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Teachers' Utilization of Field Trips: A Comparative Study

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FLORIDA TEACHERS' UTILIZATION OF FIELD TRIPS: A COMPARATIVE STUDY

by

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ABSTRACT

Field trips are visits to an out-of-school setting designed for educational and academic purposes whereby as a result students gain firsthand knowledge and experiences. Historically, it was the potential for student learning that motivated teachers to utilize field trips. However, there is reasonable suspicion among scholars today that teachers are utilizing field trips less since the start of the new millennia; the common reasons being cited among others include a slumping economy, an increase in accountability due to high-stakes testing, and rising fuel costs. Unfortunately, there is no empirical evidence that can confirm or deny this suspicion.

Therefore, the purpose of this survey research study is twofold. The first goal is to investigate what proportion of Florida K-12 public school teachers, within the field of social studies, science, mathematics, and language arts utilized a field trip during the 2012-13 academic school year; along with investigating the total number and frequency in which they used those field trips. The second goal is to identify if there were any significant differences in the number of field trips that those teachers utilized based on four independent variables (a) the grade level at which the teachers teach, (b) teachers' years of teaching experience, (c) the content focus of the field trips, and (d) whether teachers graduated from a teacher preparation program or not. The study utilized a non-experimental causal-comparative research design to conclude that there were some significant differences in the number of field trips teachers utilized as a result of two of the independent variables.

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Overview

"Field trips in the formative years are one of the most important things teachers can provide for their students" (Nabors, Edwards, & Murray, 2009, p. 661). In fact, teachers have utilized field trips for centuries in order to help teach subjects like history or social studies, science, mathematics, and language arts; amongst the many other topics a teacher could choose from throughout the ages (Atyeo, 1939; Krepel & DuVall, 1981). Consequently, each year teachers in America are responsible for taking millions of students on what has now become a childhood rite of passage, the school field trip (American Science and Technology Centers [ASTC], 2012). The Association of Science and Technology Centers (ASTC), a non-profit organization of science centers and museums with nearly 600 members in 43 countries with at least one member in all 50 of the United States noted that "school groups accounted for a median 16.2% of total on-site attendance" (ASTC, 2011, p. 3), totaling approximately 13 million in the United States alone, which is an increase of about two million attendees from the previous year's attendance numbers of school groups (ASTC, 2010; 2011). Additionally, the attendance figures do not include the number of students who attended sites not a part of the ASTC such as local, state, and national parks; non-member museums, science centers, and aquariums; zoos; theaters; reenactments; festivals; amusement parks; historical districts and societies; memorials; monuments; and many more. Given that there are approximately 50 million students in America's K-12 public schools (U.S. Department of Education, 2012), one can infer that field trips are a big business.

However, scholars have indicated that for the past decade real life field trips, as opposed to virtual field trips, are on the decline; most notably as a result of a poor economy, an increase in accountability due to standardized testing, and an increase in fuel costs, among several other issues (Blachowicz & Obrochta, 2005; Coughlin, 2010; Gillett, 2011; Nabors, Edwards, & Murray, 2009; Schatz, 2004; Stoddard, 2009). Although, the attendance figures to ASTC institutions has risen in the past year, the rise in attendance is no clear indication that teachers are utilizing field trips at an equal or greater frequency than in previous years. Unfortunately, the last study that quantified teachers' utilization of field trips was conducted more than 30 years ago (see Muse, Chiarelott, & Davidman, 1982).

Assuming the above numbers of a 13 million (ASTC, 2011) are accurate and do not include repeat attendees and non-public school groups, than the evidence would indicate that approximately 25% of the public education student population attended a field trip in 2011. If one doubles the 13 million attendance figure to 26 million only about 50% of students would have attended a field trip in 2011. Yet, before scrutinizing the need for teachers to utilize field trips more frequently, let's examine what constitutes a field trip.

A field trip is defined as any visit designed for educational and academic purposes to an out-of-school setting, lasting for minutes or days and occurring at professionally organized and maintained museums and science centers or unmaintained portions of nature; whereby as a result students gain firsthand knowledge and real world experiences (Krepel & DuVall, 1981). In addition to the term 'field trip', the following terms can be used as synonyms as is common in the professional literature: 'educational or school excursion', 'educational or school journey', and 'learning trek'.

Theoretical Framework for Using Field Trips

When inquiring about why teachers use field trips the answer undoubtedly always comes back to some form of student learning or motivation. There are, of course, various learning outcomes that have proven to occur with field trips including those belonging to the cognitive, affective, and social domains (see Anderson & Lucas, 1997; Bamberger & Tal, 2008b; Csikszentmihalyi & Hermanson, 1995; DeWitt & Storksdieck, 2008; Falk, & Dierking, 1992; Flexer & Borun, 1984; Gottfried, 1980; Knapp, 1996; Kubota & Olstad, 1991; Orion & Hofstein, 1994; Rix & McSorley, 1999; Salmi, 2003). However, those learning outcomes are tied to students' experiences and thus this form of learning can be best described as 'experience-based' learning, which is referred to by both Dewey (1938) and Piaget (1937). Student learning then occurs as a result of direct, sensory interaction with real objects, people, and environments (Dewey, 1938). Additionally, experienced-based learning is an active process and thus the learners will come to situations with previous knowledge and will connect to new knowledge based on the experiences they are engaging in (Piaget, 1937).

A constructivist view of learning is also an appropriate learning theory associated with field trips, because student learning occurs as they actively construct their own understandings based on their surroundings. Vygotsky's dialectical constructivism theory specifically denotes the importance of children interacting with experienced members of their community (Bruning, Schraw, Norby, & Ronning, 2004). This form of learning is in contrast to a transmission type of learning, where the learner is to be filled with information much like a jar is filled with water. Also, field trips promote Ausubel's (1962) meaningful learning theory; although, Ausubel was not a constructivist. A meaningful learning theory is appropriate because field trips allow

students to interpret their new experiences and make connections with prior knowledge (see also Ausubel, Novak, & Hanesian, 1978).

Historical Overview of Field Trip Use

Teachers have used field trips for centuries; in fact, there are references of field trips being used that date back to ancient Rome and Greece and suggestions that field trips were advocated for by both Aristotle and Socrates (Atyeo, 1939; Krepel & DuVall, 1981). By the Middle Ages educational journeys had become a common practice for journeymen who had to travel to different regions of their countries before settling to carry out their trade (Krepel & DuVall, 1981). One of the earliest documentation of a school excursion dates back to the late eighteenth century where a German schoolmaster periodically took his students on learning treks in order that they might "love nature, observe keenly and travel extensively" (Atyeo, 1939, p. 14). By the 1930s, after more than a century's time, Germany boasted some 2,000 hostels built for learning treks, which provided approximately five million nights worth of lodging for teachers and students (Atyeo, 1939).

In England, one of the first known school excursions occurred in the summer of 1877 when J. H. Cowham, a geology teacher, took 60 students to visit the Swiss Alps in order to study "live" glaciers (Ayteo, 1939, p. 27). In fact, teachers in England became so enthralled with school excursions that they started a non-profit organization in 1911 called the School Journey Association, which is still in existence today. School excursions became widely popular among several other European nations as well including Austria, France, Italy, Poland, and the Soviet Union (Russia) to name a few.

Even in colonial America, field trips were utilized by teachers as they took students outside to explore nature and visit local farms (Barone, 2008). Just prior to the turn of the twentieth century literature began advocating for the inclusion of school excursions in America's schools; although, due to geographical and cultural differences between America and Europe, field trips were often planned and organized differently. By the 1920s educational researchers began to examine school excursions as a unique teaching technique.

Research on Field Trips

There is no shortage of literature when discussing the topic of field trips; although, the majority are conceptual pieces that offer advice or tips on where to go and how to conduct a field trip, particularly for those who teach at the elementary level or for those who teach science related disciplines (see Ap, 2005; Bowden, 2006; Coughlin, 2010; Hopkinson, 2001; Kisiel, 2006a; Martin & Seevers, 2003; Morris, 2010; Noel, 2007; Stone & D'Acosta, 2008). There is, however, a portion of the literature pertaining to the perspective of potential field trip sites, which involves museums and science centers, with less from other venues (see Anderson & Lucas, 1997; Falk & Dierking, 1992; Kubota & Olstad, 1991; Ramey-Gassert, Walberg, & Walberg, 1994; Rennie & McClafferty, 1996; Salmi, 2003; Sturm & Bogner, 2010; Xanthoudaki, 1998). Literature written from the perspective of the sites often describes a range of effects on 'visitors', and not students per se. Therefore, many studies may not be directly appropriate to this study; although, several examine issues of learning that correlate to establishing teachers' motivations for the utilization of field trips.

The literature pertaining to students' perspectives focuses on their achievement with and attitudes towards field trips (see Bamberger & Tal, 2008b; Cox-Petersen, Marsh, Kisiel, &

Melber, 2003; Flexer & Borun, 1984; Gennaro, 1981; Griffin, 1998; Orion & Hofstein, 1994). The majority of this literature involves students who are either in the elementary grades or on a science field trip. Additionally, literature within this theme will be useful as it will help establish the kinds of field trip sites that teachers utilize.

The literature concerning teachers' perspectives centers mainly on teachers' motivations toward and practices with field trips (see Anderson, Kisiel, & Storksdieck, 2006; Krepel & DuVall, 1981; Muse et al., 1982; Noel & Colopy, 2006). Unfortunately, the bulk of the literature in this theme are conceptual pieces, in which the authors try to motivate the readers to utilize field trips by offering tips on how to best plan and conduct them. In addition, much of what has been written about teachers conducting field trips was studied through a qualitative lens. The last known quantitative study to examine the frequency in which teachers use field trips was conducted in 1982 (Muse et al.).

Statement of the Problem

Given that there is a large abundance of professional literature pertaining to field trips it is surprising to find few empirical studies that examine the number of teachers who use field trips or the number of field trips that are used by those teachers. Furthermore, scholars have written in the past decade that field trips are being utilized less than in previous years, citing the slumping economy, an increase in accountability due to standardized testing, and an increase in fuel costs, among other reasons (Blachowicz & Obrochta, 2005; Coughlin, 2010; Gillett, 2011; Nabors, Edwards, & Murray, 2009; Schatz, 2004; Stoddard, 2009); yet, these claims are made despite the lack of empirical evidence to either confirm or deny that position. Interestingly enough Muse et al., (1982) stated that "…teachers will continue to utilize the field trip as one of

their instructional strategies. They will continue to do so at a reasonably high rate and in spite of the economic and organizational hassles they perceive" (p. 124).

Purpose of the Study

Therefore, this study sought to establish the proportion of Florida K-12 public school teachers, within the field of social studies, science, mathematics, and language arts, that utilize field trips in the previous academic year (2012-13). Additionally, this study sought to discover the number and frequency of field trips being used by those teachers. Lastly, this study examined if there was any evidence that a cause-and-effect relationship existed between the number of field trips that teachers used based on four independent variables (i.e. grade level, teaching experience, content focus of each field trip, and graduation from a teacher preparation program).

Significance of the Study

The results of this study provide a snap shot of current teacher practices in regards to their utilization of field trips and serve as the beginning of a longitudinal trend study. Additionally, this study stands to influence several interested parties including teachers, school districts, administrators, teacher preparation programs and teacher educators, and paraprofessionals involved in the field trip business. After examining the results of the study individual teachers will be able to reflect on their field trip practices in relation to others. Possibly encouraging some to increase the number of field trips they utilize. School districts and administrators will be better able to tailor their services and resources to teachers as they will have a better inclination of who does and does not use field trips. Similarly, teacher preparation programs and teacher educators will be able to tailor their services, as the information will allow them to adjust the depth and breadth of instruction related to the planning and implementation of

field trips. Finally, paraprofessionals involved in the field trip business will benefit from this study as they will be able to identify who does and does not utilize their business. Moreover, paraprofessionals will be able to better tailor their services to teachers, while also increasing the level of advertisement and services to those teachers who are not utilizing field trips.

Research Questions

The general research goal of this study is to identify the proportion of teachers utilizing field trips; however, the specific research questions that will drive this study include the following:

1. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the grade level they teach?
2. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience?
3. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the content area focus of the field trips?
4. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language

arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not?

Hypotheses

For statistical purposes this study will utilize the null form of the hypotheses. Additionally, due to the limitations of nonexperimental casual-comparative research designs this study will utilize alternative hypotheses based on the review of the literature.

Research question #1.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the grade level they teach.
- H_1: Elementary teachers, in Florida, utilized a significantly larger number of field trips during the 2012-2013 academic year than middle and high school teachers in the fields of social studies, science, mathematics, and language arts (Muse, et al, 1982).

Research question #2.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience.
- H_1: There is a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and

language arts, utilized during the 2012-2013 academic year based on their years of teaching experience.

Research question #3.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the content area focus of the field trips
- H_1: Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts utilized a significantly larger number of field trips during the 2012-2013 academic year to teach social studies rather than science, mathematics, or language arts (Muse et at, 1982).

Research question #4.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not
- H_1: There is a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not.

Dependent Variable

The dependent variable in this study was the number of field trips that teachers utilized during the 2012-2013 academic school year. The dependent variable was determined using a questionnaire in which the participants self-report the number of field trips they utilized during the 2012-2013 academic school year.

Independent Variables

There were four independent variables in this study 1) the grade level at which the teachers teach, 2) teachers' years of teaching experience, 3) the content focus of the field trips, and 4) whether teachers graduated from a teacher preparation program or not.

Study Assumptions

In order to determine teachers' utilization of field trips this study involved surveying a large sample of Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts. Additionally, because completion of this study was voluntary and the participants were anonymous, the assumption was that the participants answered the questionnaire truthfully and honestly to the best of their recollection.

Limitations of Study

As is the case with any research study, there are several limitations in this study. Readers should be aware that this study will utilize a quantitative nonexperimental causal-comparative research design, which is known to "…not permit strong conclusions about cause-and-effect [relationships], but are useful for initial exploratory investigations…" (Gall, Gall, & Borg, 2003, p. 295). Additionally, this study utilized a self-reporting survey thus inciting a certain level of measurement error; however, participants had anonymity when completing the questionnaire

(Dillman, Smyth, & Christian, 2009). Furthermore, there is no known zero for the intended population of this study, which includes all Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts. Therefore, there was some sampling error and coverage error (Dillman et al., 2009). Finally, this study utilized an online survey, which have shown to yield low response rates, thus non-response error was expected (Dillman et al., 2009; Lefever, Dal, & Matthiasdottir, 2007).

There were also threats to both internal and external validity (Gall et al., 2003). Internal validity refers to the process of controlling the independent variables within a study to ensure that the study examines what it has intended (Gall et al., 2003). In general, causal-comparative research designs introduce threats to the internal validity of a study as the researcher can never be confident that extraneous variables are not acting on the dependent variable (Gall et al., 2003). However, no definitive claim was made in this study that the independent variables cause changes to the dependent variable; rather, this study only sought evidence that a causal relationship exists. Meanwhile, external validity refers to the generalizability of the findings (Gall et al., 2003).In this study; the findings are only generalizable to a specific teacher population, Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts.

Organization of the Study

This study was organized into five chapters. The first chapter contains a brief introduction to the topic, a statement of the problem, research questions and hypotheses, a significance of the study, assumptions of the study, limitations of the study, and definition of terms. The second chapter includes a thorough review of the related literature. Chapter three is a

discussion about the methods, procedures, and design of this research study. The fourth chapter presents the findings of the study. Finally, the fifth chapter concludes the study with a discussion regarding the implications of the findings, limitations, and recommendations for future research.

Definition of Terms

Elementary Grades: Any grades K-5th

Field Trip- A trip arranged by the school and undertaken for educational purposes, in which the students go to places where the materials of instruction may be observed and studied directly in their functional setting: for example, a trip to a factory, a city waterworks, a library, a museum etc… Additionally, a field trip can last minutes' or days' duration and can occur at professionally organized and maintained museums and science centers or unmaintained portions of nature. Lastly, the term 'field trips' can be replaced with the following synonyms 'educational/school excursion', 'educational/school journey', and 'learning trek'.

Graduating from a Teacher Preparation Program- Any persons who hold a Bachelor's, Master's, Specialist's, or Doctorate degree from a teacher preparation program.

High School Grades- Any grades 9th –12th.

Intermittent Schools- schools that contain multiple categorical grades (i.e. elementary, middle, and high) on one campus. Often these schools may teach grades K-8, 6-12, or K-12.

Mathematics- Any of the following coordinated, systematic courses such as: Algebra, Calculus, Discrete Mathematics, Financial Literacy, Geometry, Probability, Statistics, and Trigonometry.

Middle Grades- Any grades 6th – 8th.

Public Schools- Any schools that receive public funds including charter schools; however, this study will exclude those public schools that do not fit within the K-12 scope of grades (i.e. Pre-

Kindergarten and adult education). Additionally, virtual schools will be excluded from the study despite receiving public funds.

Secondary Grades- Any grades 6^{th} –12^{th}.

Science- Any of the following coordinated, systematic courses such as: Biology, Chemistry, Earth and Space Science, Forensic Science, Marine Biology, Physical Science, and Physics.

Social Studies- Any of the following coordinated, systematic courses such as: American Government, American History, Anthropology, Archaeology, Civics, Economics, European History, Geography, Law Studies, Philosophy, Political Science, Psychology, Sociology, World History, and World Religion.

Teacher Preparation Program- A four year college or university that offers a pre-licensure program for prospective K-12 teacher educators.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

Field trips have been used by teachers for over a century and have become one of the most memorable activities students experience during their school years. (Atyeo, 1939; Krepel & DuVall, 1981; Pace & Tesi, 2004). In effect, there is no shortage of literature when discussing the topic of field trips; although, the majority are conceptual pieces that offer advice or tips on where to go and how to conduct a field trip, particularly for those who teach at the elementary level or for those who teach science related disciplines (see Ap, 2005; Bowden, 2006; Coughlin, 2010; Hopkinson, 2001; Kisiel, 2006a; Martin & Seevers, 2003; Morris, 2010; Noel, 2007; Stone & D'Acosta, 2008). Even still there is an abundance of research studies in regards to field trips particularly in the discipline of science. In fact, in 1980, Jack Mason annotated 43 studies dealing with field trips spanning from 1921 through 1977. Approximately 35 years since Mason's (1980) annotated bibliography the number of studies dealing with field trips has increased drastically and can be organized into various themes. However, for the purposes of this study the review of literature is limited to studies that relate to teachers' motivations, attitudes, and practices towards the use of field trips. Moreover, studies that examine the effects of field trips on student learning were utilized, as it is thought to correlate to teachers' motivations for using field trips.

Additionally, due to the longevity in which field trips have been used by teachers it is necessary to provide a historical overview of how and why field trips were first used by teachers. A review of the professional literature also reveals that the terminology describing field trips have changed over the years and have included several terms such as: 'school or educational excursions', 'school or educational journeys', 'study or educational tours', 'educational trips',

and ‘learning treks’. Given the variations in terminology throughout the professional literature it is necessary then to also provide an operational definition of ‘field trip’.

Operational Definition of Field Trip

Field trips include any visit to an out-of-school setting and traditionally they are categorized in one of three ways: (a) academic, (b) non-academic, and (c) extra-curricular (Atyeo, 1939). Academic field trips are designed to provide students with real world experiences so that they might gain knowledge of a particular set of content or skills. While non-academic field trips are designed to promote socialization among the students and are used as a reward (e.g. academic lunches, senior lunches, senior class trips, etc…). Extra-curricular field trips occur as a result of interscholastic competitions often attributed with athletics and performing art programs (e.g. band and choral competitions) (Atyeo, 1939). Of course, students have the potential to experience educational goals with all three types of field trips and students will socialize during academic field trips too. However, the focus and purpose of the various types of field trips is what separate them from one another. Krepel and DuVall (1981) define field trips as:

> A trip arranged by the school and undertaken for educational purposes, in which the students go to places where the materials of instruction may be observed and studied directly in their functional setting: for example, a trip to a factory, a city waterworks, a library, a museum etc… (p. 7).

Additionally, a field trip can last for mere minutes or several days and can occur at professionally organized and maintained museums and science centers or unmaintained portions of nature (e.g. beaches, forests, rivers, etc…).

Historical Overview of Field Trip Use

The use of field trips as an educational tool has its roots in the Middle Ages; although, the earliest references of field trips being used by teachers dates back to ancient Rome and Greece (Atyeo, 1939; Krepel & DuVall, 1981). Even Aristotle and Socrates advocated for the use of field trips as an educational tool (Krepel & DuVall, 1981). However field trips began to be utilized less frequently after "…the multiplication of books which followed the invention of printing, and the gradual establishment of universal education, educational emphasis was transferred to the printed page, and the word 'education' tended more and more to become synonymous with 'book-learning'" (Atyeo, 1939, p. 2). It would be many years later, with the teaching of natural sciences such as geography, physics, and botany; where schools wished to establish some form of laboratories so that students might actually "handle for themselves the objects of which they studied, and prove for themselves some of the truths that could be merely stated in the textbook" (Atyeo, 1939, p. 3). Some subjects required the gathering of specimens and thus trips to fields, or field trips were organized and in some cases students were able to participate. Thus, field trips as we might recognize them today were born as an offshoot to the laboratory method of instruction.

Early use of field trips.

German school excursions.

One of the earliest records of a school excursion dates back to the late eighteenth century (circa 1780s) where a German schoolmaster periodically took his students on learning treks in order that they might "love nature, observe keenly and travel extensively" (Atyeo, 1939, p. 14).

Students made detailed preparations for each excursion, studying the provisions that were needed, memorizing the boundaries and customs of the people who lived there, and learning about the industries and products that the people relied upon. Students were also given steep responsibilities as some were tasked as guides and others as watchmen. Learning treks occurred regardless of the conditions of the weather; in fact, dredging through these hardships were considered assets as they "strengthened [students'] moral fiber" (Atyeo, 1939, p. 15). Additionally, the itineraries were rather extensive and exhaustive. The following is an example of one school excursion that the German schoolmaster conducted:

> The day began with early mass in a Catholic church, after which a tour was made of a cathedral under the direction of a priest. A Benedictine and Carthusian Monastery were visited in order that a comparison might be made. After a trip to a nunnery, the group visited a school of art and listened to an explanation of the paintings. In the course of the day the Imperial Library, a fortress, an arsenal, an orphanage, and museum were included in the itinerary. To conclude their program, the group visited a cell once occupied by [Martin] Luther (Atyeo, 1939, p.15).

The German school excursions continued throughout the 1800s and up to the 1930s. Throughout that time period work was done to try to improve the excursion technique making them less exacting of mental and physical fatigue, while at the same time increasing productivity. One way of achieving this goal came through the provision of youth hostels. In 1911 there were 17 youth hostels but by 1933 they increased to some 2,000 and provided approximately five million nights worth of lodging for teachers and students (Ayteo, 1939). Teachers also began to

use school excursions as a means to increase students' knowledge about Germany's countryside rather than purely the development of their character. The frequency and durations of excursions would vary depending upon teachers and local regulations. Some teachers would take a week's long trip while others used multiple day trips a year. It was common that teachers would require students to take extensive notes during their excursions to later utilize when they returned to the school classroom as the center piece for months worth of discussions and written reports. Additionally, one of most significant and unexpected outcomes of the excursion, as a learning method, was the development of local museums. In fact, school groups could be found examining local church records in order to discover interesting events in their town's history. These local museums would later serve as further justification for school excursions.

Indeed, field trips as one might recognize them today originated in Germany with the development of school excursions at the University of Jena under Stoy, the director of the Pedagogical Seminary; and later modified and enlarged by Rein (Ayeto, 1939; Krepel & DuVall, 1981). From these early beginnings, field trips became associated with the teaching of content knowledge and skills. Additionally, there are accounts of international students who attended the University of Jena; one American man and an English woman who would later return to their native countries as strong advocates of the school excursion movement (Atyeo, 1939).

English school journeys.

England also developed a system of field trips known as school journeys, which referred to trips taken abroad. One of the first known English school journeys occurred in the summer of 1877 when J. H. Cowham, a geology teacher, took 60 students to visit the Swiss Alps in order to study "live" glaciers (Atyeo, 1939, p. 27). Over the coming decades, school journeys became so

popular in England that in 1911 George Gregory Lewis, a London headmaster, led the way in creating a non-profit organization called the School Journey Association (Atyeo, 1939). The School Journey Association was created by teachers for teachers and is still in existence today (visit www.sjatours.org for more information). One of the association's main aims was to eliminate prejudice, as its motto, "Travel is the slayer of prejudice," conveyed (Barone, 2008, p. 38). In order to promote the use of school journeys and achieve the goal of slaying prejudice the School Journey Association provided financial assistance, insurance, negotiated railway fares, and acquired inexpensive lodgings for school groups. One of the most popular field trips utilized by teachers was the "homeland journey", as it was dubbed. The homeland journey included a tour of England in order to study not only the common subjects of geography and history but also the social life of its people. The social aspect of the school journey was something not typically found in the German excursions. (Atyeo, 1939).

Other non-American excursions.

As one might expect field trips were not limited to teachers in Germany and England. In fact, teachers from Japan as well as several other European nations including Austria, France, Italy, Poland, and the Soviet Union (Russia) to name a few all utilized school excursions; although, less extensively throughout the early years of the twentieth century (Atyeo, 1939). Additionally, in most countries field trips were used to promote their government's national educational pattern. For example, in the early years of the Soviet Union, the Young Communist Party led trips to factories and large cooperative farms in order to acquaint students with its industrial and agricultural programs (Atyeo, 1939). While in Japan field trips were used as a

means to promote interest in the literature and religion of "Old Japan" so that students might appreciate and love their country (Atyeo, 1939).

Field trips in America.

Field trips have long been used in America, even during the colonial times field trips were utilized by teachers as they took students outside to explore nature and learn first-hand from the resources around them (Barone, 2008; Dewey & Boydston, 1980). Benjamin Franklin even advocated for field trips to neighboring plantations in order to observe and reason upon the farming methods used (Atyeo, 1939). Just prior to the turn of the twentieth century, literature began advocating for the inclusion of school excursions in America; in fact, Charles McMurry was one of the first American proponents of field trips when in 1895 he described a three part procedure for conducting field trips, which is still advocated for today by field trip scholars, in his book *Special Method in Geography,* (Krepel & DuVall, 1981). Of course, due to geographical and cultural differences, between America and Europe, field trips were often organized and conducted differently. In fact, for the majority of America's cities and towns it would take several years before they had the necessary elements conducive of hosting field trips. However, with the technological advances of transportation field trips in America were offered a new beginning.

By the early twentieth century field trips in America began to stretch farther away from local industrial areas, farms, and landscapes; so far in fact, that field trips were deemed vital for the less affluent students as it would provide them with life experiences that they could not afford otherwise (Atyeo, 1939). Field trips grew in popularity as is evident by the actions taken

by the city of Philadelphia school board, when in 1921, they created guidelines for how to successfully conduct field trips:

> 1. That excursions be carefully planned and closely connected with regular class work.
> 2. That teachers stimulate and supervise the activity of the pupils in working out the excursion but not rob them of educational opportunities by doing the work for them.
> 3. That teachers check up the results of excursions carefully but at the same time not destroy the spontaneous fun that is so real a part of the excursion.
> 4. That an approved excursion which for good reasons cannot be scheduled for after-school hours be carried out on school time, when the school program permits (Atyeo, 1939, p 46).

Today, field trips are still advocated for on the part of less affluent and at-risk students as a means to provide a background of knowledge necessary for school success, and nearly every school district in America has some form of field trip guidelines consisting of far more than four points.

History of research on field trips.

Eventually, by the 1920s educational researchers began to examine school excursions as a unique teaching technique (Barone, 2008). Henry Atyeo's (1939) book, *The Excursion as a Teaching Technique*, documented the burgeoning use of field trips throughout America and established the value that teachers placed on them. In 1980 Jack Mason created an annotated bibliography that included Atyeo's book as well as 42 other works that were published between

1921 and 1977. Based on his review of the research literature, Mason (1980) encouraged the use of field trips due to the favorable findings on how field trips facilitated the acquisition of certain cognitive and affective learning outcomes.

Beginning in the 1980s and continuing into the 1990s, the Association of Science and Technology Centers (ASTC) experienced a dramatic increase in the construction of science centers and museums (ASTC, 2012). Coincidently, research on field trips also began to increase during this time period. Yet, studies began to emerge that contradicted earlier research (Muse, Chiarelott, & Davidman, 1982) and the analysis indicated that "field trip[s] alone may not be as educationally productive as once believed" (Muse et al., 1982, p. 123). However, the majority of the research in the 1980s still found field trips as an effective educational tool for certain cognitive, affective, and social learning outcomes (DeWitt & Storksdieck, 2008). Yet, scholars began to call for future research to go beyond the simple question of whether or not students learn as a result of field trips (Bitgood, 1989).

Furthermore, much of the research on field trips has focused on and is intended for either those who teach at the elementary level or those who teach in science related disciplines such as biology, geology, physics, etc… (Barone, 2008). Conversely, those who teach in social studies, language arts, or mathematics related disciplines, especially at the middle or secondary level, have had fewer research studies on field trips available to them. Although, much of the research on field trips, particularly studies related to student learning, student motivations, and teacher motivations and attitudes are applicable to all teachers regardless of the discipline or grade level they teach.

Research on Field Trips

Field trips and student learning.

There are various learning outcomes that have been found to be associated with field trips including those belonging to the cognitive, affective, and social learning domains (Anderson & Lucas, 1997; Bamberger & Tal, 2008b; Csikszentmihalyi & Hermanson, 1995; DeWitt & Storksdieck, 2008; Falk, & Dierking, 1992; Flexer & Borun, 1984; Gottfried, 1980; Knapp, 1996; Kubota & Olstad, 1991; Orion & Hofstein, 1994; Rix & McSorley, 1999; Salmi, 2003). Additionally, students have expressed short term and long term cognitive and non-cognitive learning gains as a result of attending field trips (Falk & Balling, 1982; Falk & Dierking, 1997; Flexer & Borun, 1984; Kisiel, 2006b). For instance, Strum and Borgner (2010) compared the learning and motivational outcomes of sixth grade students (N = 190) who experienced the same educational activity but in two different learning environments, one in a field trip site and the other in a standard classroom. Using a pre-, post- and retention-test, Strum and Borgner (2010) sought to identify if there were any differences on students' recall of certain facts and concepts based on the environment. The authors concluded that both the museum-group and the classroom-group experienced cognitive gains from the pre-test to the post-test; however, "…the museum-group group outperformed the classroom group in the post-test and in the retention-test" (p. 17). Thus providing teachers with proper justification for utilizing field trips

However, on the other hand Cox-Petersen, Marsh, Kisiel, and Melber (2003) discovered, after observing 30 visiting school groups at a natural history museum and interviewing a select number of students (N = 85), that students learned only low levels of science as a result of their field trip. Yet, DeWitt and Storksdieck (2008) state:

> Documented learning gains [on field trips] are often relatively small, but small effects are not surprising given the one–off nature of most school trips. Indeed, it could be argued that any gains at all are noteworthy, given the brevity of the experiences and the variety of factors that can affect the extent to which learning occurs (p. 182).

DeWitt and Storksdieck's (2008) statement is significant because most field trip sites are developed and constructed for a public audience. Yet, teachers intend for their students to acquire a small fraction of what the sites have to offer; although, the students often still get a full tour. The many exhibits and hands-on activities possibly cloud students' mind thus limiting their short term cognitive gains; yet, an obvious question arises, what about students' long term learning?

Unfortunately, there are few studies that exist about the long term cognitive effects of field trips due to logistical challenges in collecting data; yet, one study in Italy found, using a pre- and post-questionnaire, that primary and secondary students (N = 537) who visited a marine biology museum, were able to retain the information they had learned for up to three months after the visit (Miglietta, Belmonte, & Boero, 2008). Additionally, Bamberger and Tal, (2008a) found that middle school students (N = 12) were able to recall several facts and details from a field trip they had taken 16 months earlier to a science museum. Similarly, Farmer, Knapp, and Benton (2007) were able to verify that field trips have both long term cognitive and non-cognitive effects on students. In fact, a year after a group of middle school students (N = 30) had experienced a field trip to the Great Smoky Mountains they expressed a new perceived pro-environmental attitude plus were able to recall many plants species they had seen (Farmer et al.,

2007). Furthermore, adults between the ages of 25 and 31 (N = 8), were able to recall several positive aspects from field trips they had taken while in school; most notably they expressed the positive influence of socializing as well as the impact that field trips had on exposing them to new careers and cultures (Pace & Tesi, 2004). In fact, Salmi (2003) conducted a survey of university students in regards to why they had chosen a science major and some indicated that positive experience they recalled during field trips to science centers played a part in their decision.

Despite the low levels of immediate cognitive and affective growth (Bamberger & Tal, 2008a; Cox-Petersen et al, 2003), the general consensus is that field trips provide a large potential for long term cognitive and affective gains in students (Anderson, 1999; Anderson & Lucas, 1997; Bamberger & Tal, 2008a; 2008b; Knapp, 1996; Orion & Hofstein, 1994). In fact, the long term cognitive and non-cognitive effects are often attributed to the unique and socialized nature in which the learning experience takes place (Anderson, 1999). However, despite the potential for immediate cognitive and non-cognitive gains in students, teachers cannot expect those gains without first utilizing effective teaching practices and since field trips are often informal learning environments teachers are faced with unique challenges (Bitgood, 1989; Griffin & Symington, 1997).

Efficacy of field trips.

There are several factors that alter, enhance, or affect the level of learning that students experience while attending a field trip site such as (a) the role of the teacher, (b) pre-, during-, and post-trip activities, and (c) students' prior knowledge and site orientation (Ap, 2007; Bitgood; 1989; DeWitt & Storksdieck, 2008; Marcus, Levine, & Grenier, 2012; Orion &

Hofstein,1994). One of the more crucial factors is the role of the teacher including, among other tasks, choosing a proper field trip site and handling all the necessary logistical issues (e.g. cost, liability paperwork, transportation, meals, chaperones, etc…) (Kisiel, 2006a; Marcus et al., 2012). Of course, teachers' selection of field trip sites are often limited based on their geography; yet, teachers have acknowledged that they often are unfamiliar with what their local museums have to offer, especially in regards to how it can help them teach their content (Marcus et al, 2012). Additionally, Kisiel (2006a) provides teachers with the following advice "…begin by limiting the scope of the experience; attempting to see the entire site in two hours guarantees only a glossing over with little chance for students to make sense of what they see" (p. 48). Yet, it seems with the time constraints that teachers are faced with, they do "gloss over" the site. This glossing over regulates the site to a similar status as that of a textbook, where students are expected to read the information from plaques and fill in a worksheet (Griffin, 1994).

In Addition, teachers have expressed that logistical issues particularly the cost of the trip and school/district support play a significant role in their decision to go on a field trip or not (Marcus et al., 2012). Overall, it seems many teachers are unprepared to effectively organize and coordinate field trips (Griffin & Symington, 1997; Marcus et al., 2012). In fact, Griffin and Symington (1997) coordinated a naturalistic study that focused on the practices being used by the teachers (N = 735) during their visits to museums and found, through observation as well as pre- and post-trip interviews, that teachers were ineffective in planning field trips. Furthermore, Griffin and Symington (1997) stated that the "teachers appeared to abandon what might generally be considered basic good class management practice. In particular, there was little

variation in teaching or learning strategies and little attention was paid to the physical comfort of the students" (p. 773).

Moreover, during the interviews Griffin and Symington (1997) felt that teachers could not indicate the learning outcomes associated with their own field trips. Thus, students were unaware of the expected learning outcomes and were often found focusing on irrelevant exhibits. In fact, Kubota and Olstad (1991) found that students (N = 64) who participated in a pre-trip slide show, with the intent to reduce the novelty of the field trip site and establish the roles of students, had higher on-task exploratory learning and greater cognitive gains than the control group. However, Marcus et al. (2012) revealed, after administering a questionnaire, that history teachers (N = 82) focused primarily on etiquette rather than content when administering their pre-trip discussions; plus, teachers acknowledged that they rarely used post-trip activities outside of a simple class discussion.

The importance of pre-trip activities does more than reduce the novelty of a field trip site (Anderson & Lucas, 1997) it also serves to enhance students' prior knowledge, another important factor that effects learning while on a field trip (Anderson, Lucas, & Ginns, 2003; Falk & Storksdieck, 2005). In fact, Falk and Storksdieck (2005) found that visitors' (N = 100) prior knowledge was the most significant variable, of the11 variables they tested, in determining the cognitive learning associated with life science museums. In other words, Falk and Storksdieck (2005) found that those with the lowest level of prior knowledge came away with the largest learning gains. Conversely, those with the highest amount of prior knowledge had the smallest learning gains; although, the post-test revealed that the group who came in with the larger knowledge base still came away with the larger knowledge base.

Additionally, Anderson and Lucas (1997) examined how a student's orientation to a field trip site might influence their (N = 75) learning. Anderson and Lucas (1997) discovered, through observations and a pre- and post-test, that a student's orientation to a field trip site was a critical factor in determining the effectiveness of the learning experience. Indeed, students found the newness of a site an exciting experience and sought to explore it further; however, the exploration impeded the acquisition of the necessary factual and conceptual knowledge set forth by the teachers. Thus, teachers again are warned of another element that they must address when utilizing field trips.

The issue of field trip efficacy is predominantly found in science and museum education journals (Barone, 2008; Marcus et al., 2012). Therefore, despite the relevant research on how to effectively utilize field trips, it is presumed that many social studies, mathematics, and language arts teachers are unaware of all of the issues addressed prior. In fact, given the increased accountability that teachers and schools are currently faced with, one might infer then that teachers would utilize field trips less than in previous years, especially given any ignorance on the matter. What's more, teachers who are aware of the efficacy issues still might not utilize field trips as much given the large amount of time and energy they know must be invested. However, rather than continuing to speculate on the issue it is important to understand what motivates teachers to use or not use field trips.

Teachers' motivations and attitudes towards field trips.

When examining teachers' motivations it seems there are multiple reasons why a teacher might use a field trip and they are dependent on a number of variables such as the grade and subject taught. In fact, Sorrentino and Bell (1970) analyzed texts and research articles by science

educators and discovered their five primary motivations for using field trips: (a) providing first-hand [science] experience to students, (b) stimulating interest and motivation in science, (c) giving meaning to learning and interrelationships, (d) teaching observation and perception skills, and (e) personal and social development of students. Additionally, Fido and Gayford (1982) as well as Muse et al., (1982) found, regardless of subject and grade level taught, that teachers' positive attitudes towards field trips include: (a) hands-on, real world experiences, (b) quality of education, (c) positive attitudes to the subject, (d) motivation towards the subject, (e) improvement of the socialization between students, (f) the development of rapport between teachers and students, and (g) enabling teachers to utilize teaching strategies such as cooperative learning. Conversely, Fido and Gayford (1982) and Muse et al., (1982) revealed teachers' negative attitudes towards field trips, which include (a) difficulties with transportation and cost, (b) disparity of teachers' skills, (c) time constraints with school schedules, (d) lack of support from school administration, (e) curriculum inflexibility, (f) poor student behavior, and (g) an inadequacy of resources or venues.

More recently, Kisiel (2005) investigated elementary teachers' (N = 115) motivations in using field trips to teach science and found eight motivations, using an open-ended response survey. In effect, elementary teachers want to use field trips to (a) connect with curriculum, (b) provide learning experiences, (c) promote lifelong learning, (d) foster interest and motivation, (e) expose [students] to new experiences, (f) provide a change of setting, (g) provide enjoyment or reward, and (h) satisfy school expectations. The results, though, are not mutually exclusive as teachers expressed any number of motivations but not necessarily all eight motivations. In another study Marcus et al. (2012) found that history teachers (N = 82) "…value museums as a

means of promoting aspects of historical thinking even more highly than as a means of teaching specific content" (p. 78). In addition, the history teachers felt that field trips should be a part of the secondary curriculum.

Of course, understanding teachers' attitudes and motivations towards field trips is important as it may correlate directly to teachers' utilization of field trips. Therefore, despite the fact that "many teachers may not be aware of their role in the experience and subsequently may not be taking full advantage of [the field trip] resource" (Kisiel, 2005, p. 937) these studies indicate that teachers still believe field trips are valuable for students. In fact, Kisiel (2005) found that 90% of the teachers (N = 115) who participated in his study still recognized the field trip as being a highly valuable educational experience for students; however, how does teachers' actions match up with their words?

Teachers' utilization of field trips.

Surprisingly, there are few studies that have quantified teachers' use of field trips; although, Kregel and DuVall (1981) estimated that about 10% of teachers used field trips. Yet; Muse et al., (1982) found that approximately 65% of the elementary and secondary teachers (N = 195) they surveyed utilized a field trip in the previous academic year. In fact, 494 field trips were used by 75 (74.3%) of the elementary teachers (N = 101) averaging about seven field trips for each of the 75 teachers and about five for all 101 elementary teachers. As for the secondary teachers (N = 94), only 51 (54%) of them utilized a field trip totaling193 times and averaging approximately four for each of the 51 or two for all 94 secondary teachers. Additionally, at the secondary level, "[no] content area was particularly responsible for taking significantly more field trips than another content area" (Muse et al., 1982, p. 123). Yet, at the elementary level

social studies and science accounted for more than 70% of the field trips, with social studies accounting for approximately 51%. Additionally, Marcus et al. (2012) found that of the 94 history teachers surveyed 60% utilized a field trip during the previous academic year but 74% plan on using a field trip during the next academic year. However, no study has identified the proportion of teachers using field trips.

Summary and Statement of the Problem

The intention of this literature review was to bring forth pertinent research and literature on the fundamental areas needed to build a foundation for this study. Some of these areas included defining field trips, providing a historical overview of how teachers have used field trips, examining student learning as a result of field trips, probing the efficacy of field trips, acknowledging teachers' attitudes and motivations for field trips, and finally, looking at quantitative data on teachers' utilization of field trips. As a result of the literature review field trips are defined as any visit to an out-of-school setting designed for educational and academic purposes whereby as a result students gain firsthand knowledge and experiences. Field trips have also proven to have great potential for student cognitive and non-cognitive learning. Consequently, teachers feel that field trips are beneficial to students and are often motivated to use them for the potential they have for student learning; despite the fact that teachers often do not use field trip to their full potential.

However, there is reasonable suspicion among scholars that teachers are utilizing field trips less since the start of the new millennia; the common reasons being cited among others include a slumping economy, an increase in accountability, and fuel costs (Blachowicz & Obrochta, 2005; Coughlin, 2010; Gillett, 2011; Nabors, Edwards, & Murray, 2009; Schatz, 2004;

Stoddard, 2009). Unfortunately, there is no empirical evidence that can confirm or deny this suspicion. But, Muse et al., (1982) stated that "…teachers will continue to utilize the field trip as one of their instructional strategies. They will continue to do so at a reasonably high rate and in spite of the economic and organizational hassles they perceive" (p. 124). Thus it would be beneficial to both confirm or deny Muse et al.'s (1982) statement and provide a snap shot of the number and proportion of teachers who utilize field trips today. Especially, since the Muse et al., (1982) study is also the last known study to provide any stratified data on American teachers' utilization of field trips.

Therefore, this study sought to establish what proportion of Florida K-12 public school teachers, within the field of social studies, science, mathematics, and language arts, that utilize field trips. Additionally, this study sought to identify the number and frequency in which field trips are used by those teachers. Lastly, this study examined, using a non-experimental causal comparative research design, if there was any evidence that a cause-and-effect relationship exists between the number of field trips that teachers used given four variables (i.e. grade level, teaching experience, content focus of each field trip, and graduation from a teacher preparation program).

CHAPTER 3: METHODOLOGY

Introduction

A review of the literature pertaining to field trips revealed several themes. First, there is a substantial amount of information regarding student learning as a result of field trips (Bamberger & Tal, 2008b; Cox-Petersen, Marsh, Kisiel, & Melber, 2003; Flexer & Borun, 1984; Gennaro, 1981; Griffin, 1998; Orion & Hofstein, 1994). Second, there is a sizable amount of studies regarding teachers' motivations in using or not using field trips (Anderson, Kisiel, & Storksdieck, 2006; Kisiel, 2005; Krepel & DuVall, 1981; Muse, Chiarelott, & Davidman, 1982, Noel & Colopy, 2006). Finally, there are a large number of studies that examined the importance of field trip sites (Anderson & Lucas, 1997; Falk & Dierking, 1992; Kubota & Olstad, 1991; Ramey-Gassert, Walberg, & Walberg, 1994; Rennie & McClafferty, 1996; Salmi, 2003; Sturm & Bogner, 2010; Xanthoudaki, 1998). However, there were few studies that quantified teachers' utilization of field trips; in fact, the last was completed in 1982 (Muse et al.). Additionally, there is a considerable amount of speculation that field trips have been utilized less since the start of the new millennia (Blachowicz & Obrochta, 2005; Coughlin, 2010; Gillett, 2011; Nabors, Edwards, & Murray, 2009; Schatz, 2004; Stoddard, 2009).Therefore, the purpose of this study was to quantify teachers' utilization of field trips in order to identify the number and proportion of teachers' utilizing field trips.

Survey research methods were used in order to investigate what proportion of Florida K-12 public school teachers, within the field of social studies, science, mathematics, and language arts utilized a field trip; in addition to the number and frequency in which they used field trips. Furthermore, a nonexperimental causal-comparative research design was used, which is defined

as an "…investigation in which researchers seek to identify cause-and-effect relationships by forming groups of individuals in whom the independent variable is present or absent…then determining whether the groups differ on the dependent variable" (Gall, Gall, & Borg, 2003). Therefore, the study attempted to identify if there were any significant differences in the number of field trips that Florida K-12 teachers utilized based on four independent variables (a) the grade level at which the teachers teach, (b) teachers' years of teaching experience, (c) the content focus of the field trips, and (d) whether teachers graduated from a teacher preparation program or not.

Research Questions

The general research goal of this study is to identify the proportion of teachers utilizing field trips; however, the specific research questions that drive this study include the following:

1. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the grade level they teach?
2. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience?
3. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the content area focus of the field trips?

4. Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not?

Hypotheses

For statistical purposes, this study utilized the null form of the hypotheses. Additionally, due to the limitations of nonexperimental casual-comparative research designs, this study utilized alternative hypotheses based on the review of the literature.

Research question #1.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the grade level they teach.
- H_1: Elementary teachers, in Florida, utilized a significantly larger number of field trips during the 2012-2013 academic year than Florida middle and high school teachers in the fields of social studies, science, mathematics, and language arts (Muse et al, 1982).

Research question #2.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience.

- H_1: There is a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience.

Research question #3.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the content area focus of the field trips.
- H_1: Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts utilized a significantly larger number of field trips during the 2012-2013 academic year to teach social studies rather than science, mathematics, or language arts (Muse et al, 1982).

Research question #4.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not.
- H_1: There is a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not.

Dependent Variable

The dependent variable in this study is the number of field trips that teachers utilized during the 2012-2013 academic school year. The dependent variable was determined using a questionnaire in which the participants self-report the number of field trips they utilized during the 2012-2013 academic school year.

Independent Variables

There are four independent variables in this study (a) the grade level at which the teachers teach, (b) teachers' years of teaching experience, (c) the content focus of the field trips, and (d) whether teachers graduated from a teacher preparation program or not.

Population and Sample

The population in this study includes all Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts. Unfortunately, there is no known zero for this population; however, according to the National Center for Educational Statistics, Florida has approximately 175,000 public school teachers (U.S. Department of Education, 2012). Given that the original figure included virtual teachers and teachers who teach outside of the parameters of this study, including those who teach pre-kindergarteners, adults, and elective subjects, a conservative estimation of the intended population then would come to about 88,000 teachers. The sample size needed for this study was calculated to be approximately 225 teachers, given a margin of error of 0.25, and a field trip mean of 3.52, which was derived using Muse, Chairelott, and Davidman's 1982 study.

In order to select participants for this study a multistage cluster sampling was utilized, which involved first selecting clusters (i.e. schools) and then selecting individuals (i.e. teachers)

(Gall et al., 2003); and because the intended population includes teachers who teach grades K-12 there were four types of clusters with which to sample from (i.e. elementary schools, middle schools, high schools, and intermittent schools). To clarify intermittent schools include schools that teach any combination of grades K-12, for example one school might teach grades K-8 or another might teach grades 8-12. Intermittent schools then were included in the clustering stage to ensure an equal sampling among the population.

Employing the National Center for Educational Statistic's Common Core of Data, 65 schools were randomly selected from each cluster. Then utilizing each schools public website, 12 teachers were randomly selected; three from each subject area (social studies, science, mathematics, and language arts). Therefore, theoretically, 3,120 Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts will be emailed a link to participate in this study; however, in reality many school websites are not up to date. Additionally the return rates for online surveys are often in the low teens (Lefever, Dal, & Matthiasdottir, 2007). Therefore, a conservative estimation of an eight percent return rate ensured that the appropriate number of participants (N = 225) were obtained for this study. However, in order to achieve a higher return rate the Tailored-Design Method was employed, which includes five contacts (a) pre-notice, (b) notice, (c) thank you/reminder, (d) second reminder, and (e) final reminder (Dillman, Smyth, & Christian, 2009). In total 2,902 teachers were contacted and Table 1 reveals the number of teachers contacted per school placement.

Table 1. Population Contacted by School Placement

School	Population
Elementary	537
Middle	833
Secondary	937
Intermittent	595
Total	2,902

Study Participants

Of the 2,902 Florida K-12 public school teachers that were contacted 374 (~13% response rate) participants provided usable responses. Unusable responses were determined to be any questionnaires that were either incomplete, missing significant amounts of self-reported demographic grouping variables, or any participant who taught outside of the fields of social studies, science, mathematics, or language arts. All such questionnaires were removed from future analysis in this study.

Gender.

Participants in this research study were asked to self-report the demographic variable for "Gender" (see Table 2). The participants were given two options, (a) male or (b) female. Approximately 23% of the participants were male (N = 87), and 77% of the participants were female (N = 286); while one participant chose not to provide their gender.

Table 2. Gender

	Frequency	Percent
Female	286	76.5
Male	87	23.3
Total	373	99.7
Missing	1	.3
Total	374	100.0

Race/ethnicity.

Participants in this research study were asked to self-report the demographic variable for "Race/Ethnicity" (see Table 3). The participants were given six options: (a) Asian or Pacific Islander, (b) Black/African American, (c) Latino(a)/Hispanic, (d) Native American or Native Alaskan, (e) White/Caucasian, or (f) Other. The responses indicated that 1.3% of the participants were Asian or Pacific Islander (N = 5), 6.4% of the participants were Black/African American (N = 24), 8.3% of the participants were Hispanic/Latino(a) (N = 31), 0.3% of the participants were Native American or Native Alaskan Hispanic (N = 1), 79.7% of the participants were White/Caucasian (N = 298), and 2.4% of the participants were Other (N = 9). Finally, 1.6% of the participants chose not to reveal their race/ethnicity (N = 6).

Table 3. Race

	Frequency	Percent
Asian or Pacific Islander	5	1.3
Black/African American	24	6.4
Hispanic/Latino(a)	31	8.3
Native American or Native Alaskan	1	.3
White/Caucasian	298	79.7
Other	9	2.4
Total	368	98.4
Missing	6	1.6
Total	374	100.0

Teaching experience.

Participants in this research study were asked to self-report the demographic variable for "Teaching Experience" (see Table 4). The participants were given a comment box in which to write their years of teaching experience. The responses ranged from 1 year of teaching experience to 45 years of teaching experience. The mode was 10 years of teaching experience (*N* = 24). While the mean equaled 14.3 years of teaching experience and the median came to 12 years of teaching experience. The participants' responses were categorized into five groups: (a) 1 – 4 years (*N* = 51), (b) 5 – 9 years (*N* = 89), (c) 10 – 19 years (*N* = 136), (d) 20 – 29 years (*N* = 55), and (e) 30 plus years (*N* = 43).

Table 4. Teaching Experience

	Frequency	Percent
1 – 4 years	51	13.6
5 – 9 years	89	23.8
10 – 19 years	136	36.4
20 – 29 years	55	14.7
30 + years	43	11.5
Total	374	100.0

Grade levels.

Participants in this research study were asked to self-report the demographic variable for "Grade Level" (see Table 5). The participants were given three options: (a) elementary school, (b) middle school, or (c) high school. The responses indicated that during the time of the survey 24.6% of the participants were teaching at an elementary school (N = 92), 41.4% of the participants were teaching at a middle school (N = 155), and 34% of the participants were teaching at a high school (N = 127).

Table 5. Grade Level

	Frequency	Percent
Elementary (grades K-5)	92	24.6
Middle (grades 6-8)	155	41.4
High (grades 9-12)	127	34.0
Total	374	100.0

Content areas.

Participants in this research study were asked to self-report the demographic variable for "Content Areas" (see Table 6). That is, participants were asked what content area subject they teach. This demographic variable could only be answered by participants at the middle and high school levels since elementary teachers are required to teach all academic content areas. Therefore, middle and high school teachers were given four options: (a) science, (b) social studies, (c) mathematics, or (d) language arts. Of the secondary participants the responses indicated that during the time of the survey 21.7% were teaching science (N = 81), 19.5% were teaching language arts (N = 73), 18.7% were teaching social studies (N = 70), and 15.5% were teaching mathematics (N = 58).

Table 6. Content Areas

	Frequency	Percent
Science	81	21.7
Mathematics	58	15.5
Social Studies	70	18.7
Language Arts	73	19.5
Total	282	75.4
Missing	92	24.6
Total	374	100.0

Teacher preparation.

Participants in this research study were asked to self-report the demographic variable for "Teacher Preparation" (see Table 7). That is, participants were asked if they graduated from a teacher preparation program and were given two options, (a) Yes or (b) No. The responses

indicated that 59.1% of the participants did graduate from a teacher preparation program (*N* = 221); while 38.2% did not graduate from a teacher preparation program (*N* = 143). Unfortunately, 10 participants (2.7 %) did not answer this question.

Table 7. Teacher Preparation

	Frequency	Percent
Yes	221	59.1
No	143	38.2
Total	364	97.3
Missing	10	2.7
Total	374	100.0

Instrumentation

This study utilized a researcher developed questionnaire (See Appendix A) to obtain information from Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts concerning their use of field trips. Specifically, the questionnaire was used to obtain the number of field trips that were utilized by teachers during the 2012-2013 academic year. Additionally, the questionnaire was used to collect the information needed for the independent variables (i.e. the grade level they teach, their years of teaching experience, the content focus of each field trip they conducted, and whether they graduated from a teacher preparation program or not). The instrument was also used to gather other pertinent demographic (i.e. gender, race/ethnicity, highest degree earned, etc…). The information that was gathered was used to draw inferences concerning teachers' use of field trips. Finally, as a courtesy, an open-ended response area was provided at the end of the questionnaire for participants to provide any comments or concerns they may have regarding the topic or study.

Instrument Validity and Reliability

Prior to sending out the questionnaire to the sample group the face validity of the instrument was examined by teachers who were in a graduate level course; however, the content validity of the instrument was examined by expert scholars. All those involved in the face validity were excluded from any future research groups.

Data Collection and Procedures

The first step in this research study began by obtaining approval from the University of Central Florida's Internal Review Board (IRB), which consisted of completing an extensive application in which the purpose, nature, duration, and intended goals of the study were discussed. Various documents were completed including human research protocols, participant information sheets, consent forms, as well as information regarding the possible risk and benefits to participants, administration procedures, participant confidentiality, and contact information for the investigator, his advisor, and a representative from the IRB.

The questionnaire was placed on the online survey platform Qualtrics, which was purchased by the University of Central Florida for its researchers to utilize. Placing the questionnaire on this website allowed the potential participants to complete the questionnaire at their convenience. The questionnaire was distributed to the potential participants as an embedded link in an email. Given that the participants are public school teachers their email addresses were also public record and were obtained using the participant's school's website. Before participants were able to start the questionnaire they were required to read a summary sheet explaining the research project and electronically sign the letter of consent by clicking the 'agree' button. The Tailored-Design Method (Dillman et al., 2009) was utilized to ensure as high a return rate as

possible. The questionnaire was sent out a total of five times in the recommend order prescribed by the Tailored-Design Method. Participants were able to leave the study at anytime and request that they receive no further contact from the researcher without penalty. The anticipated time needed to complete the questionnaire was10-15 minutes, assuming the participants completed it with no distractions. Additionally, participants were asked to complete the questionnaire during non-contractual hours. Moreover, since the participants had confidentiality when completing the questionnaire and so as not to skew the data, Qualtircs prevented multiple responses from the same IP address in an attempt to control for participants that may inadvertently complete the questionnaire multiple times.

Furthermore, since school websites' staff list are often not up to date the questionnaire had a built in filtering system utilizing the Qualtircs survey logic to ensure that the participants of the study are teachers within the fields of social studies, science, mathematics, or language arts. For example, elementary teachers were asked if they teach music, physical education, or art and if they answer yes to any of those options they were taken to the end of the survey. Similarly, middle and secondary teachers were asked if they teach any course within the fields of social studies, science, mathematics, or language arts; and if they answer no then they too were taken to the end of the survey.

Data Analysis

The majority of the data collected from the questionnaire were used for descriptive and inferential statistical procedures, which helped provide a framework for additional statistical procedures. The only data that required any analysis were the recorded number of field trips that the participants used during the 2012-2013 academic year, which is non-parametric data.

Therefore, a Mann-Whitney U or a Kruskal Wallis Test were used to examine any significant differences that may exist between the independent variables (a) the grade level at which teachers teach, (b) their years of teaching experience, (c) the content area focus of each field trip, and (d) whether a teacher graduated from a teacher preparation program or not and the dependent variable, the number of field trips teachers utilized (Stevens, 2007).

Limitations of Study

As is the case with any research study, there were several limitations in this study. Readers should be aware that this study utilized a quantitative nonexperimental causal-comparative research design, which is known to "…not permit strong conclusions about cause-and-effect [relationships], but are useful for initial exploratory investigations…" (Gall et al, 2003, p. 295). Additionally, this study utilized a questionnaire in which data was self reported by the participants thus inciting a certain level of measurement error; however, participants had anonymity when completing the questionnaire (Dillman et al., 2009). Furthermore, there was no known zero for the intended population of this study, which included all Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts. Therefore, there was some sampling and coverage error (Dillman et al., 2009). Finally, this study utilized an online survey, which have shown to yield low response rates, thus there was some non-response error (Dillman et al., 2009; Lefever et al., 2007).

There were also some threats to both internal and external validity (Gall et al., 2003). Internal validity refers to the process of controlling the independent variables within a study to ensure that the study examines what it has intended (Gall et al., 2003). In general, causal-comparative research designs introduce threats to the internal validity of a study as the researcher

can never be confident that extraneous variables are not acting on the dependent variable (Gall et al., 2003). However, no definitive claim was made in this study that the independent variables cause changes to the dependent variable; rather, this study sought evidence that a causal relationship exists. Meanwhile, external validity refers to the generalizability of the findings (Gall et al., 2003). In this study; the findings are only generalizable to a specific teacher population, Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts.

Costs and Payments to the Respondents

There was no cost to the participants for volunteering to take part in this study. In addition, there was no compensation for the time that they put into this study.

Risks and Benefits to the Respondents

There were no risks to the participants due to anonymity offered to them in this study. The participants, though, may have felt a varying sense of inconvenience by the time required to complete the questionnaire. However, it is suggested that the participants might get some personal satisfaction from participating in the study knowing they are helping to improve their profession in some way.

Summary

This study utilized a quantitative nonexperimental causal-comparative design with survey research in order to determine the proportion of Florida K-12 public school teachers, within the fields of social studies, science, mathematics, and language arts who are utilizing field trips. Additionally, this study investigated the number and frequency in which those teachers used field trips. Lastly, this study attempted to identify if there were any significant differences in the

frequency of field trip use between Florida K-12 teachers based on four independent variables (i.e. grade level, teaching experience, content focus of each field trip, and graduation from a teacher preparation program) using a Mann-Whitney U or Kruskal Wallis Test. A questionnaire was used as the primary instrument for data collection in this study. A multistage cluster sampling was used to locate potential participants for this study. The target sample size for this study was 225 teachers, which was achieved as 374 teachers participated.

CHAPTER 4: FINDINGS

Introduction

This study was designed to answer several questions regarding Florida K-12 public school teachers' utilization of field trips; specifically within the fields of social studies, science, mathematics, and language arts. Following the procedures outlined in chapter three, the data from the questionnaire was used to obtain the proportion of teachers who utilized field trips in the previous academic year; in addition to the number and frequency of field trips utilized by those teachers. Through further examination of the data this study was intended to determine if there was a statistically significant difference in the number of field trips teachers utilized based on four independent variables (i.e. grade level, teaching experience, content focus of each field trip, and graduation from a teacher preparation program).

Three hundred and seventy-four (N = 374) Florida K-12 teachers within the fields of social studies, science, mathematics, or language arts volunteered to participate in this research study. The online questionnaire was sent to 2,902 teachers via their work email resulting in a response rate of about 13%. After sending a pre-notification email in mid-October 2013 potential participants received four additional emails with a link to an anonymous, online questionnaire asking for their participation. The data collection period lasted for two months and ended in mid-December 2013. Statistical significance was set at the .05 level and non-parametric tests (i.e. Mann Whitney U and Kruskal Wallis) were used because the dependent variable, the number of field trips teachers utilize, is not normally distributed. In the event of statistically significant differences reported in the Kruskal Wallis a Tukey's posthoc test was used because it adjusts for

the probability that the significance may be a result of multiple comparisons of the same data (Gall et al., 2003).

This chapter consists of two sections. The first section examines the mean, number, and proportion of field trips utilized by Florida K-12 public school teachers in the fields of science, social studies, mathematics, and language arts. The second section presents the result from each of the four hypothesizes tested. The results consist of a restatement of the research question and null hypothesis, an overview of the analysis used, and a decision regarding the hypothesis. A detailed discussion of each hypothesis and test result will be presented in Chapter 5 "Discussion."

Mean, Number, and Proportion of Field Trips Utilized

Of the 374 Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts that responded to the survey a total of 208 (55.6%) utilized at least one field trip in the previous academic year (See Table 8). That means 166 (44.4%) respondents did not utilize a field trip in the previous academic year. However, the total number of field trips utilized by the 208 teachers equaled 540 with a median of two; when including the teachers that did not utilize a field trip the median number of field trips used drops to one. Ninety-two elementary school teachers responded to the survey of which 78 (84.8%) accounted for 219 field trips or 40.6% of the overall total field trips taken. While 58.1% (90/155) middle school teachers and 31.5% (40/127) high school teachers accounted for 232 (43%) and 89 (16.5%) of field trips respectively (See Table 9). Additionally, when counting the number of field trips taken to teach a specific content area focus (see Table 10), it appears that science field trips were taken most frequently at 147 times (27.2%) followed by "other" at 134 times (24.8%),

integrated at 99 times (18.3%), social studies at 75 times (13.9%), language arts at 50 times (9.3%), and mathematics at 35 times (6.5%).

Moreover, assuming the sample is representative of the population and utilizing the standard deviation of 1.867 the true mean and number of field trips utilized was able to be calculated with 95% confidence (See Appendix B for calculations). In fact, the true mean of field trips used by the estimated 88,000 Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts falls between 1.30 and 1.58. While, the true total number of field trips utilized falls between 114,311 and 139,129 (See Appendix C for calculations). Furthermore, given the proportion of teachers identified from the survey who used at least one field trip (55.6%) there is 95% confidence that the true proportion of teachers who used at least one field trip is between 44,440 (50.5%) and 53,416 (60.7%) (See Appendix D for calculations).

Table 8. Number of Field Trips Utilized in 2012-13

Number of Field Trips	Number of Teachers	Total Number of Field Trips	Percent
0	166	0	44.4
1	65	65	17.4
2	51	102	13.6
3	48	144	12.8
4	24	96	6.4
5	10	50	2.7
6	4	24	1.1
7	1	7	.3
8	1	8	.3
10	2	20	.5
12	2	24	.5
Total	374	540	100.0

Table 9. Number of Field Trips by Grade Level

Grade Level	N	Used a Field Trip	Sum
Elementary (grades K-5)	92	78	219
Middle (grades 6-8)	155	90	232
High (grades 9-12)	127	40	89
Total	374	208	540

Table 10. Number of Field Trips by Content Area Focus

	N	Sum
Number of Science	374	147
Number of Math	374	35
Number of Social Studies	374	75
Number of Language Arts	374	50
Number of Integrated	374	99
Number of Other	374	134
Total	374	540

Research Questions and Results

Research question #1.

- Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the grade level they teach?

Null and alternative hypothesis.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the grade level they teach.

- H_1: Elementary teachers, in Florida, utilized a significantly larger number of field trips during the 2012-2013 academic year than Florida middle and high school teachers in the fields of social studies, science, mathematics, and language arts (Muse, et al., 1982).

Analysis/decision.

There are three groups within the grade level variable (i.e. elementary, middle, and high) and because the data is not normally distributed a Kruskal Wallis Test was conducted. The Kruskal Wallis Test revealed (see Table 11) that there is a statistically significant difference in mean rank between grade level groups ($x^2 = 64.6$, $df = 2$, $p < .05$). A Tukey's pairwise comparison showed (see Table 12) that the mean rank of the elementary grade level (MR = 251) was significantly higher than both the middle school (MR = 190.2) and high school grade level (MR = 138.2). Additionally, the middle school grade level was significantly higher than the high school grade level. Therefore, the null hypothesis is rejected and the alternative hypothesis is supported. Descriptive statistics can be found in Table 13.

Table 11. Kruskal Wallis Test of Grade Level

Chi-Square	64.623
df	2
Asymp. Sig.	.000

Note: Significance is set at .05

Table 12. Pairwise Comparison of Grade Level

	Test Statistic	Std. Error	Adj. Sig.
High - Middle	52.03	12.29	.000
High - Elementary	112.87	14.06	.000
Middle - Elementary	60.84	13.52	.000

Note: Significance is set at .05

Table 13. Descriptive by Grade Level

Grade Level	N	Mean Rank	Median	Range
Elementary (grades K-5)	92	251.04	2.00	10
Middle (grades 6-8)	155	190.20	1.00	12
High (grades 9-12)	127	138.17	0.00	8
Total	374		1.00	12

Research question #2.

- Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience?

Null and alternative hypothesis.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience.

- H_1: There is a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on their years of teaching experience.

Analysis/decision.

The teaching experience of the participants varied widely with a range of one year to 45 years. The mean was 14.3 years of teaching experience. The mode was 10 years and the median was 12 years of teaching experience. Five groups were formed from this data. Group one consisted of all the teachers with one to four years of teaching experience (N = *51*), Group two was made up of teachers with five to nine years of teaching experience (N = *89*). Group three had teachers with 10 to 19 years of teaching experience (N = *136*). Group four contained teachers with 20 to 29 years of teaching experience (N = 55). While the final group, group five, included all the teachers with 30 or more years of teaching experience (N = 43). The data is not normally distributed and so a Kruskal Wallis Test was conducted. The Kruskal Wallis Test revealed (see Table 14) that there is no statistically significant difference in mean rank based on teaching experience ($x^2 = 8.99$, df = 4, $p > .05$). Therefore, the alternative hypothesis is not supported and the null hypothesis fails to be rejected. Descriptive statistics can be found in Table 15.

Table 14. Kruskal Wallis Test by Teaching Experience

Chi-Square	8.99
Df	4
Asymp. Sig.	.061

Note: Significance is set at .05

Table 15. Descriptive by Teaching Experience

Teaching Experience	N	Mean Rank	Median	Range
1-4 years	51	153.08	0.00	4
5-9 years	89	191.20	1.00	6
10-19 years	136	191.23	1.00	12
20-29 years	55	210.33	1.00	12
30+ years	43	179.67	1.00	6
Total	374		1.00	12

Research question #3.

- Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the content area focus of the field trips?

  Null and alternative hypothesis.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on the content area focus of the field trips.
- H_1: Florida K-12 public school teachers', in the fields of social studies, science, mathematics, and language arts utilized a significantly larger number of field trips during the 2012-2013 academic year to teach social studies rather than science, mathematics, or language arts (Muse et al., 1982).

Analysis/decision.

There are seven groups within the content focus variable (i.e. science, mathematics, social studies, language arts, integrated, multiple contents, and other contents) and because the data is not normally distributed a Kruskal Wallis Test was conducted. The Kruskal Wallis Test revealed (see Table 16) that there is a statistically significant difference in mean rank between the content area groups ($x^2 = 50.08$, df = 6, $p < .05$). A Tukey's pairwise comparison showed (see Table 17) that the mean rank of the multiple content focus group (MR = 143.7) was significantly higher than four groups; science (MR = 75.97), social studies (MR = 80.3), language arts (MR = 89), and integrated (MR = 93.5). Thus, the null hypothesis is rejected; however, the alternative hypothesis is also not supported. Descriptive statistics can be found in Table 18.

Table 16. Kruskal Wallis Test by Content Area Focus

Chi-Square	50.08
df	6
Asymp. Sig.	.000

Note: Significance is set at .05

Table 17. Pairwise Comparison by Content Area Focus

Sample 1 - Sample 2	Test Statistic	Std. Error	Adj. Sig.
Sci.- Math	-31.03	25.06	1.000
Sci.- Soc. Studies	-4.34	14.90	1.000
Sci.- Lang. Arts	-13.06	16.13	1.000
Sci.- Integrated	-17.56	1.29	1.000
Sci.- Multiple Cont.	**-67.75**	**10.48**	**0.000**
Sci. - Other Cont.	-29.44	18.54	1.000
Math - Soc. Studies	26.69	27.03	1.000
Math - Lang. Arts	17.97	27.72	1.000
Math - Integrated	13.48	26.35	1.000
Math - Multiple Cont.	-36.73	24.86	1.000
Math - Other Cont.	1.58	29.19	1.000
Soc. Studies - Lang. Arts	-8.72	19.05	1.000
Soc. Studies - Integrated	-13.21	16.99	1.000
Soc. Studies - Multiple Cont.	**-63.42**	**14.58**	**0.000**
Soc. Studies - Other Cont.	-25.11	21.13	1.000
Lang. Arts - Integrated	-4.49	18.08	1.000
Lang. Arts - Multiple Cont.	**-54.70**	**15.83**	**0.012**
Lang. Arts - Other Cont.	-16.39	22.01	1.000
Integrated - Multiple Cont.	**-50.21**	**13.28**	**0.003**
Integrated - Other Cont.	-11.90	20.26	1.000
Multiple Cont. - Other Cont.	30.31	18.28	1.000

Note: Significance is set at .05

Table 18. Descriptive by Content Area Focus

Content Area Focus	N	Mean Rank	Median	Range
Science	57	75.97	1.00	11
Mathematics	6	107.00	3.00	7
Social Studies	21	80.31	2.00	3
Language Arts	17	89.03	2.00	4
Integrated	27	93.52	2.00	5
Multiple Contents	68	143.73	3.00	10
Other Content	12	105.42	3.00	3
Total	208		2.00	11

Research question #4.

- Is there a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not?

  Null and alternative hypothesis.

- H_0: There is no statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science, mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not.
- H_1: There is a statistically significant difference in the number of field trips that Florida K-12 public school teachers, in the fields of social studies, science,

mathematics, and language arts, utilized during the 2012-2013 academic year based on whether they graduated from a teacher preparation program or not.

Analysis/decision.

A Mann-Whitney U Test was used to answer the fourth research question, as there are two groups with data that are not normally distributed. The test showed (see Table 19) that there is no statistically significant difference in mean rank (MWU = 14,573.5; z = 3.3; df = 364; $p > .05$) between those who graduated from a teacher preparation program (MR = 188.1) versus those you did not graduate from a teacher preparation program (MR = 173.8). Therefore, the alternative hypothesis is not supported and the null hypothesis fails to be rejected. Descriptive statistics can be found in Table 20.

Table 19. Mann-Whitney U Test by Teacher Preparation

Mann-Whitney U	14573.500
df	364
Asymp. Sig.	.187

Note: Significance is set at .05

Table 20. Descriptive by Teacher Preparation

Teacher Preparation	N	Mean Rank	Median	Range
Graduate	221	188.06	1.00	12
Non-Graduate	143	173.91	1.00	12
Total	364		1.00	12

CHAPTER 5: DISCUSSIONS

Introduction

This study was constructed to determine the proportion of Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts teachers that utilized a field trip during the 2012-13 academic; in addition, the study determined the number and frequency of field trips those teachers utilized. Moreover, the study was designed to examine if there were any statistically significant differences in the number of field trips teachers utilized based (a) a teacher's grade level placement, (b) a teacher's teaching experience, (c) the content focus of each field trip, and (d) whether a teacher graduated from a teacher preparation program or not.

This chapter includes five sections. The first section includes a discussion about the calculations of the true proportion of Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts who utilized a field trip, and the true mean and number of field trips utilized by those. In addition the section includes a discussion of the findings for each research question. Section two addresses the limitations of the study; while, sections three and four examine the implications and recommendations for future research respectfully. Finally, a summary of the research study is provided in the fifth section.

Discussion of Findings

True mean, number, and proportion of field trips utilized.

The calculations for the true mean (1.30 – 1.58), number (114,311 – 139,129), and proportion (50.5% – 60.7%) of field trips utilized by the 88,000 Florida K-12 public school teachers in the fields of science, social studies, mathematics, and language arts indicates that

field trips are still valued by Florida teachers. True, the lack of data from previous years limits the scope of the discussion, as one can only speculate if the value for field trips has increased or decreased over the years. None the less, the numbers produced as a result of this study still hold significant weight as a single line item. Any time the majority of teachers indicate that they utilize a specific teaching technique or curriculum it quickly becomes significant, and the same concept holds true with field trips.

The calculations are pertinent for several groups and reasons. The first group that this information is pertinent to is teachers. Teachers, like any member of a social group, like to know where they fit as an individual within the larger group. This is not to say that teachers will choose to utilize field trips to be a part of the "in crowd". No, certainly teachers are professionals and thus able to determine, based upon many varying circumstances, their own desire and ability to utilize field trips. Yet, the notion that such a large proportion of teachers are utilizing field trips may indicate to some teachers that they are either under estimating the value of field trips or over calculating the risk and effort necessary to attend a field trip. Thus, teachers who previously did not utilize a field trip may begin to examine the idea of utilizing a field trip in future years. Additionally, teachers who did attend a field trip in previous years may use this information as added support for the increase use of future field trips.

The second group that this information is applicable to is school and county administrators. Administrators must be aware of the habits and practices of their teachers in order to determine the necessary professional development opportunities that their teachers need. The current literature regarding field trips indicates that many, if not most, teachers are ill-prepared to effectively utilize field trips. In fact, of the 208 participants from this study who

utilized at least one field trip only 17% (36) had any formal training on how to organize and conduct a field trip. Therefore, school and county administrators need to make sure there is professional development available to teachers that trains them how to judiciously use field trips. The training should help teachers achieve the optimal student learning gains that can occur as a result of students attending a field trip.

The third group that this information is significant to is teacher educators and teacher preparation programs. Again, this study acknowledges the need for formal training on how to plan, organize, and conduct field trips. Yet, teacher educators and teacher preparation programs that are working with future teachers need to have an increase focus and attention put towards preparing those graduates; particularly elementary teachers, as they accounted for the highest percentage of teachers (84.8%) who utilized at least one field trip. Additionally, with a median of two elementary teachers utilized field trips more frequently then both middle (median = 1) and high school teachers (median = 0).

The fourth group that this information is relevant to is the "paraprofessional organizations/sites" responsible for hosting field trips; such as zoos, museums, science centers, and the like. Undoubtedly, being in the industry as they are, these organizations and sites are inclined to know their current and potential clientele. Yet, organizations and sites can utilize this information in their advertisements to increase teachers' potential for attending a field trip in the future. Furthermore, this information can be used by paraprofessional organizations and sites, as well as any other interested parties (i.e. teachers, administrators, and teacher educators) as a starting point for any longitudinal trend studies.

Field trips by grade level taught.

The results of the first hypothesis concluded that field trips were utilized most frequently by elementary teachers. In fact, there was a significant difference in the number of field trips utilized by elementary teachers compared to either middle school or high school teachers who teach within the fields of science, social studies, mathematics, and language arts. Additionally, middle school teachers utilized field trips significantly more than their high school counterparts. The results of the first hypothesis do not come as a surprise; indeed, they are in line with previous research (see Muse et al, 1982). However, the lack of surprise does not diminish the value that the results have on educational research and practice.

For one, this study paints a clearer picture regarding teachers' utilization of field trips than previous studies. In fact, in the 1982 study by Muse et al., the last known study to quantify teachers' utilization of field trips, the data is divided between elementary and secondary teachers. Muse et al. found that secondary teachers utilized field trips close to 60% fewer times on average when compared to elementary teachers. Yet, this study is divided among elementary, middle, and high school teachers, and thus found that middle school teachers utilized field trips only 36% fewer times on average when compared to elementary teachers. While high school teachers utilized field trips more than 70% fewer times on average when compared to elementary teachers and more than 50% when compared to middle school teachers.

Unfortunately, when compared again to the Muse et al. (1982) study, which only reported teachers' utilization in terms of means, the results of this hypothesis indicate an overall shift in teachers' utilizations of field trips over time; it seems the mean number of field trips utilized has been cut in half. According to Muse et al. the mean number of field trips utilized by elementary

teachers in 1982 was 4.89; while, most recently the mean number has dropped to 2.38. In 1982 the mean number of field trips utilized by secondary teachers was 2.05; yet, the most recent collective mean number of both middle school (M = 1.5) and high school (M = 0.7) teachers has dropped to 1.14. The results then may confirm the speculation found in literature regarding the decline in teachers' utilization of field trips; although, it does not specify when this trend started or if this trend is just a part of a cycle.

Field trips by teaching experience.

The results of the second hypothesis found that there was no significant difference in the number of field trips that Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts utilized as a result of their teaching experience. In total the participants were organized into five groups based on their self-reported years of teaching experience (a) 1 – 4 years (median = 0), (b) 5 – 9 years (median = 1), (c) 10 – 19 years (median = 1), (d) 20 – 29 years (median = 1), and (e) 30 or more years (median = 1). Although, there was no statistical significant difference found between the groups, the results still hold relevance for a host of reasons. For instance, the group with the lowest median of field trips utilized is the teachers with the fewest years of experience. This information may indicate that new teachers are still acclimating themselves with the responsibilities and duties of becoming a highly effective educator. However, the lack of significance reveals that regardless of any potential limitations new teachers still see a value in utilizing field trips and thus find the time and energy to do so.

Field trips by content area focus.

The goal of the third research question was to determine if teachers use field trips more frequently when teaching a particular content area. That is, do teachers use field trips more

frequently when they teach students social studies, science, mathematics, language arts; and because elementary teachers were a part of this sample, an integrated content focus or multiple contents within one field trip. However, when collecting the data it seems there was a large contingency of teachers that used multiple field trips to teach multiple contents. Therefore, with the new "multiple content" group, the results from the third hypothesis revealed that there was a significant difference in the number of field trips that Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts utilized as a result of the content area focus of each field trip. Yet, the only significance that was found was between the new "multiple content" group (median = 3) and the science (median = 1), social studies (median = 2), and language arts (median = 2) groups. While the integrated group had a median two, and the mathematics group had a median of three; although, it had a small sample size (N = 6). Upon closer examination it seems elementary and middle school teachers were responsible for making up the majority of the integrated and multiple contents groups (See Table 21).

Table 21. Grade Level * Content Focus Cross Tabulation

	Content Focus							
	Sci.	Math.	Soc. Stu.	Lang. Arts	Integrated	Multiple	Other	Total
Elementary	23	0	3	3	8	39	2	78
Middle	21	1	11	5	16	28	8	90
High	13	5	7	9	3	1	2	40
Total	57	6	21	17	27	68	12	208

Note: The numbers represent the number of teachers not the number of field trips

The results from the third hypothesis indicate several significant points. First, there are a larger percentage of teachers from the sample that use field trips to teach science (27%) than mathematics (3%), social studies (10%), or language arts (8%). Plus, the percentage of teachers that use field trips to only teach science remains similar among the three grade levels. However, the median number of field trips teachers use to teach science is similar to the median number of field trips used to teach mathematics, social studies, or language arts.

Second, there are a larger percentage of teachers from the sample that use field trips to teach integrated content areas or "multiple contents" at the elementary and middle school levels. Of course, it is no surprise that a larger percentage of elementary teachers use integrated or "multiple content" field trips. Yet, it is a surprise at the middle school level, because students begin to learn in an isolated discipline approach; where each discipline (i.e. social studies science, mathematics, and language arts) is taught by different teachers. Perhaps the data

indicates that middle school teachers utilize academic teams and thus attend field trips within academic teams. Therefore, middle school teachers can utilize field trips that either integrate the content areas or attend multiple field trips with each addressing one of the academic teams' content area.

Field trips by teacher preparation graduation status.

The results from the fourth hypothesis found that there was no significant difference in the number of field trips that Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts utilized as a result of graduating from a teacher preparation program or not. In fact, the median number of field trips utilized by teachers who reported they graduated from a teacher preparation program and teachers who did not graduate from a teacher preparation program was the same at one. Certainly, it is true that a more in-depth discussion could have occurred if a significant difference were found between the two groups. In fact, one can argue that those who graduate from a teacher preparation program should use field trips more frequently as a result of their training. While an equal argument could be made that alternatively certified teachers bring a greater knowledge of the "real world" and thus are more aware of potential field trip destinations. Ultimately, the most valid point one can draw from the results deals with the lack of awareness teacher preparation graduates or even alternatively certified teacher receive about utilizing field trips.

Limitations of Study

There were several limitations within this study, as is the case with any research study. Readers should be aware of these limitations in order to better understand the implications of the

study. The following list of limitations is offered to readers so that they can have a more complete picture of this research study.

1. The questionnaire was only sent to Floirda K-12 public school teachers in the fields of science, social studies, mathematics, and language arts. Therefore, the results of this study may not be generalizable to teachers outside of the state of Florida. Additionally, since only teachers within the fields of social studies, science, mathematics, and language arts participated in this study the results are not generalizable to the other teachers in the state of Florida.
2. The questionnaire was only concerned with teachers' utilization of field trips during the 2012-13 academic year. Thus, no calculations can be made with regards to teachers' utilization of fields prior to or after the 2012-13 academic year.
3. There is no known zero for the intended population of Florida K-12 public school teachers in the fields of social studies, science, mathematics, and language arts. Therefore, in order to calculate the true mean, number, and proportion of teachers that utilized a field trip in the 2012-13 academic year a conservative estimate of 88,000 teachers were utilized as the population, after first referencing the National Center for Educational Statistics' 2010-11 database.
4. It should be noted that this study was concerned with academic field trips and as such provided a definition to the participants to clarify; however, some participants expressed that they used field trips for recreational purposes. Therefore, some of the numbers regarding the number of field trips utilized by teachers for academic purposes maybe inflated.

5. All the data used in this study is self-reported. For that reason, all the results were limited by the honesty and reliability of the participants who provided information from this study.

Implications

Field trips may seem like an ill-conceived topic to study, especially given the high-stakes; standardized testing that has surrounded the educational arena for the past decade. This research study though has a couple of important implications that relate directly to the standardized educational system, when examined through the theoretical framework of this paper. The first implication relates to the perceived value that teachers have towards the use field trips. If one remembers, teachers have long used field trips as a means of requiring students to gather pertinent experiences about a particular topic of study. Furthermore, teachers would often use field trips as a means to gather data that they would bring back to the classroom for further examination and exploration.

Nonetheless, it seems with the added accountability teachers faced with the inception of the high-stakes, standardized testing associated with the standards-based educational reforms, most notably No Child Left Behind, teachers were forced to defend their utilization of field trips and treat the teaching technique as an extra-curricular activity. Of course, requiring teachers to defend their utilization of field trips is not necessarily a bad thing; in fact, it often is a good thing, as it assures that teachers do not get stuck in a "we have always done it that way" mentality. Yet, despite the increase in high-stakes testing, the results of this research study suggest that the majority of teachers still value the utilization of field trips in a child's education; because they undoubtedly still believe in a constructivists learning theory. This is supported by the fact that

approximately 55% of the teachers used at least one field trip in the previous academic year. However, it seems teachers cannot rationalize the utilization of numerous field trips, as the number of field trips teachers utilized was just over one per year. Certainly, there are factors other than time that contribute to the under utilization of field trips such as finances and logistical concerns but there is no doubt that if teachers felt as if they had time to use field trips they would surely find the money and deal with any logistical concerns. Even in 1982 Muse et al., stated that "…teachers will continue to utilize the field trip as one of their instructional strategies. They will continue to do so at a reasonably high rate and in spite of the economic and organizational hassles they perceive" (p. 124); although, it seems the hurdle that may have the largest impact is in fact the increased accountability tied to students' test scores.

Interestingly students in schools today have always been under the "high-stakes" umbrella, which determines the value of education as being transferrable data, which usually comes as a score on a test that seeks to measure students' rote learning and memorization, because it is easier to test. In fact, nowhere in No Child Left Behind does it require or even suggest teachers use field trips to teach students. Meanwhile, educational theorists have long placed a high value on a constructivists learning theory. Additionally, the majority of teachers in this study have taught under the "high-stakes" umbrella, while at the same time being taught to value a constructivists learning theory. What's more, many states are beginning to move to a "merit pay" system thanks to Race to the Top. Where by teachers' evaluations are partially tied to student test scores; therefore, it would seem logical to predict that the number of field trips teachers use will decrease even further. Plus, the proportion of teachers utilizing field trips will dwindle.

The second implication is about with the small percentage of teachers that have received any formal training dealing with field trips. In fact, only 17% of the teachers that utilized a field trip in the previous academic year received any formal training. However, if a large proportion of teachers want to continue to utilize field trips and if one ever hopes to increase the frequency with which field trips are used by teachers, then teachers will need some kind of formal training. The theoretical framework of this paper suggests that teachers utilize field trips to help with student learning, which can occur in the cognitive, affective, and social domains. Furthermore, student learning is an active process that occurs as the result of direct, sensory interaction with real objects, people, and environments. Surely, student learning does not only occur with field trips; nevertheless, field trips offer an abundance of direct interaction with real objects, people, and environments. Although, whether in a classroom or on a field trip optimal student learning does not occur by happen chance. Students who merely attend a field trip learn to some degree; just as one who merely attends a classroom might learn; but teachers who thoroughly plan and conduct a field trip can attempt to optimize the student learning that occurs as a result of students attending a field trip. Therefore, schools, school districts, alternative certification programs, and teacher preparation programs need to create and offer formal training on the necessity of utilizing field trips. The trainings should include, but not be limited to, teaching teachers how to (a) build a rationale for field trips, (b) locate appropriate sites based on a teacher's grade level and subject area, (c) properly and efficiently deal with logistical concerns, and (d) effectively utilize field trips to optimize student learning. Field trips should not be treated like an extra-curricular benefit for those who have time and money but it should be treated as an essential part of a child's and student's curriculum.

Future Studies

Aside from answering the research questions, one of the goals of this study was to utilize the findings and results to inform future research agendas concerning field trips. Although the literature regarding field trips is well researched in some areas, particularly within science and at the elementary level, there is still room for growth. Therefore, the following list of recommendations for future research is provided based on the findings and results of this research study.

1. This study could be replicated in different states and at the national level to see if similar or different results are found.
2. A longitudinal study could be created that follows a group of teachers to examine how their utilization of field trips changes over time.
3. A study could be created that investigates what teachers who use field trips have in common.
4. A qualitative study could be done that examines teachers' attitudes towards field trips, as it takes a deeper look at why they use or do not use them.
5. This study could be replicated but with different variables such as geographic location of the schools, economic status of the schools, and racial makeup of the schools.
6. This study could be replicated but instead of focusing on teachers' utilization of field trips it would focus on students' participation with field trips.
7. A study could be created that examines the relationship between field trips and students' motivation to learn.

Summary

In sum, a large proportion of teachers still utilize field trips; yet, the frequency with which they use them has decreased since the last known study was conducted in 1982; additionally, only a small percentage of teachers that have received any formal training on how to plan and conduct field trips. Not surprisingly, elementary teachers utilized field trips more frequently than either middle or high school teachers; however, the drop off from elementary to secondary is not as drastic as once believed as it middle school teachers utilize field trips significantly more than their high school counterparts. Field trips were used to teach science by a larger proportion of teachers than any other subject; yet, the median number of field trips taken is approximately equal to that of any other subject.

The overall conclusion then is that teachers need assistance with a couple of areas. First, teachers need help building a solid rationale for utilizing field trips. This would help to increase the proportion of teachers using field trips as well as the frequency with which teachers use field trips. Second, teachers need help planning and conducting field trips. If a large proportion of teachers are currently using field trips but only a small percentage has had any formal training then it may be safe to assume that students are being short changed. Thus, by incorporating formal training programs into school districts, schools, alternative certification programs, and teacher preparation programs teachers should learn how to (a) rationalize the use of field trips, (b) locate field trip sites, (c) plan and handle logistical concerns, and (d) conduct field trips to assure high levels of student learning is occurring.

APPENDIX A: TEACHERS' UTILIZATION OF FIELD TRIPS QUESTIONNAIRE

1.	What grade level do you currently teach?	A. Elementary (grades K-5) B. Middle (grades 6-8) C. High (grades 9-12)
2a.	If Elementary, Do you teach Art, Music, or Physical Education?	A. Yes (if yes, they will be taken to the end of the survey) B. No
2b.	If Middle or High, What subject do you teach?	A. Science B. Mathematics C. Social Studies D. Language Arts E. Other (If other, they will be taken to the end of the survey)
3.	How many field trips did you utilize during the previous academic year (2012-13)?	A. 0 B. 1 C. 2 D. 3 E. 4 F. 5 G. Write in the number if more than 5
4a.	If Zero field trips, why did you choose not to utilize a field trip last year?	Write your response in the space provided
4b.	If at least one field trip, why did you choose to utilize a field trip last year?	Write your response in the space provided
5.	What was the content area focus for each of the field trips you took your students on during the previous academic year (2012-13)?	Please click all the content focuses that apply and write in the number. For example if you utilized three field trips you would pick all the content areas that those three field trips were focused on and write the number for each content (e.g. 2 mathematics and 1 science)

		Science_____ Mathematics_____ Social Studies_____ Language Arts_____ Integrated_____ Other_____
6.	What is your gender?	A. Female B. Male C. Choose not to say
7.	What do you identify your race/ethnicity as being?	A. Black/African American B. Asian or Pacific Islander C. Hispanic/Latino(a) D. Whaite/Caucasian E. Native American or Native Alaskan F. Other
8.	What is the highest degree that you currently hold?	A. Bachelors B. Masters C. Specialist D. Doctorate E. Other
9.	How many years of teaching experience do you have?	Write your response in the space provided
10.	Did you graduate from a four year teacher preparation program?	A. Yes B. No
11.	Did you receive any formal training on how to plan and conduct field trips?	A. Yes B. No
12.	Thank you; please feel free to write any comment or questions you have regarding the study in the space below.	

APPENDIX B: CALCULATIONS FOR THE TRUE MEAN

$$\mathbf{S}_{\bar{x}}^{\mathbf{2}} = \frac{s^2}{n}\left(\frac{N-n}{N}\right) = \frac{1.867}{374}\left(\frac{88{,}000-374}{88{,}000}\right) = 0.00497$$

$$2\sqrt{S_{\bar{x}}^2} = 2\sqrt{0.00497} = 0.14099$$

$$1.44 \pm 0.14 = 1.30 - 1.58$$

APPENDIX C: CALCULATIONS FOR THE TRUE TOTAL NUMBER

$$S^2_{\hat{t}} = N^2 * \left(\frac{S^2}{n}\left(\frac{N-n}{N}\right)\right) = (88,000)^2 * 0.00497 = 38{,}493{,}586$$

$$2\sqrt{S^2_{\hat{t}}} = 2\sqrt{38,493,586} = 12{,}408.6399$$

$$88,000 * 1.44 = 126,720$$

$$126,720 \pm 12,409 = 114,311 - 139,129$$

APPENDIX D: CALCULATIONS FOR THE TRUE PROPORTION

$$S^2_{\hat{p}} = \frac{p(1-p)}{n-1}\left(\frac{N-n}{N}\right) = \frac{.556(1-.556)}{374-1}\left(\frac{88{,}000-374}{88{,}000}\right) = 0.00066183(0.99575) = 0.00065902$$

$$2\sqrt{S^2_{\hat{p}}} = 2\sqrt{0.00065902} = 0.05134281$$

$$55.6\% \pm 5.1\% = 50.5\% - 60.7\%$$

APPENDIX E: INSTITUTIONAL REVIEW BOARD APPROVAL

University of Central Florida

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Joshua L. Kenna**

Date: **September 24, 2013**

Dear Researcher:

On 9/24/2013, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Teachers' Utilization of and Attitudes Towards Field Trips
Investigator:	Joshua L Kenna
IRB Number:	SBE-13-09598
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 09/24/2013 04:53:11 PM EDT

Joanne Muratori

IRB Coordinator

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