Hispanic	3	1.5	1	1.6	2	1.5
	White	173	88.3	57	93.4	116	85.9
	Total	196	100.0	61	100.0	135	100
Limited English Proficiency	No	195	99.5	61	100.0	134	99.3
	Yes	1	0.5	0	0.0	1	0.7
	Total	196	100.0	61	100.0	135	100.0
Special Education	No	170	86.7	59	96.7	111	82.2
	Yes	26	13.3	2	3.3	24	17.8
	Total	196	100.0	61	100.0	135	100.0
Gender	Female	105	53.6	34	55.7	71	52.6
	Male	91	46.4	27	44.3	64	47.4
	Total	196	100.0	61	100.0	135	100.0

Grade seven. Demographics for students in Grade seven are broken down between the treatment and control groups and compared to the overall sample population (Table 3). Grade seven had 49 students that selected to participate in the treatment (NHD Curriculum) and 180 students selected the control (traditional curriculum). The largest demographic group for both samples were White students ranging from 85% to 89.8% of the sample. No other demographic group represented more than 10% of the population, and only Black students in the traditional curriculum group and Asian Pacific Islanders in the control group represented more than 5% of the sample. The breakdown of ethnicity across treatments was within eight percentage points when comparing Asian Pacific Islander students, but no other difference was greater than 5%.

The largest difference between treatment groups was a 17.2% difference between the percentages of students identified as receiving special education services, but all of the students identified as receiving special education services were mainstreamed into social studies and language arts classes. Gender represented the second largest difference in percentages at 9.5%.

Table 3

7th Grade Demographics

Demographic Variables		Total (N=229)		NHD (N=49)		Traditional (N=180)	
		N	%	N	%	N	%
Ethnicity	AI	3	1.3	0	0.0	3	1.7
	API	13	5.7	0	0.0	13	7.2
	Black	11	4.8	3	6.1	8	4.4
	Hispanic	5	2.2	2	4.1	3	1.7
	White	197	86	44	89.8	153	85.0
	Total	229	100.0	49	100.0	180	100.0
Limited English Proficiency	No	223	97.4	49	100.0	174	96.7
	Yes	6	2.6	0	0.0	6	3.3
	Total	229	100.0	49	100.0	180	100.0
Special Education	No	198	86.5	49	100.0	149	82.8
	Yes	31	13.5	0	0.0	31	17.2
	Total	229	100.0	49	100.0	180	100.0
Gender	Female	109	47.6	55.1	82	82	45.6
	Male	120	52.4	44.9	98	98	54.4
	Total	229	100.0	100.0	180	180	100.0

Descriptive Statistics

Grade six. MCA-IIIs require a student to score a 50 or higher to meet or exceed standards on both the math and reading assessments. Math and reading MCA-III scores are identified for the two years used for analysis by students that participated in the treatment group (NHD) and the control group (traditional). The scores are broken down into number of students

(N), average (Mean), and standard deviation (SD). Students in the NHD group scored above the meets standard target as a group average on both administration years of the math and reading MCA-IIIs, and students in the traditional group scored at a partially proficient level as a group average on three of the four administrations with only the 2016 reading MCA-III at a level of meets standards. Descriptive statistics comparing the treatment and control group across assessment measures are calculated in Table 4 for Grade six students.

NWEA MAP calculated one set of cut scores based upon normative data, but since they calculated state specific cut scores, those scores were used for comparative purposes. NWEA MAP (2016) set a recommend cut score on the math assessment of 224 in the fall in order to reach a 232 on the spring assessment that is the calculated target score to pass the math MCA-III. The reading NWEA MAP cut score is identified as 213 in the fall and 217 in the spring to pass the reading MCA-III (NWEA, 2016). Math NWEA MAP scores identified students who participated in the treatment group in Grade six exceeded the average recommend fall and spring cut scores, and students in the control group identified the group achieved at an average below the recommended fall and spring cut scores. Reading NWEA MAP scores identified that students who participated in the NHD group in Grade six exceeded the average recommend fall and spring cut scores of 213, and the traditional group was at an average below the recommended fall and spring cut scores. Table 4 also provides the calculated descriptive statistics for these assessments.

Change scores were a calculation of the posttest (spring NWEA MAP or 2017 MCA-III) minus the pretest (fall NWEA MAP or 2016 MCA-III). Since the average passing score on the MCA-III is an achievement level of 50, the average change expected to remain at meets standards would be a change score of 0. The math MCA-III results showed that neither group

increased by the average expected change score. The treatment group (NHD) students exceeded the expected average on the reading MCA-III, but the control group did not increase by the expected average. The NWEA MAP change scores can be determined by taking the spring cut score and subtracting the fall cut score. Grade six math NWEA MAP change scores should increase by an average of eight, and the reading NWEA MAP change scores should increase by an average of four. Both groups of students exceeded the average expected change score on the math NWEA MAP. The NHD students did not reach the average expected increase on the reading NWEA MAP, but the traditional group did meet the average expected change score. Table 4 provides the calculated descriptive statistics for change scores.

Table 4

6th Grade Descriptive Statistics

Outcome Variables		Total (N=196)			NHD (N=61)			Traditional (N=135)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
MCA	Math 2016	182	53.6	12.0	61	62.3	8.9	121	49.2	10.9
	Math 2017	194	50.3	13.9	61	60.6	10.3	133	45.5	12.7
	Reading 2016	181	56.7	12.3	61	65.2	8.8	120	52.4	11.6
	Reading 2017	194	54.1	15.4	61	65.5	10.7	133	48.8	14.3
	Math Change	180	-3.0	-6.0	61	-1.7	5.3	119	-3.7	6
	Reading Change	179	-2.5	-2.0	61	0.2	7.6	118	-3.9	8.8
NWEA	Math 2016	196	222.1	12.9	61	231.4	8.3	135	217.8	12.5
	Math 2017	195	232.3	13.9	60	241.7	10.7	135	228.1	13.1
	Reading 2016	196	215.9	11.5	61	224.2	8.3	135	212.1	10.8
	Reading 2017	194	219.6	11.9	59	227.6	7.0	135	216.1	11.9
	Math Change	195	10.3	6.0	60	10.4	6.0	135	10.3	6.0
	Reading Change	194	3.8	7.2	59	3.3	5.3	135	4.0	7.8

Grade seven. MCA-III assessment requires a student to score a 50 or higher to meet or exceed standards on both the math and reading assessments. Math MCA-III scores identified

that students who participated in the treatment group (NHD) in Grade seven meets standards on both administrations. Scores for students in the control group (traditional) were partially proficient on both MCA-III assessment administrations. Reading MCA-III scores identified that students who participated in the NHD group in Grade seven meets standards on both administrations. Scores for students in the traditional group meets standards on the Grade six assessment but decreased to an average achievement level of partially proficient on the Grade seven assessment. Descriptive statistics comparing the treatment and control group across assessment measures are calculated in Table 5.

NWEA MAP (2016) set a recommend cut score on the math assessment of 231 in the fall in order to reach a 237 on the spring assessment that is the calculated target score to pass the math MCA-III. The reading NWEA MAP cut score is identified as 222 in the fall and 224 in the spring to pass the reading MCA-III (NWEA, 2016). Math NWEA MAP scores identified that students who participated in the NHD group in Grade seven exceeded the average recommend fall and spring cut scores. Scores for students in the traditional group were at an average below the recommended cut score on the fall and spring math assessments. Reading NWEA MAP scores identified that students who participated in the NHD group exceeded the average recommended cut scores on fall and spring reading assessments. Scores for students in the traditional group were identified at an average below the recommended cut on fall and spring reading assessments. These descriptive statistics are reported in Table 5.

Change scores were a calculation of the posttest (spring NWEA MAP or 2017 MCA-III) minus the pretest (fall NWEA MAP or 2016 MCA-III). Since the average passing score on the MCA-III is an achievement level of 50, the average change expected to remain meets standards would be a change score of 0. Neither group achieved at the recommended math MCA-III

change score; both groups achieved at a lower rate. Both groups failed to meet the expected reading MCA-III change scores as well. The NWEA MAP change scores can be determined by taking the spring cut score and subtracting the fall cut score. Grade seven math NWEA MAP change scores should increase by an average of six, and the reading NWEA MAP change scores should increase by an average of two. Both groups exceeded the average recommended math NWEA MAP change score. Both groups also exceeded the average recommended reading NWEA MAP change score. Table 5 shows the calculated descriptive statistics for change scores.

Table 5

7th Grade Descriptive Statistics

Outcome Variables		Total (N=196)			NHD (N=61)			Traditional (N=135)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
MCA	Math 2016	213	48.8	13.9	46	54.1	13.2	167	47.4	13.8
	Math 2017	222	47.7	11.0	46	50.5	10.3	176	46.9	11.1
	Reading 2016	213	53.6	15.6	46	62.0	14.0	167	51.3	15.3
	Reading 2017	222	50.6	14.2	46	56.3	13.4	176	49.1	14.0
	Math Change	211	-0.9	7.1	45	-3.3	5.8	166	-0.3	7.3
	Reading Change	211	-2.6	9.8	45	-5.5	9.2	166	-1.9	9.9
NWEA	Math 2016	229	226.9	14.0	49	231.3	12.5	180	225.7	14.1
	Math 2017	229	234.2	16.3	49	238.6	13.2	180	233.0	16.9
	Reading 2016	228	217.5	12.8	49	225.2	11.4	179	215.4	12.4
	Reading 2017	223	222.7	12.1	47	229.2	12.0	176	221.0	11.5
	Math Change	229	7.2	7.9	49	7.2	5.6	180	7.2	8.4
	Reading Change	222	5.1	8.2	47	3.7	7.2	175	5.5	8.5

Inferential Statistics

Grade six. The results of the Grade six ANOVAs and ANCOVAs are presented in Table 6. Groups were compared on the MCA-III by conducting an ANCOVA utilizing the Grade five MCA-III assessments as the covariate. The results identified that the 15-point difference on the

math MCA-III was not significantly different [F(2,177)=434.3, p=0.116]. Results for the reading MCA-III identified the observed difference of 16.7 points between the treatment and the control was significant [(F(2, 176)=199.4, p=0.001]. MCA-III change scores were significant across both ANOVAs. The two point difference in math MCA-III change scores was identified as a significantly smaller decrease (p=0.033), and the 4.1 point reading MCA-III difference in change scores was a significantly difference increase (p=0.002).

Groups were compared on the NWEA MAP by conducting an ANCOVA utilizing the fall assessments as the covariate. The results identified that the 13.6-point difference on the spring math NWEA MAP was not significantly different [F(2,192)=421.1, p=0.529]. Results for the reading MCA-III identified the observed difference of 11.5 points between the treatment and the control was not significantly different [(F(2, 176)=190.4, p=0.168]. MCA-III change scores were not significant across either ANOVA. The one-tenth of a point difference in math NWEA MAP change scores was identified as not significantly different (p=0.938), and the seventh-tenths of a point difference in reading NWEA MAP scores indicated that the control grew more than the treatment was not significant (p=0.538).

Effect size calculations are reported across all measures for the MCA-III and NWEA MAP. A comparison of benchmarks was only provided for three significant measures (reading MCA-III and both MCA-III change scores). The size of the reading MCA-III is considered medium (η_p^2 =0.058), as well as is the reading MCA-III change score (η_p^2 =0.051). The math MCA-III change scores falls in the small to medium level (η_p^2 =0.025).

Table 6

6th Grade Test Scores, by Curriculum Type

Assessment	Curriculum Type	N	Mean	SD	F	p-value	Effect Size
MCA Math 2017	National History Day	61	60.6	10.3	2.5	0.116	0.014
	Traditional	119	45.6	12.8			
MCA Reading 2017	National History Day	61	65.5	10.7	10.8	0.001	0.058
	Traditional	118	48.8	13.9			
MCA Math Change Score (2017-2016)	National History Day	61	-1.7	5.3	4.6	0.033	0.025
	Traditional	119	-3.7	6.0			
MCA Reading Change Score (2017-2016)	National History Day	61	0.2	7.6	9.6	0.002	0.051
	Traditional	118	-3.9	8.8			
NWEA Math Spring	National History Day	60	241.7	10.6	0.4	0.529	0.002
	Traditional	135	228.1	13.1			
NWEA Reading Spring	National History Day	59	227.6	7.0	1.9	0.168	0.01
	Traditional	135	216.1	11.9			
NWEA Math Change Score (Spring-Fall)	National History Day	60	10.4	6.0	0.1	0.938	0.00
	Traditional	135	10.3	6.0			
NWEA Reading Change Score (Spring-Fall)	National History Day	59	3.3	5.3	0.4	0.538	0.002
	Traditional	135	4.0	7.8			

Grade seven. The results of the Grade seven ANOVAs and ANCOVAs are presented in Table 7. Groups were compared on the MCA-III by conducting an ANCOVA utilizing the Grade six MCA-III assessments as the covariate. The results identified that the 3.2-point difference on the math MCA-III was not significantly different [F(2, 208)=293.2, p=0.257]. Results for the reading MCA-III identified the observed difference of 6.7 points between the treatment and the control was not significantly different [(F(2, 208)=167.6, p=0.618]. MCA-III change scores were significant across both ANOVAs but in favor of the control group decreasing less. The 3.0 point difference in math MCA-III change scores was identified as a significantly smaller decrease (p=0.011) for the control compared to the treatment, and the 3.7 point reading MCA-III difference in change scores was a significantly smaller decrease for the control (p=0.028).

Groups were compared on the NWEA MAP by conducting an ANCOVA utilizing the fall assessments as the covariate. The results identified that the 5.6-point difference on the spring math NWEA MAP was not significantly different [F(2,226)=368.2, p=0.9]. Results for the reading MCA-III identified the observed difference of 8.2 points between the treatment and the control was not significantly different [(F(2, 219)=175.3, p=0.493]. MCA-III change scores were not significant across either ANOVA. The zero point difference in math NWEA MAP change scores was identified as not significantly different (p=0.998), and the 1.8-point difference in reading NWEA MAP scores indicated the control grew more than the treatment was not significant (p=0.175).

Effect size calculations are reported across all measures for the NWEA MAP. A comparison of benchmarks was provided for the two significant measures (math and reading MCA-III change scores). The size of the math MCA-III change is considered small to medium

(η_p^2 =0.031). The reading MCA-III change scores also falls in the small to medium level (η_p^2 =0.023). Both of these effect size calculations demonstrated that the treatment did not have an impact on grade seven scores and that the control outperformed the treatment group.

Table 7

7th Grade Test Scores, by Curriculum Type

Assessment	Curriculum Type	N	Mean	SD	F	p-value	Effect Size
MCA Math 2017	National History Day	45	50.2	10.2	1.3	0.257	0.006
	Traditional	166	47.0	11.1			
MCA Reading 2017	National History Day	45	56.0	13.4	0.3	0.618	0.001
	Traditional	166	49.3	14.1			
MCA Math Change Score (2017-2016)	National History Day	45	-3.3	5.8	6.6	0.011	0.031
	Traditional	166	-0.3	7.3			
MCA Reading Change Score (2017-2016)	National History Day	45	-5.5	9.2	4.9	0.028	0.023
	Traditional	166	-1.8	9.9			
NWEA Math Spring	National History Day	49	238.6	13.2	0.0	0.9	0.000
	Traditional	180	233.0	16.9			
NWEA Reading Spring	National History Day	47	229.2	12.0	0.5	0.493	0.002
	Traditional	175	221.0	11.5			
NWEA Math Change Score (Spring-Fall)	National History Day	49	7.2	5.6	0.0	0.998	0.000
	Traditional	180	7.2	8.4			
NWEA Reading Change Score (Spring-Fall)	National History Day	47	3.7	7.2	1.8	0.175	0.008
	Traditional	175	5.5	8.4			

Summary

Grade six and seven students who participated in the treatment experienced mixed results on the math and reading MCA-IIIs. Students in Grade six NHD achieved at a significantly higher level on the reading MCA-III, but not on the math MCA-III when using the prior year score as a covariate. Grade six students change scores were significantly different for the NHD group than their peers. The difference was a positive gain for the reading assessment and less of a loss on the math assessment. Grade seven treatment students did not differ from the control in any significant ways on the math and reading MCA-IIIs when using the prior year as a covariate. The control group experienced less of a loss in change scores for both math and reading MCA-IIIs, which was significant.

No NWEA MAP data demonstrated significant differences for either treatment condition. NWEA MAP change scores also did not show any significant differences in scores. Both treatment and control groups grew at about the same level on the math NWEA MAP assessment.

Chapter V: Discussion

This chapter serves as a review of the research that was completed. It provides a review and interpretation of the results and makes recommendations for practitioners and researchers.

Overview of the Study

A Southern Minnesota middle school began to implement honors courses throughout subjects. A small group of teachers decided to embed National History Day (NHD) curriculum into the honors social studies courses in Grades six and seven. This secondary data analysis was conducted in order to determine the impact that NHD curriculum had on standardized assessments of reading and math. The school district utilized the Minnesota Comprehensive Assessments III (MCA-III) as required by the state and assessed students on the Northwest Evaluation Association Measures of Academic Progress (NWEA MAP).

The purpose of this secondary data analysis study was to determine the impact on Grade six and seven math and reading achievement on state and nationally-normed assessments when embedding NHD project into the curriculum, for a Midwestern middle school during the 2016-2017 school year. The goal of this study was to determine if the school should continue with the current level of NHD programming, expand the offerings to additional grade levels, or to discontinue participation in NHD. Students in Grades six and seven provided the data for this study by selecting to enroll in an honors course or traditional social studies class during the 2016-2017 school year.

Students completed a variety of assessments that were utilized for the purposes of this study. Math and reading MCA-III scores were collected from the 2016 school year to serve as pretest data and 2017 scores were analyzed as posttest scores. Students' scores from the NWEA

MAP administrations during the fall of 2016 and the spring of 2017 were utilized as another measure for comparison of reading and math scores across groups.

Research Questions, Findings, and Conclusions

This study was broken down between two research questions and twelve hypotheses.

Research question one. What difference exists on state standardized assessments (reading and math MCA-III) between general education students in Grades six and seven receiving curriculum with NHD embedded within it compared to peers receiving traditional standards-based social studies curriculum?

Question one findings. Findings related to question one demonstrated mixed results. Students in Grade six who participated in treatment with NHD significantly outperformed their peers on the reading MCA-III and on math and reading MCA-III change scores. No differences existed on the math MCA-III between treatment groups in Grade six. Students in the Grade seven treatment group did not statistically outperform their peers on the reading or math MCA-III. The Grade seven control group experienced a statistically significant difference in change scores by decreasing at a lesser rate than the treatment group.

Question one conclusions. This study rejected the null hypothesis for Hypotheses 1a and 1b. Students in Grade six did significantly outperform their peers on the reading MCA-III through the integration of NHD into the curriculum. The null hypothesis was not rejected for Hypothesis 1c, but it was rejected for Hypothesis 1d. The null hypothesis was not rejected for Hypotheses 1e and 1g. However, the null hypothesis was rejected for Hypotheses 1f and 1h, but the results demonstrated that the control group outperformed the treatment group on both Grade seven math and reading MCA-III change scores.

Research question two. What difference exists on a nationally-normed assessment (reading and math NWEA MAP) between general education students in Grades six and seven receiving curriculum with NHD embedded within it compared to peers receiving traditional standards-based social studies curriculum?

Question two findings. Findings related to question two were confirmed across all analyses. There were no significant differences between treatment and control groups at either grade level on math and reading NWEA MAP. There were also no significant differences in change scores at either grade level on the math and reading NWEA MAP.

Question two conclusions. This study confirmed the null hypothesis for each Hypothesis 2a, 2b, 2c, 2d, 2e, 2f, 2g, and 2h. Students in the NHD treatment group did not significantly outperform their peers on the math and reading NWEA MAP. NWEA MAP change scores demonstrate that the treatment and control groups achieved at approximately the same level in math, and that students in the traditional curriculum increased at a greater rate than students in the control, but not at a significant level.

Limitations

The findings of this study are not generalizable to schools unless they are demographically similar. There was limited diversity in the research district, and even less diversity in the group that participated in the treatment. There were no English Language Learners that participated in the treatment, and there were only a limited number in either control group. The only special education students that participated in the study were students that were enrolled in both social studies and language arts classes; the students that were in replaced reading were not included in the study. The results of this study do not support the use or exclusion of NHD with English Language Learners or special education students.

The sample of students was limited to one school district and two grades. Additional grades and schools would serve to increase the generalizability of the results. Multiple students in the treatment group were exempted from testing by their parents, which may have impacted the scores of the treatment group. All students in the sample were part of the school multi-tiered systems of support program. Students in either the treatment or control were able to participate in tier two reteaching or tier three remedial programming in math and/or reading. Since groups were fluid throughout the year, it was difficult to control which students received additional support and how often. Based upon initial achievement levels, students in the NHD group would not have qualified for tier three remedial support, but were eligible for tier two support.

The teachers that embedded NHD into their curriculum were all new to the NHD program. They all participated in professional development by viewing three YouTube videos produced by the Minnesota Historical Society. Three of the four teachers attended a region thematic workshop, but no additional training was provided. The one teacher not able to attend was a Grade seven teacher, which may have impacted scores even though materials were shared across grade levels. Training and/or prior participation in NHD may be an advantage to a school district that is just beginning to implement the programming. A study of a school district that has implemented NHD programming for an extended period of time may show different results. Visitation to other districts that are veterans at implementing NHD may help increase the effectiveness of a first year NHD implementation.

The extent to which teachers incorporated available materials was not measured for the purposes of this study, but it would be recommended for further studies. Additional documentation of specific resources and materials used would allow for additional understanding of the differences between grade level achievements. Teachers created a common resource

website to utilize with students, but integrity to instruction was not checked by the research due to methodology of the study.

National History Day does require the use of technology for a number of projects. Students and teachers had two computer labs and one mobile cart available for technology access. Limited access to technology does not allow for a robust research process. Schools that have one-to-one computer access may be at an advantage during the research phase of NHD. Both standardized assessments are computer-based assessments. Student scores on the MCA-III were a limitation, because there were a set number of questions. Since the NHD groups started at higher achievement levels, they had less of a chance to increase their scores than did the control group. Students had the ability to experience greater growth on the NWEA MAP, but were limited by the fact that the yearly difference in Rasch Unit scores was less than 10 points across the year. This could limit the analysis of results due to less variability in test scores.

Students were given enrollment forms for the school year in May 2016 due to scheduling conflicts. Course information was provided to parents and teachers electronically. Multiple students noted that their parents required them to sign up for an honors course and others stated that they did not sign up for an honors course because of the research component. The selection of a course without an understanding of the course requirements could impact student attitude. Students in the Advancement Via Individual Determination program were told that they must register for an honors course. Many believed that social studies would be a better alternative to honors language arts or math.

Implications

This study identified that students who participated in NHD programming in Grade six had had higher scores across content-areas including reading and math. However, participation was not effective at increasing scores at the seventh grade level. Since initial results are mixed, additional research is necessary to determine if the findings would remain consistent in years two and three of implementation before making a decision to expand or stop NHD participation. Time for teachers in Grades six and seven to communicate regarding the differences in implementation between the two grade levels might lead to additional insight into the growth or lack of growth between the grade levels.

Additional support for implementation of any program such as NHD, Science Fair, or other disciplinary literacy strategy is recommended to make the program as effective as possible. In the early stages of implementation student choice may need to be limited. Selection of a topic, type of project, and group size, could provide too many choices for a middle school student and for a teacher to implement with the first year of implementation. A district should consider limiting the choice during the first years of implementation so that an emphasis can be placed on student learning rather than learning the rules of five different project categories.

Based upon previous research conducted by Rockman and Sloan (2010), students that participate in NHD programming can transfer the skills learned in NHD to increase scores across other disciplines, the current study, and qualitative studies (Adams & Pasch, 1987; Fehn & Schul, 2011; Gorn, 2012; Kim & Olwell, 2005). There is evidence that students have the ability to grow as a student researcher through the NHD process. Districts should consider trying other programs that take less time away from core instruction prior to implementing NHD (Duhaylongsod et al., 2015; Foster & Padgett, 1999). However, in evaluating the

implementation of another program, a district should consider the cost of materials, availability of professional development, and the ability to connect to student interests.

Recommendations for Practitioners

Through being granted access to the Case Western University NHD archive, I was able to learn a great deal about the original training of teachers to participate in NHD. The process of attending an institute and working through an NHD project could provide additional benefits for teachers prior to implementing the program if they do not have any prior experience with the program. It would be beneficial for staff who are going to implement NHD curriculum to judge at the regional or state level prior to implementation.

Students in Grades six through twelve are eligible to participate in NHD. It would be beneficial for younger students to have older experienced NHD students mentor them their first year in the program. The school had the ability to have support from college mentors, but the mentors were new to NHD as well, and only had limited training. A school or district may want to begin the process with one grade level at a time, so that resources are identified and student projects can be used to develop interest in the program for future years. An incremental implementation process could help alleviate concerns that students and teachers have regarding implementation.

Teachers should consider the availability of resources in their community. The Internet provided participants with access to a variety of resources, but with the emphasis that NHD placed on primary sources, students should be able to have access to a variety of sources on topics. If students selected a state or local project in which they direct access to primary sources, they may have been more successful. Teachers that are not able to spend money on traveling to

university libraries, historical societies, or public libraries should work with parents to play a more active role in supporting student research after school or on weekends.

Recommendations for Academics

National History Day curriculum has evidence that it can be effective at increasing student scores outside of social studies content. Additional research is necessary to determine how to implement NHD programming to maximize the benefits to students. The current study identified NHD had a positive significant impact on Grade six student standardized assessment scores, but there were significant losses for students in Grade seven. If possible the researcher would benefit from following this cohort of students through the NHD process into high school. At the time of this study, not enough students had signed up for an NHD elective class for the 2017-2018 or the 2018-2019 school years to have the program continue into the high school level. Following a cohort might be able to help researcher identify a grade level or grade levels that NHD has the greatest impact and/or characteristics of students that grow the most based upon NHD participation.

Cohort analyses could provide additional insight into teacher and curricular practices as well. The approach that teachers use to implement NHD curriculum could have an impact. Differences between elementary trained teachers with middle school endorsements compared to secondary trained teachers with an emphasis on social studies could help clarify characteristics of effective teachers. The research school implemented NHD curriculum over approximately 40 school days, but differences could exist in achievement in schools that focus for 30, 40, or 50 days. Schools that encouraged students to begin to develop projects over the summer, prior to the school year, could see more growth in student achievement. Some schools provided no class time for NHD, and analyses of different samples could determine the impact of NHD

participation between students that participated on their own, students that participated in school programs embedded in the curriculum, and students that participated in NHD as an after school activity.

Expanding the sample size would allow a researcher to analyze individual components of NHD programming. Research could be used to corroborate and/or extend the findings of Rockman and Sloan (2010), which would add to the body of research on NHD. Future secondary data analyses could identify if one project type is more effective at increasing student achievement than another. The impact of the cooperative learning practices involved in NHD could be analyzed to determine the impact of individual versus group participation in NHD. Additional consideration could analyze the differences within NHD participant groups to determine the impact on student achievement for students that only participated in the school competition, compared to students that make it to regionals, compared to students that make it to state and/or nationals.

Topical analysis of student results might inform future NHD themes. Some themes selected by NHD may lead to more analysis than other themes that are rotated through over the cycle of years. Additionally, analyses could determine if there is an advantage to selection of a local, state, national, or international topic. Since NHD was integrated into a Minnesota Studies course and a United States History course in this research, there may be advantages to selecting a topic that is more curriculum-based. A topical analysis could determine the impact of completing a project on a well-known event compared to lesser-known events.

Concluding Comments

The research school district paid less than $2,000 to participate in NHD for an entire school year. In year one of implementation, 30 individuals or groups of students totaling 43

students made it to the regional round of NHD, which is based more about the number of students that are participating than project quality. However, 10 students made it to state, including research paper students, totaling 15 students for the first year of implementation, and multiple individual and groups received honorable mention status at regionals. Of all of the students participating in the class, only two students did not complete a project on time, but all students completed their project.

Parent feedback was positive in support of continued expansion of the program. For year two, the school expanded to grade eight as well, and increased from 129 students to almost 150 students. Over two-thirds of all students that participated in year one returned to compete in year two. Students accepted a challenge and decided to continue challenging themselves with the research project.

If the cost of the program were greater, a more critical evaluation would be necessary to determine implementation for upcoming school years. Achievement scores may have demonstrated mixed results, but teacher, student, and parent feedback was positive. Transference of skill from a social studies project to reading or any other subject lends additional support for teaching social studies at all grade levels. Disciplinary literacy can have a positive impact on achievement in other content areas. More specific connections to science and math would provide additional support for the implementation of NHD.

Many school districts collect a wealth of student data. After conducting this secondary data analysis, I believe there are many ways schools can utilize their existing data to make curricular decisions. Instead of making curricular decisions related to the reduction of content courses such as social studies, districts need to take the time to analyze their data to determine if their social studies program is supporting learning across other content areas. A district does not

have to make the decision to reduce time in social studies classes or to eliminate social studies education, but the decision should relate to the type of curriculum and the strategies being implemented within the class. Even in an era of standards-based instruction, there is room for disciplinary literacy to support the growth and development of students across tested subjects. Reductions and/or an elimination of a content area need to be sufficiently analyzed to determine the impact that that reduction will make on future background knowledge required to be successful in high school and college content courses. It may be ultimately impossible to meet high school standards with little to know prior instruction in a subject. Decision-makers need to revisit their protocol for reduction or removal of a content without knowing the impact, when it can be determined that there are other options available to transfer skills to tested subjects.

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Appendix A: 2016-17 Course Descriptions for Grades Six and Seven

These selections show the difference between grade six and seven traditional and honors courses. Honors courses were changed to reflect the integration of the National History Day project into the curriculum.

Grade Six Social Studies:
In Minnesota Studies, students explore history, government, geography, and economics, placing Minnesota and its people within the context of the national story. They will engage in historical inquiry, examine the relationship within government, and analyze how geography affected settlement and city growth. Students learn about the unique role Minnesota played, and continues to play, in regional, national and global politics.

Grade Six Honors Social Studies:
In honors Minnesota Studies, students will study history, government, geography, and economics, placing Minnesota and its people within the context of the national story. They will engage in historical inquiry, examine the relationship within government, and analyze how geography affected settlement and city growth. Students will learn about the unique role Minnesota played, and continues to play, in regional, national, and global politics. Students will complete the core curriculum at a faster pace than peers, and will research a History Day topic related to the yearly theme. Students will be required to complete a research project using one of the media required by National History Day by the March regional presentation. Research projects may include one of the following: paper (individual only), individual exhibit, group exhibit, individual performance, group performance, individual documentary, group documentary, individual website, or group website.

Grade Seven Social Studies:
Seventh grade social studies will cover American History from 1800-present. There will be short units covering economics, civics and geography. A multimedia approach involving texts, educational videos, and up-to-date technology will be utilized. Student-oriented projects and group work will supplement the units.

Grade Seven Honors Social Studies:
Seventh grade social studies will cover American History from 1800-present. There will be short units covering economics, civics and geography. A multimedia approach involving texts, educational videos, and up-to-date technology will be utilized. Student-oriented projects and group work will supplement the units. Students will complete the core curriculum at a faster pace than peers and will research a History Day topic related to the yearly theme. Students will be required to complete a research project using one of the media required by National History Day by the March regional presentation. Research projects may include one of the following: paper (individual only), individual exhibit, group exhibit, individual performance, group performance, individual documentary, group documentary, individual website, or group website.

Appendix B: Comparison of Time Spent by Unit in Grade Six Classes

This table shows the amount of time spent on each unit in sixth grade social studies as an example of the differences between an honors course implementing history day and a traditional class taught by the same instructors.

Table 1

Sixth Grade Unit Time Comparisons

Topic	Honors	Traditional
Geography	6	12
Early Minnesota History	4	5
Native Americans	11	11
Government	13	18
Fur Trade	8	13
Immigrants	5	9
Treaties and U.S. Dakota War	5	12
Civil War	5	15
Homesteads and Industries	10	15
Development of Cities	10	10
WWI	4	4
Juvenile Justice	19	19
WWII and Cold War	9	9
Immigration and Migration	8	9
MN Careers and Businesses	4	4
MN Road Trip	2	2
Other (Field Trips and Assessments)	8	8
National History Day	44	0
Total Days	175	175

Appendix C: CITI Training Completion Reports

This document showed the first time that the researcher passed required CITI training modules. Since a more recent score is needed, the second document showed the most recent completion date.

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2
COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Cory Hanson (ID: 2337058)
- **Institution Affiliation:** Bethel University (ID: 1398)
- **Institution Email:** coh49575@bethel.edu
- **Phone:** (507) 461-0819

- **Curriculum Group:** Doctoral students - Basic/Refresher
- **Course Learner Group:** Same as Curriculum Group
- **Stage:** Stage 1 - Basic Course

- **Record ID:** 22008446
- **Completion Date:** 19-Jan-2017
- **Expiration Date:** 19-Jan-2019
- **Minimum Passing:** 80
- **Reported Score*:** 100

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Belmont Report and CITI Course Introduction (ID: 1127)	12-Jul-2011	3/3 (100%)
Students in Research (ID: 1321)	12-Jul-2011	10/10 (100%)
History and Ethical Principles - SBE (ID: 490)	19-Jan-2017	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	19-Jan-2017	5/5 (100%)
The Federal Regulations - SBE (ID: 502)	19-Jan-2017	5/5 (100%)
Assessing Risk - SBE (ID: 503)	19-Jan-2017	5/5 (100%)
Informed Consent - SBE (ID: 504)	12-Jul-2011	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	12-Jul-2011	5/5 (100%)
Research with Children - SBE (ID: 507)	12-Jul-2011	4/4 (100%)
Research in Public Elementary and Secondary Schools - SBE (ID: 508)	12-Jul-2011	4/4 (100%)
Internet-Based Research - SBE (ID: 510)	19-Jan-2017	5/5 (100%)
Bethel University (ID: 12888)	19-Jan-2017	No Quiz

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: www.citiprogram.org/verify/?kc7d18495-6fd3-4592-8129-52e4c6bfd68d-22008446

Collaborative Institutional Training Initiative (CITI Program)
Email: support@citiprogram.org
Phone: 888-529-5929
Web: https://www.citiprogram.org

This document shows that the researcher completed the required CITI trainings within the last year.

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 2 OF 2
COURSEWORK TRANSCRIPT**

** NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Cory Hanson (ID: 2337058)
- **Institution Affiliation:** Bethel University (ID: 1398)
- **Institution Email:** coh49575@bethel.edu
- **Phone:** (507) 461-0819

- **Curriculum Group:** Doctoral students - Basic/Refresher
- **Course Learner Group:** Same as Curriculum Group
- **Stage:** Stage 1 - Basic Course

- **Record ID:** 22008446
- **Report Date:** 20-Jan-2017
- **Current Score**:** 100

REQUIRED, ELECTIVE, AND SUPPLEMENTAL MODULES	MOST RECENT	SCORE
Students in Research (ID: 1321)	20-Jan-2017	5/5 (100%)
History and Ethical Principles - SBE (ID: 490)	19-Jan-2017	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	19-Jan-2017	5/5 (100%)
Belmont Report and CITI Course Introduction (ID: 1127)	20-Jan-2017	3/3 (100%)
The Federal Regulations - SBE (ID: 502)	19-Jan-2017	5/5 (100%)
Bethel University (ID: 12888)	20-Jan-2017	No Quiz
Assessing Risk - SBE (ID: 503)	19-Jan-2017	5/5 (100%)
Informed Consent - SBE (ID: 504)	20-Jan-2017	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	20-Jan-2017	5/5 (100%)
Research with Children - SBE (ID: 507)	20-Jan-2017	5/5 (100%)
Research in Public Elementary and Secondary Schools - SBE (ID: 508)	20-Jan-2017	5/5 (100%)
Internet-Based Research - SBE (ID: 510)	19-Jan-2017	5/5 (100%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: www.citiprogram.org/verify/?kc7d18495-6fd3-4592-8129-52e4c6bfd68d-22008446

Collaborative Institutional Training Initiative (CITI Program)
Email: support@citiprogram.org
Phone: 888-529-5929
Web: https://www.citiprogram.org

Appendix D: District Data Access Approval

This document provides the researcher permission to access data necessary for the secondary data analysis procedure. All district approval was completed by August 18, 2017, in preparation of submission to the Bethel University IRB.

RESEARCH COOPERATION AGREEMENT

August 10, 2017

agrees to provide assistance to Cory Hanson, a student at Bethel University, *for* the completion of a research study on *the Impact of National History Day Instruction on Academic Achievement*. The research project will compare students that voluntarily participated in Honors social studies classes in 6th and 7th grades to peers that chose not to participate in honors courses. The Honors course specifically implemented the National History Day project into the curriculum, and the current research is trying to determine if this project-based learning approach had an impact on students reading and math abilities. It is a replication and expansion of the Rockman and Sloan (2010) study of National History Day.

Specifically, agrees to allow the following (Check all that apply):

X Access to archival data owned by the institution or agency

- Minnesota Comprehensive Assessment Scores
  - 2016 and 2017 Reading and Math Scores for Students in 6th and 7th Grades
- NWEA MAP Scores
  - Fall of 2016 and Spring of 2017 Scores

Mark Winter – Principal,

Signature: Mark Winter Date: 8/10/17

Kelly Halvorsen – Director of Teaching and Learning,

Signature: Kelly Halvorsen Date: 8/10/17

Richard Dahman – Superintendent,

Signature: RD Date: 8-18-17

Appendix E: Bethel University Institutional Review Board Approval

This document provided the researcher permission from the Bethel University IRB to access data for analysis purposes. The Bethel University IRB Granted approval to access data on January 28, 2018.

Subject: Re: Human Subjects Form

Hi Cory,

Thank you for forwarding this approval from the

Your IRB proposal has been approved with the Bethel University Level II authorization number of 012818-01.

Once Dr. Mertes gives you authorization, you may proceed forward with your research.

Best wishes on your dissertation journey.

Craig