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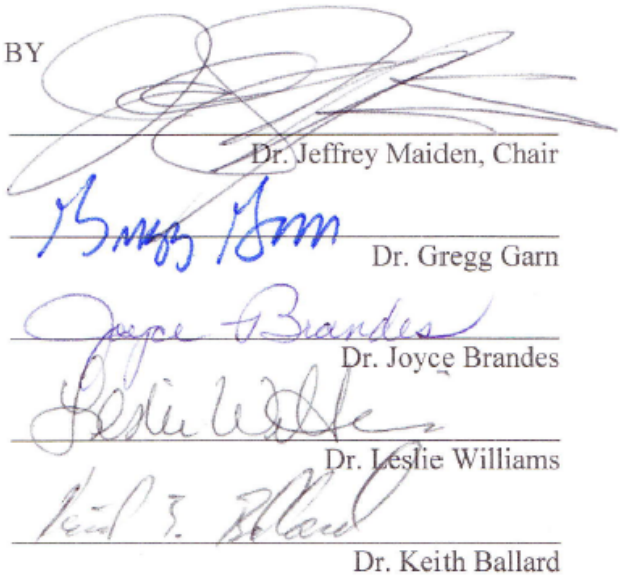
INVESTIGATING THE REPRESENTATION OF
STUDENTS WITH DISABILITIES IN DISTANCE EDUCATION

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL LEADERSHIP AND POLICY STUDIES

BY



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DEDICATION

This dissertation is dedicated to my family, friends and co-workers who have endured with me for the past five years. My wife, Cindy, kids, Jennifer, Christina, Michael and Holly, and my parents, Roy and Coleta Woods. Thank you all for your support and understanding when the nights were long and events missed so another deadline could be met or assignment submitted

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ABSTRACT

The primary purpose of this study was to determine the representation of students with disabilities participating in distance education courses. Corollary research questions investigated perceptions, beliefs and expectations of secondary school principals and special education teachers, and determine the existence of statistically significant differences in efficacy of secondary school principals and special education teachers related to location and size of the school site.

A secondary school principal survey and a special education teacher survey were mailed to 469 secondary school sites identified by the Oklahoma Secondary School Activity Association classification methods. Surveys identified schools by size and location with ten questions designed to gain insight to the perceptions, beliefs and expectations of secondary school principals and secondary school principals. Secondary school principals provided additional school site information related to school enrollment and special education enrollment based on the First Quarter Statistical Report required by the Oklahoma State Department of Education.

Data were statistically measured by descriptive statistics, two-tailed independent t-tests, and two-factor Analysis of Variance. Bonferroni correction was used to ensure a Type I error was not created by multiple comparisons. With a $p<.005$, outcomes indicate no statistically significant difference in the percentage of students with disabilities participating in distance education courses and the general education population participating in distance education. Secondary school principals and special education teachers responses indicated areas of agreement in their perceptions, beliefs and

expectations of students with disabilities enrolling in distance education. No statistically significant difference exists related to secondary school site location or size.

CHAPTER ONE

Introduction

Distance Education

Distance education can trace its inception to 1840 when Sir Issac Pitman broke with traditional brick and mortar instructional practice and delivered shorthand instruction across America via the United States mail to remote-located students. The first academic degree was granted in the state of New York by Chautauqua College of Liberal Arts from 1883 to 1891 to students who successfully completed requirements by correspondence. The practice of using mail-based delivery remained virtually unchanged until the early 1960s with the advent of widely distributed radio and television broadcasts. Distance education has always been an early adopter of new technology. As new technology became commonplace to the majority of the population, integrating radio, television, video recording formats, videoconferencing and most recently personal computers naturally evolved in distance education (Nasseh, 1997; Matthews, 1999; Rumble, 2001). While postal delivery continues, the preponderance of distance education is transmitted electronically. One of the largest providers of distance education is the Open University of the UK. As an example, Open University enrollment exceeds 158,000 undergraduate and 17,000 graduate students. Of the more than 175,000 students enrolled through the Open University 10,000 declared disabilities (Equity and Diversity Department, 2007). Secondary student participation has increased dramatically as documented in a four year study by the National Center for Educational Statistics. Enrollment in distance education courses increased over sixty percent from 317,070 in 2002-2003 to 506,950 in 2004-2005 (Zandberg & Lewis, 2008). Almost one-third of

Americans actively access the Internet through a variety of access points. Work ranks first for Internet access with school coming in second combining to exceed eighty-seven percent of all Internet access originating from these two locations (U.S. Department of Commerce, 2004).

Originally, distance education diverged to two distinctive camps, synchronous or asynchronous delivery methods. Synchronous delivery most closely mimics traditional face-to-face classroom methodology utilizing two way interactive video conferencing technology conducted within the same chronological space separated only in location. Many of the same classroom management routines and behaviors are recreated with the integration of distance education technology. Assignments are passed out using a fax machine and presentations are transmitted via a document camera or PowerPoint presentation (Davis & Niederhauser, 2005; Anderson, 2008). Tandberg (www.tandberg.com) and Polycom (www.polycom.com) have emerged as industry leaders in synchronous video conferencing equipment capturing forty and forty-one percent of market share respectively. Asynchronous delivery is considered anytime, anywhere delivery with the entirety of the content and instructional media contained on the web to be accessed by students at their leisure, in a face-to-face environment students might miss class whereas in a virtual environment they cannot miss a class (Chen, Shang & Harris, 2006). Largely dominated by content management systems that allow instructors to create course content once and after completion students access the course content repeatedly. Blackboard, WebCT, Desire2Learn, and Moodle are examples of online content management systems. The current trend is to create a "blended" course structure taking advantage of the strengths of both synchronous and asynchronous

delivery styles. Marratech (www.marratech.com) and Elluminate (www.elluminate.com) combine both video conferencing and content management utilizing the popularity of high speed Internet and desktop video conferencing (Teng & Taveras, 2005; Welker & Berardino, 2006). Increased prevalence of distance education in elementary, secondary and post-secondary venues amplifies the opportunity for students with disabilities to participate in distance education as a method of attaining required courses.

Educating Students with Special Needs

The term *special education* is credited to Alexander Graham Bell as he attempted to form a new professional organization during the 1884 meeting of the National Education Association in Madison, Wisconsin, primarily targeting educators of the deaf. The group quickly expanded to include the blind and eventually those interested in the learning of who were previously referred to as backward and feeble minded children (National Education Association, 1898). Pioneers Samuel Gridley Smith, founder of Perkins Institution for the Blind, and Thomas Hopkins Gallaudet, founder of the American Asylum for Deaf Students in 1817, began the trend of educating students with disabilities in segregated facilities isolated from regular education students (Winzer, 1998; Smith, 1998). Gridley actively lobbied the 1848 Massachusetts Legislature to provide funding for a school for the teaching and training of children previously referred to as idiotic (National Education Association, 1898). The term *idiot* has Greek origins and is the opposite of citizen denoting a person that did not participate in public life; use of the term is described further in Chapter Two. Until 1910, blind, deaf, and mentally retarded students were served in large institutions. Around 1910, students who were

blind, deaf, and mentally retarded were located in public schools in special segregated classes (Smith, 1998).

Though it is widely held that public education is guaranteed to all by the United States Constitution, the 10th Amendment leaves public education to individual states. Rhode Island was the first state to pass a compulsory education law in 1840 with every state eventually having compulsory attendance laws in place by 1918 (Yell, Rogers & Rodgers, 1998). Compulsory attendance laws did not correspond to equality under the law for all students. Enacted in 1975, Public Law 94-124, the Education for All Handicapped Children Act (EAHCA), provided "to support states and localities in protecting the rights of, meeting the individual needs of, and improving the results for infants, toddlers, children, and youth with disabilities and their families" (U.S. Department of Education, 2007). Until this landmark legislation students with disabilities could be denied access to public education.

The real impetus for inclusion of students with disabilities was influenced in the 1950's and 1960's by the Civil Rights Movement. *Brown v. Board of Education* (1954) had implications for minority students but also provided greater constitutional protection for persons with disabilities (Jorgensen & Hoffmann, 2003; Yell, Rogers & Rodgers, 1998). Subsequent to the passage of the Civil Rights Act in 1964, the Elementary and Secondary Education Act was passed in 1965, becoming the first major public education act implemented by the federal government. The No Child Left Behind (NCLB) Act is the 21st century version of federal involvement in a realm envisioned by our forefathers to be a state and local issue. NCLB encompasses education of students with special needs

as a component of the larger bill intended to provide an educational environment that is more inclusive, flexible and accountable (U.S. Department of Education, 2006).

Each state is challenged to develop and deploy a response to the NCLB requirements established at the federal level. Oklahoma's response is the Achieving Classroom Excellence Act of 2005.

Achieving Classroom Excellence

Oklahoma's response to No Child Left Behind legislation was signed into law June 7, 2005 as Senate Bill 982 or Achieving Classroom Excellence (ACE) (Siano, 2006). The Achieving Classroom Excellence initiative establishes curriculum and graduation requirements for students entering the ninth grade during the 2008-2009 school year. Sections of the law allow for students with disabilities being served by an individualized education plan to receive test accommodations in accordance with the student's plan of study (Oklahoma Senate Bill 982, 2005).

Statement of the Problem

Distance education has experienced pronounced growth and is a viable course delivery vehicle in our nation's public schools. Zandberg and Lewis (2008) report school districts offering distance education courses have remained steady at 37 percent, individual schools offering distance education courses rose from 9 % in 2002-2003 to 10% in 2004-2005. The number of students enrolled in distance education courses have increased approximately 60% over the same time period increasing from 317,070 in 2002-2003 to 506,950 in 2004-2005. One indication of the overall satisfaction with distance education is the report that 71% of districts currently providing distance education plan to expand their offering in the future (Zandberg & Lewis, 2008).

Though consistently in flux, it has been proposed that information technology in education is an incredible resource and will continue to be the single most important component of 21st century education (Trattner, Wang, & Carter, 2000). While research on student's academic achievement in distance education courses has furnished mixed results, it has been demonstrated that online students consistently outperformed traditional students, distance education is a viable academic option for some students, and distance education should be provided to all students as soon as possible (Hughes et al., 2007). The Sloan Foundation reports that districts perceive the importance of distance education to be 1) offering courses not otherwise available at the school, 2) meeting the needs of specific groups of students, 3) offering AP or college-level courses, 4) reducing scheduling conflicts for students, and 5) permitting students to retake courses they failed (Picciano & Seaman, 2007).

Schools must demonstrate Adequate Yearly Progress (AYP) as a whole and for each of four identified subgroups; economically disadvantaged, limited English proficient, students with disabilities, and students identified by racial and ethnic groups. Schools must document that each subgroup is making progress and that 95% of each subgroup must take the state mandated tests (Welner, 2005). Oklahoma's student population numbers are 633,006 strong, with 95,860 identified as special needs, or 15% of Oklahoma's student body, indicating approximately 10% of the students served with an IEP must take the state mandated end of instruction tests (Oklahoma State Department of Education, 2008).

Combining the growth in distance education enrollment and the increased accountability required by No Child Left Behind leads to the expectation that students

with special needs will encounter distance education courses as a component of their educational program. What are the ramifications for students with disabilities when their only recourse is to participate in a distance education course to complete one of the core academic course required by NCLB? Research is replete with studies related to distance education (Moore & Kearsley, 2005; Christensen, Horn, & Johnson 2008; Zandberg & Lewis, 2008) and special education (Yssel, Engelbrecht, Oswald, Eloff, & Swart, 2007; Yell, Rogers, & Rodgers, 1998), yet research on special populations in distance education is scant. Therefore, this study attempts to address this research deficiency.

Research Questions

This research investigates the representation of special populations in distance education courses based on the number of students enrolled that are served with an IEP and the total Percentage of students with special needs in Oklahoma. Additional insight to the beliefs and values of building-level administrators and special education teachers regarding participation of students with special needs in distance education courses will be explored. This study addresses two primary research questions:

1. What is the level of participation of Oklahoma secondary students with disabilities in distance education courses?
2. What is the representation of Oklahoma secondary students with disabilities participating in distance education courses compared to the total population of students with disabilities measured as a percentage of Oklahoma secondary students?

And four corollary research questions:

3. What are the perceptions, beliefs and expectations of secondary school principals

related to students with disabilities participating in distance education courses?

4. What are the perceptions, beliefs, and expectations of special education teachers related to students with disabilities participating in distanced education courses?
5. Is there a statistically significant difference in efficacy perception of secondary school principals related to students with disabilities participating in distance education courses according to demographics?
    a. Oklahoma secondary schools identified as urban, suburban or rural.
    b. Oklahoma secondary school enrollments categorized as large, medium, or small.
6. Is there a statistically significant difference in efficacy perception of special education teachers related to students with disabilities participating in distance education courses according to demographics?
    a. Oklahoma secondary schools identified as urban, suburban or rural.
    b. Oklahoma secondary school enrollments categorized as large, medium, or small.

The impetus of this study is to collect foundational information related to students with disabilities participating in distance education. Results of the research will be used to educate administrators and instructors as to the existing perception related to students with disabilities and participation in distance education coursework. Additional outcomes include initiating policy, practice and professional development discussions among educators, legislators, parents and learners. Beginning the discourse at the

confluence of distance education and special education will prepare all stakeholders for the challenges, pitfalls and necessities that may arise.

Significance of the Study

This study is necessary for several reasons. Distance education classes continue to rise in enrollment and offerings on a national scale (Picciano & Seaman, 2007; Zandberg & Lewis, 2008; Picciano & Seaman, 2007). No Child Left Behind mandates inclusion of all student subgroup populations in demonstrating school accountability as defined by student performance on mandated end of instruction tests. The Oklahoma Achieving Classroom Excellence Act increases graduation and curriculum demands on students attending Oklahoma secondary public schools. Dropout rates for students with disabilities (Christenson & Thurlow, 2004) and students participating in distance education courses (Stumpf et al., 2005) are disproportionately high, validating inquiry into underlying perceptions of administrators and special education teachers germane to students with disabilities success in e-learning. The combination of these factors dictate the need for expanded understanding of existing beliefs and values of school administrators and special needs teachers towards students with disabilities participating in distance education courses. Research findings and study instruments will contribute to the existing body of knowledge related to educating students with disabilities in the least restrictive environment.

The findings of this study will provide a springboard for further studies in this expanding frontier and potentially guide professional educators, legislative representatives and concerned stakeholders as policy, practice and procedures relevant to distance education in whole, and special populations specifically, are developed and

implemented in public schools. This study marries two closely examined topics in an effort to preemptively prepare for their inevitable convergence in a proactive manner beneficial to students, school systems and significant stakeholders.

Study Methods and Design

This study incorporated a quantitative research design. Information gathered for the First Quarter Statistical Data report required by the Oklahoma State Department of Education served as a common date for the recording of students enrolled in special education, distance education and the total number students enrolled at each school site. Data were gathered through the distribution of surveys to secondary school building principals and secondary school special education teachers to inquire into their perceptions, beliefs, and expectations regarding the participation of students with disabilities in distance education courses. Numeric data recording the total number of students enrolled at each site, the total number of students being served with an IEP, the number of students with disabilities enrolled in distance education courses, and the total number of students participating in distance education courses were harvested simultaneously with building administrators and special education teacher's perceptions, beliefs and expectations.

A two-factor Analysis of Variance (ANOVA) was utilized to determine of there is a difference in participation based on school location and/or school size. The hypotheses suggested for school size were:

Hypothesis 0 is there is no difference in participation related to school size

Hypothesis 1 is there is a difference in participation related to school size

Essentially, the relationship between the size of the school and the percentage of special education students engaged in distance education was examined. The possibility exists that school size may impact the likelihood that students participate in distance education courses. Conducting an ANOVA ascertained whether the relationship existed or not.

Additionally, school location and special education student participation in distance education was scrutinized using a two-factor Analysis of Variance (ANOVA). Hypotheses for variance among school size categories were:

Hypothesis 0 is there is no difference in participation related to school location

Hypothesis 1 is there is a difference in participation related to school location

Definitions

For fluency of discussion, there exist definitions vital to clarity of terminology that recur throughout the study and are specific to distance education and special education. A minimal offering of definitions is provided to facilitate early comprehension of critical terms and vocabulary.

1. Asynchronous Instruction: Learning in which interaction between instructors and students occurs intermittently with a time delay. Examples are self-paced courses taken via the Internet or CD-ROM, Q&A mentoring, online discussion groups, and e-mail (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).
2. Desktop Video: The merger of video, telephone, and computer technologies for the purpose of delivering multimedia information and telecommunications capabilities at the individual computer workstation (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).
3. Distance Education: The organizational framework and process of providing

instruction at a distance. Distance education takes place when a teacher and student(s) are physically separated, and technology (that is voice, video, data and/or print) is used to bridge the instructional gap (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).

4. Face-to-Face Course: A course taught solely through traditional classroom methods, where students and the instructor interact in the same place, at the same time (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).
5. FAPE: Free and appropriate public education (FAPE): Every child with a disability has a right to a public education at no cost to the parent. The child's educational program must be provided in accordance with his/her IEP. A FAPE must be provided to children with disabilities who have been suspended or expelled from school (http://specialeducation.rutgers.edu/definitions.pdf).
6. Hybrid course: A course which is taught partially through face-to-face contact and partially through online contact (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).
7. IEP: Individualized education program (IEP): A written plan developed at a meeting with the IEP TEAM that serves as the roadmap for the child's education. The IEP must state the child's present levels of performance, measurable annual goals and short-term objectives aimed at improving the child's educational performance, and instructional activities and related services needed for the child to achieve the stated goals and objectives. It also must state the reasons for the child's educational placement. The IEP must be individually designed to meet the child's unique needs (http://specialeducation.rutgers.edu/definitions.pdf).

8. LRE: Least restrictive environment (LRE): Every child with a disability must be educated with non-disabled children to the maximum extent appropriate (http://specialeducation.rutgers.edu/definitions.pdf).
9. Social Presence: is defined as the ability of participants in a community to project themselves, socially and emotionally, as real people through a medium of communication (Garrison and Anderson, 2003, http://innovateonline.info/extra.php?id=1956).
10. Synchronous Instruction: A real-time, instructor-led online learning event in which all participants are logged on at the same time and communicate directly with each other. In this virtual classroom setting, the instructor maintains control of the class, with the ability to "call on" participants. In most platforms, students and teachers can use a whiteboard to see work in progress and share knowledge. Interaction may also occur via audio- or videoconferencing, Internet telephony, or two-way live broadcasts (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).
11. Transactional Distance: a distance that is more than simply a geographic separation of learners and teachers. It is a distance of understandings and perceptions, caused in part by the geographic distance, which has to be overcome by teachers, learners and educational organizations if effective, deliberate, planned learning is to occur (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).
12. Video Conference: A meeting, instructional session, or conversation between people at different locations relying on full bandwidth, full motion video

technology as the primary communication link (http://www.clt.odu.edu/ofo/syncvideo.php?src=help_glossary).

Limitations

This study did have noteworthy limitations. Anonymous participation by busy administrators and teachers bombarded by high-priority tasks may be compromised as they place more value on completing tasks deemed more pressing and relevant to their immediate situation lessening the volume of surveys completed and consequently returned. Collecting an adequate number of responses to generate significant data validity could become a concern. Sampling is purposeful and clustered, lacking the validity of a controlled randomly sampled population (Lomax, 2001). The study is focused on students with disabilities along with administrators and teachers attending or working in Oklahoma public secondary schools and may lack the external validity to be generalized to other state's student, administrator or teacher populations that do not operate under the same state laws, education mandates and testing requirements. Surveys are researcher developed thereby lacking broad use and validation. Bowden, Fox-Rushby, Nyandieka, and Wanjau (2002) state, "Indeed, evidence that a survey tool has 'content validity' is required, rather than simply relying on unsubstantiated assertions by researchers, and only once this has been demonstrated is it appropriate to adopt quantitative assessment methods for further analysis" (pg. 329). Every effort has been made to ensure content validation through the use of expert panelist and connection to theory. Reliability will be established through the participation of a select group of administrators and teachers in a pilot study.

Summary

The purpose of this study was twofold: determine if special needs students are included in distance education courses proportional to general education students and uncover beliefs and perceptions of principals and distance education teachers regarding special needs students and their ability to successfully participate in distance education courses. A strong case for this study has been demonstrated through the existing body of research documenting growing participation of secondary students in distance education courses, increasing core academic achievement expectations for all populations, and inclusion of special needs students in general education classrooms (Butz, 2004). Existing studies of the same format bolster the selection of applying a t-test to analyze the related percentages of special needs students participating in distance education courses compared to regular education students participating in distance education courses and applying an analysis of variance to the influence of school size and location (Zandberg & Lewis, 2008). Benefits of the research are intended to increase the available knowledge, educate administrators, teachers, and parents, and suggest policy and guidance for compliance with special education and No Child Left Behind directives.

CHAPTER TWO

Literature Review

Introduction

This study was primarily a distance education study with an emphasis on a specifically defined population of students that may be participating in distance education courses. The premise of this study was to determine if the composition of the students participating in distance education courses is a reflection of traditional education in its student body composition or are some subgroups of students less likely to participate in distance education. The literature review demonstrated why the two lines of study should even be considered together, why they will inevitably intersect in some student's plan of study and in some school's course offerings. Distance education and special education share some commonalties and both are currently considered as something in *addition* to regular classroom settings, but not as an *integral part* of the regular classroom.

Through this literature review, I look to establish the validity of distance education as a viable delivery method of instruction for all students in conjunction with establishing the need for and ability of students with disabilities to successfully participate in distance education coursework in some situations. The literature review begins with distance education and looks at distance education in some depth starting with its earliest practices through its current evolution. Special education is handled in a more global context at arm's length, focusing more on the connections and practices than in-depth detail. At the conclusion of the literature review, it will be evident why the two distinct lines of study converge to form the foundation of this study, which brings them together.

Literature Review of Distance Education

History of Distance Education

Distance education is the innovation of Sir Issac Pitman. In 1840, Pitman formulated the ingenious form of reaching a potentially limitless number of students by sending shorthand instruction through the mail. In the early 1900's, the University of Chicago in the United States and the University of Queensland in Australia had established departments dedicated to distance education. Late 1960's and early 1970's introduced visual and auditory enhanced distance education with the infusion of video tapes, radio and television broadcasts, and video conferencing. The Open University in England is credited as the first to use multimedia in its distance education format. Distance education is a common commodity for adult learners and is growing among secondary school students. Dianis (2005) found that 9 %, over 8,200 public schools, had students enrolled in distance education courses during the 2002-2003 school year; 81% listing the meeting the needs of specific groups of students as somewhat very important (p. 72). Remote locations, scheduling challenges, and college admission requirements all spur the necessity for creative methods for delivering curriculum to students.

Articles selected for this literature review have limiting parameters related to distance education in secondary schools. One interesting side note is the reference to "face-to-face" instruction in each article. There was no mention of the instructional methodology utilized in face-to-face instruction. Newmann, Bryk, and Nagaoka (2001) found a consistent positive relationship between student exposure to high quality intellectual assignments and students' learning gains on the ITBS. Even controlling for race, socio-economic class, gender, and prior achievement differences among classrooms,

the benefit of exposure to assignments that demand authentic intellectual work in writing and mathematics are quite substantial (pg. 22). Face-to-face instruction is suggested as the gold standard of instruction and the benchmark for successful instructional proficiency without defining what worked in the face-to-face classroom. Unmediated, face-to-face communication is the 'gold standard' against which all other forms of mediated communication are matched (Anderson, 2008).

Additional attention is given to selection of articles that would provide a global perspective of distance education. Pedagogy, course design, curriculum, assessment, technology and instructor evaluation were all facets of distance education discussed in the articles reviewed. Each article used original data with the exception of one article that took a retrospective look at the data in a quasi-experimental design. This literature review will attempt to consolidate the individual themes expressed as a cohesive overview of distance education as a whole. Broad stroke themes broke into four large areas: delivery technology and methods, curriculum and content, instructor and student evaluation, and social presence.

Delivery Methods

Generally there are two distinct technologies for distance education delivery and a third method that is a combination of the first two. Instruction is conducted synchronously, asynchronously, or a combination of both. A primary benefit of distance education is putting highly effective instructors in contact with more students. Statistics released by the U.S. Federal Communications Commission (FCC) reflecting data for 2007 demonstrates just how dramatic the increase has been, not only in technical proficiency but in accessibility as well.

1. For the full 12-month period ending Dec. 31, 2007, high-speed lines increased by 46% from 82.8 million to 121.2 million (or 38.4 million lines), compared to a 62% increase from 51.2 million to 82.8 million lines (or 31.6 million lines) in the 12-month period ending Dec. 31, 2006.
2. Of the 121.2 million total high-speed lines reported as of Dec. 31, 2007, 74 million served primarily residential end-users. Cable modem service represented 47.8% of these lines, while 35.8% were asymmetric digital subscriber line (ADSL) connections, 0.1% were symmetric DSL (SDSL) or traditional wireline connections, 2.3% were fiber connections to the end-user premises and 14% used other types of technology including satellite, terrestrial fixed or mobile wireless (on a licensed or unlicensed basis) and electric power line.
3. High-speed ADSL increased by 1.9 million lines during the second half of 2007, fiber connections increased by 0.4 million lines and cable modem service increased by 2.1 million lines. For the full 12-month period ending Dec. 31, 2007, ADSL increased by 4 million lines, fiber connections increased by 0.8 million lines and cable modem service increased by 4.5 million lines.

Information regarding advanced services lines includes:

4. Advanced services lines, which deliver services at speeds exceeding 200 kilobits per second (kbps) in both directions, increased by 15% during the second half of 2007 from 69.6 million to 80.2 million lines compared to a 16% increase from 59.8 million to 69.6 million lines during the first half of

2007. For the full 12-month period ending Dec. 31, 2007, advanced services lines increased 34% from 59.8 million to 80.2 million (or 20.4 million lines).

5. Of the 80.2 million advanced services lines reported as of Dec. 31, 2007, 56.4% were at least 2.5 Mbps in the faster direction and 43.5% were slower than 2.5 Mbps in the faster direction.
6. Of the 80.2 million advanced services lines, 69.1 million served primarily residential end-users. Cable modem service represented 50.7% of these lines, while 32.6% were ADSL connections, 0.1% were SDSL or traditional wireline connections, 2.4% were fiber connections to the end-user premises and 14.1% used other types of technology including satellite, terrestrial fixed or mobile wireless (on a licensed or unlicensed basis) and electric power line.

The information reported to the FCC regarding geographic coverage included:

7. As a nationwide average, the FCC estimates that high-speed DSL connections were available to 82% of the households to whom incumbent local exchange carriers could provide local telephone service as of Dec. 31, 2007 and that high-speed cable modem service was available to 96% of the households to whom cable system operators could provide cable TV service.
8. Providers list the zip codes in which they have at least one high-speed connection in service to an end-user and more than 99% of zip codes were listed by at least one provider. FCC analysis indicates that more than 99%

> of the nation's population lives in those zip codes. The most widely reported technologies by this measure were high-speed mobile wireless (with at least some presence reported in 94% of zip codes), satellite (in 93% of zip codes), ADSL (in 87% of zip codes) and cable modem service (in 66% of zip codes). ADSL and/or cable modem connections were reported to be present in 91% of zip codes (Wigfield, 2009).

Trattner, Wang, and Carter (2000) "information technology in education is an incredible resource and will, without question; continue to be the single most important component of 21st century education" (p. 34).

Synchronous Learning

Synchronous learning is a real-time, instructor-led online or classroom based learning event in which all participants are logged on or otherwise occupying the same chronological space simultaneously and communicate directly with each other. In this virtual classroom setting, the instructor maintains control of the class, with the ability to "call on" participants. In most platforms, students and teachers can use an interactive whiteboard to see work in progress and share information (http://www.clt.odu.edu, ¶17). Interaction may also occur via audio or videoconferencing, Internet telephony, or two-way live broadcasts. Interactive educational television is synchronous instruction delivery utilizing a minimum of two classrooms equipped with cameras, monitors, document camera, video players and other equipment to facilitate transmission of information in a digital format across various conduits. Integrated Services Digital Network (ISDN) was the original workhorse carrying the load of two way live synchronous instruction. ISDN was restrictive and costly which put it out of reach of

most comprehensive secondary schools. Internet Protocol (H.323) video conferencing uses the internet as its transmission vehicle allowing broader access and greater affordability. Polycom (www.polycom.com) and Tandberg (www.tandberg.com) are the industry leaders in two-way interactive video conference providers occupying 81.1% of the 2005 market share of video conference endpoints shipped. Tandberg's estimated global market share for endpoints by the fourth quarter of 2005 was 40% while Polycom leads in the overall market in terms of unit shipments with a 41.1% market share. Conventional real time distance education courses occupied a static institutional space, changes in the availability of high speed internet connections encouraged migration from the classroom to the living room for synchronous distance education delivery. Marratech (www.marratech.com), Elluminate (www.elluminate.com), MOVI (www.tandberg.com), and Wimba (www.wimba.com) represent a growing movement in distance education delivery that facilitates synchronous distance education to the desktop or laptop on the go.

Two way interactive distance education most closely resembles traditional classroom structure. Davis and Niederhauser (2005) found that tried and true methodologies were commonly shifted from traditional settings to a distance environment and recommend that conceptual frameworks already successfully employed in face-to-face classrooms be applied to synchronous distance education delivery. Videoconferencing serves as a familiar and compatible first experience of distributed education (Anderson, 2008). Wayne Gretzky's PEBBLES (Providing Education By Bringing Learning Environments to Students) is a synchronous videoconferencing model that connects students isolated from their regular classroom for an extended length of

time for medical or other reasons. In this case study the student suffered extended stays in a hospital due to kidney failure and prolonged haemodialysis and other medical procedures. Prior to utilizing PEBBLES, the student would return from a stint in the hospital, refuse to return to school then be woefully behind when she did eventually begin attending. The student attended class regularly throughout the study and did experience some dramatic changes in attitude and behavior. After only five sessions the student told her father she wanted to return to school and did so (Weiss et al., 2001). While closely related to direct face-to-face instruction, synchronous delivery still has obstacles to overcome before the technology becomes truly transparent to the educational process. Instructors report an increased workload preparing for distance education classes (Weiss et al, 2001; Anderson, 2008; Davis and Niederhauser, 2005).

> I try to have enough written instructions there. I sometimes send some supplemental instructions to [the Biology teacher in the remote school]. But usually we just have a short conversation on the day ahead, basically what the general purpose of the lab is going to be, what types of activities– general activities—that the kids are going to be doing, what types of materials, especially if there's anything special. Like today with sulphuric acid, that question—do we want diluted or concentrated? . . . [This conversation is] normally [though ICN] because, if there's some sort of problem. If he says, 'I don't think my sulphuric acid is very good.' If possible I can say, 'well, hydrochloric will work just as well. You can substitute it.' So if he gets a sheet like that that says sulphuric acid—I'll fax him down a lab write-up today and he'll reproduce it, and he'll have

> that for the kids tomorrow with the instructions and everything to go. . . . Yes that's very typical. There's very little modification on account of them being at a distance. (Chemistry teacher interview) (Davis and Niederhauser, 2005).

This excerpt from an interview conducted with a chemistry teacher preparing to teach in a two way interactive environment demonstrates the extra thought, preparation and collaboration necessary for a positive distance education venture. Additionally, teachers felt they were ignoring whichever group they were not directly interacting with and continually had to coax the distance sites to participate (Weiss et al, 2001; Anderson, 2008; Davis and Niederhauser, 2005). Students also had specific issues with distance education equipment and the special operational procedures required to speak or present materials to the entire class. Students felt like they were interrupting the class when they would key the microphone to interject a comment or respond to a teacher query. Davis and Niederhauser (2005) say that, "Interviewed students mentioned that they were embarrassed to talk in class and researchers noticed that the Chemistry teacher occasionally had to remind students to press the microphone switch" (p. 256).

In 2001, the governments of Newfoundland and Labrador created the Centre for Distance Learning and Innovation (CDLI). One of the functions of CDLI was to serve students in schools deemed to be necessarily existent, a term used when a school is located so far from another school that busing students is geographically infeasible (Barbour, 2007). Distance instructors do not have two-way interactive video conferencing available and use instead a web-based product called Elluminate. Elluminate simultaneously distributes a whiteboard, audio and video to desktop computer

endpoints. Generally the video quality is not as pristine as larger dedicated distance education rooms but the ability to see and hear other participants is beneficial. Marratech, MOVI and Skype are products with similar attributes and functionality to Elluminate.

Asynchronous Learning

Asynchronous learning is defined as learning in which interaction between instructors and students occurs intermittently with a time delay. Examples are self-paced courses taken via the internet or CD-ROM, Q&A mentoring, online discussion groups, blogs, WIKI's and e-mail. Instructors and learners do not generally occupy the same physical, chronological or geographical sector. Generally speaking, asynchronous courses are created in a curriculum "container" such as WebCT, Blackboard, Desire 2 Learn, Moodle and others. One major concern with such delivery method is that web-based content is authored by skilled individuals in a technical aspect, but "not necessarily knowledgeable about educational concepts" (Janicki & Liegle, 2001). Content design and adherence to sound pedagogical practice resounded throughout the articles reviewed related asynchronous delivery. While synchronous two-way interactive distance education classrooms closely modeled the traditional face-to-face teacher-student interaction, asynchronous delivery requires a concerted effort to maintain and foster a teacher-student and student-student presence (Sadik & Reisman, 2004). Online students can and do perform as well as or even better than traditional classroom students in similar courses. Hughes, McLeod, Brown, Maeda, & Choi, (2007) found "students consistently out-performed traditional students across the AAU (Assessment of Algebraic

Understanding) sub-scales, despite having lower proportions in a college preparation path.

Asynchronous learning by design has limited ability to nurture community building and relies on tools such as e-mail, blogs, discussion threads, WIKIs, chats and bulletin boards to simulate discussion and collaboration (Hughes et al., 2007; McLoughlin, 2002; Barbour, 2007). Like its synchronous counterpart, instructors in online courses felt it required more effort for participation and collaboration in an online class. Davis and Niederhaus (2005) found online teachers were actively engaged in seeking out and developing new practices to improve virtual schooling and Sadik and Reisman (2004) pointed out many of the student resources online had to be verified, validated and policed to maintain working links on the web. Of primary concern in online course development is student isolation. Barbour (2007) opines, "a lot of them [students] were isolated, and knowing that they didn't have access to a [content-area] teacher readily whenever they wanted…so I tried to make the website…compensate for that as much as I possibly could" (p. 103).

Hybrid Courses

Hybrid courses utilize components of both synchronous and asynchronous delivery methods. The first example of hybrid learning occurred when the first teacher assigned the first homework assignment combining synchronous instruction during class and asynchronous activities at home around the kitchen table (Welker & Berarindo, 2005). Hybrid learning models have increased in popularity and application. A tendency to overanalyze the distribution of artifacts by time, frequency and method lend to a broad definition of hybrid learning as the combination of face-to-face instruction, whether

through class-based lecture or videoconferencing technology, and online stored resources (Reisslein, Seeling & Reisslein, 2005; Martin & Treves, 2007; Gill & Poe, 2005).

Typically, the class will meet at a prescribed time for lecture, discussion, and socialization virtually. The meeting may take place via two-way interactive videoconferencing such as Tandberg or Polycom, via a web based system such as Elluminate or Marratech, or simply over the phone (Davis & Niederhauser, 2005; Anderson, 2008). Asynchronous Learning Management Systems (LMS) or Content Management Systems (CMS) are deployed to manage the classroom routines of disseminating assignments, conducting threaded discussions, storing resources, and a receptacle for depositing completed assignments.

In his Queensland, Australia physics class, the teacher had adapted his former face-to-face approaches to include a mixture of direct instruction, interactive communication, and web-based activities. A Blackboard presentation and two-way telephone bridge simultaneously connected students and instructor. Independent study activities were also presented through Blackboard (Davis & Niederhauser, 2005). An advantage of the LMS or CMS online resource is the availability of resources and information after the direct instruction has passed. Students can continuously access information throughout the life of the course (Chen, Shang & Harris, 2006).

A final word on delivery methods comes from Joy and Garcia (2000), online developers should not assume that students will learn better from technology-based delivery systems. Rather they should focus on instructional design strategies regardless of the medium they choose.

Course and Content Development

While the technology of delivery does influence the mechanics of distance education delivery, it does not negate the need for effective instructional methodology underpinning. Distance education course delivery does present new and novel situations unfamiliar to the face-to-face traditional classrooms, it does not create a dimension in education in which authentic teaching and learning coupled with professional learning communities ceases to positively influence student achievement. Regardless of the vehicle, application of solid pedagogical practice should form the basis of the course development and deployment (Lemly et al., 2007; Davis & Niederhauser, 2005; Sadik & Reisman, 2004; Chen, Shang & Harris, 2006; Hughes et al., 2007; McLoughlin, 2002; Barbour, 2007).

It is during course development that attention to transactional distance should occur. Transactional Distance Theory (TDT) (Moore, 1972, 1980, 1990, 1993; Moore & Kersley, 2005) is a cornerstone theory in distance education (Murphy & Rodrigueez-Manzanares, 2008). Transactional distance is a distance that is more than simply a geographic separation of learners and teachers. It is a distance of understandings and perceptions, caused in part by the geographic distance, which has to be overcome by teachers, learners and educational organizations if effective, deliberate, planned learning is to occur. Transactional Distance Theory emphasizes that distance education must overcome much more than simple geographical distance when learners are separated from instructors and when learners are separated from other learners. Chen, Shang, & Harris (2006) "In the traditional face-to-face environment, interpersonal interactions take place on a sequential basis in real time. In addition, positive or negative physical

expressions (voice tones, facial expressions, and body language) of discussion participants are effective enforcements for the learning process" (p. 74). Assimilating these additional interpersonal interactions via distance education can be impeded if not rendered impossible when social presence is ignored.

Education is not simply transporting facts from the instructional leader to the recipient learner. "The essential value of the public school in a democracy, from the beginning, was to ensure an educated citizenry capable of participating in discussion, debates, and decisions to further the wellness of the larger community and protect the individual right to "life, liberty and the pursuit of happiness" (Glickman, 1993). Transactional distance can be greater in traditional classroom settings than in distance education courses as less motivated students and students less inclined to share their opinions and conclusions in the physical presence of other students can coast and blend into the crowd thereby distancing themselves from the majority of the student and instructional cohort (Webb, Gill & Poe, 2005; Reisslein, Seeling, Reisslein, 2005). Superior results for both knowledge and analysis of learning outcomes may be the result of students engaged in some level of online discussion requiring individual participation unlike classrooms that facilitating students to revert to a passive role while more aggressive students dominate the room.

Education is as much socialization as academic performance. Whether synchronous two-way interactive video conferencing delivered across well equipped distance education classrooms or asynchronous packaging delivered across the web to an individual using Moodle, social presence is a crucial consideration in content development (Davis & Niederhaus, 2005; Sadik & Reisman, 2004; Chen, Shang, &

Harris, 2006; Anderson, 2008; Hughes et al., 2007; Black, Ferdig & DiPietro, 2008; McLoughlin, 2002; Weiss et al., 2001; Barbour, 2007; Murphy& Rodriguez, 2008). Inclusion is more than a component in a well rounded curriculum; contact with peers appears to have significant impact on academic gains in addition to social and communication skills and in the development of greater self-confidence and independence (PEBBLES 6-7).

Murphy & Rodriguez-Manzanares (2008) state that in order to succeed in the asynchronous classes, high school students must be highly motivated, self directed, able to work independently, and demonstrate a willingness to communicate. Additionally, it is the role of the e-instructor to engage every student through questioning, prodding and testing of student's knowledge of the material. It is not enough to assume that online learners will come equipped with the tools to be successful in a distance education setting. The demands associated with distance education coupled with alarming rates of attrition and failure (Black, Ferdig& DiPietro, 2008) have caused some to question if distance education is a viable solution for all learners. Student assessments do exist that could provide valuable insight to a student's level of readiness to successfully participate in a distance education course. Teng & Taveras (2004) found the blended model was preferred to an entirely asynchronous model because students had a strong desire to "identify with the University and live video seemed the best solution." Integrating a live component regardless of the mechanism served to alleviate isolation, encourage students to remain accountable for their work, and facilitates social interaction and discourse (Teng & Taveras, 2005).

Content-based subject matter assessments provide an understanding of the student capabilities related to individual content areas. Technology aptitude assessments evaluate a student's level of comfort interacting with technology. Black, Ferdig& DiPietro (2008), state that given today's tech savvy teens and their comfort level with technology, the need for this style of assessment is of diminishing value. A third and potentially more meaningful type of assessment is psychometric assessment. A psychometric assessment focuses on psychological traits predictive of success in distance learning such as organization, self-regulation skills, beliefs about achievement, responsibilities, and risk taking. Caution should be exercised to not utilized assessments as preemptive determinants to eliminate learners from participating in distance education, rather as an intervention tool to guide instructors and inform students, a practice the face-to-face classroom could benefit from.

Traditional methodologies and classroom management schemes can make the transition to an online environment. Scaffolding (Tharp & Gallimore, 1988) has proven effective in traditional face-to-face teaching and many tenets of the original methodology are considered applicable to a distance environment (McLoughlin, 2002). Scaffolding is generally accepted as teacher driven, with the teacher serving as the expert learner; advances in communication technology shifts the roles of teacher and student to one of cooperative shared learning experiences between course participants. Online forums and technology assisted supports may replace instructor guided events.

Chen, Shang & Harrison (2006) consider case methods in an asynchronous environment with interesting results. Conversation and collaboration could not take place fluidly as in a traditional face-to-face classroom where students could freely interact with

the teacher or collect in small groups to banter possible solutions amongst themselves. Instead, a threaded discussion was used to provide scenarios them students would post responses and suggestions for possible solutions and outcomes. Results of the study did indicate a strong correlation between number of posts, number of feedback messages, and case discussion scores.

Professional learning communities in a virtual realm also benefited students. Davis & Niederhaus (2005) the physics teacher "did appear to engage a network of people, both locally and through interactions with scientists from around the world whom he located through the Internet" (p. 257).

Distance education content and curriculum development cannot simply be converting textbooks to Web pages, the results produce digital versions with no incremental benefit for the learners (Sadik & Reisman, 2004). Children may not be ready to assume high levels of responsibility for their own learning and will require a greater degree of structure (Barbour, 2007). It is the responsibility of the instructional designer to consider the need for rapport building, social presence, nurturing, collaboration, sharing and self understanding in course construction (Murphy & Rodriguez-Manzanares, 2008).

Instructor and Student Evaluation

The outcome of instruction is learner performance. Hughes et al. (2008) argue that online students outperformed traditional face-to-face students on the Assessment of Algebraic Understanding test and suggested that schools need to ensure equitable access to online course as online course can level the playing field for students. Students that participated in a Web based visual art appreciation peer-assessment project "liked

classmates giving comments" and" thought the comments of classmates could improve their work" (Lin, Yang, Hung & Wang, 2006). Brigham Young University distance education students receiving immediate feedback performed significantly better on final exams than those receiving delayed feedback (Lemley et al., 2007). Reisslein et al. Stated, “The analysis of pretest and posttest scores revealed that both students with lower prior knowledge and students with higher prior knowledge achieved approximately the same learning gain and that the mastery level of the underlying mechanism of the project topic was moderate, which is an exciting topic for future research.”

Palloff and Pratt (2000) note that "technology does not teach students; effective teachers do" (p. 4). There is a universal lack of research regarding what effective online teaching is. Many evaluation instruments focus on teacher proficiency on technology use, skill and self-efficacy but do little to determine online pedagogical strengths and weaknesses (Black, Ferdig and DiPietro, 2008). The Southern Regional Education Board (SREB) notes that teacher training to fully understand specific challenges and additional workload for online teachers is paramount (SREB, 2006). The application, design, and ways the technology is used determines its educational value, not simply the acquisition or use of technology (Clark, 1994, 2000) and it depends on a special set of skills and training for teachers (Anderson, 2008). Moore and Kearsley (1996) identify this set of general principles that applied to all well designed distance education courses: good structure, clear objectives, small units, planned participation, completeness, repetition, synthesis, simulation, variety, open ended, feedback, and continuous evaluation (p. 122-123).

Validating student identification has taken on increased importance with the passage of 2007 federal legislation known as the reauthorization of the Higher Education Act. Specific bills are the College Opportunity and Affordability Act (H.R. 4137) passed by the Committee on Education and Labor, November 15, 2007, and U.S. Senate Bill S. 1642 in July, 2007. Included in the act is language that states:

> The Senate amendment and the House bill require accrediting agencies to require that institutions of higher education offering distance education programs have a process by which the institution of higher education establishes that a student registered for a distance education course is the same student that participates in, completes, and receives credit for the course.

Bailie and Jortberg (n.d.) found "how an institution validates the true identity of the individual actually completing the coursework has been questioned by those critical of distance education". A response has been the development of student identity verification products and practices. Two companies, Acxiom and FactCheck-X, use a system similar to what the banking industry uses to verify their customers and rely on user response patterns within a previously established time span for response. Other tools utilize hardware solutions using biometric data such as finger prints, retinal scanners and facial or voice recognition (Lipka, 2008; and Bailie & Jortberg, nd). Data gathered for validation is not shared or publicized fully, thereby complying with the Families Right to Privacy Act (FERPA).

Social Presence

Social presence, or the feeling of being there, are gained through the sending and receiving of visual images and body language inherent in face-to-face teaching and to a limited extent with two-way interactive video conferencing. Text based asynchronous learning has also been linked to social presence (Anderson, 2008). Buxton (1992) states that telepresence is a crucial element of successful video conferencing. Telepresence is the extent which people feel immersed within a real or virtual situation even though they are not physically connected to it. Hughes et al. (2007) states that online students indicated higher What is Happening in this Class (WIHITC) averages for Teacher Support, Teacher Support is the act of teachers interacting with the students in a reassuring manner. A possible scenario affecting that belief is the need for online instructors to place greater effort on acknowledging student involvement evidenced by the response "My teacher checks in on me" on the WIHITC sub-scale having the largest mean difference between virtual and tradition learners. Teachers "checking in" on face-to-face students may possibly be more subtle and less direct than when dealing with students located off site or in an asynchronous environment.

Constructivist epistemology required strategies that encouraged student interactions in debates, problem solving, and general discussion (Sadik & Reisman, 2004). Students should be involved in real-life problem solving activities that draw them into the lesson and ongoing social interaction through e-mail, blogs, discussion boards and web-based collaboration that should be woven throughout the course and not be served up as add-ons (Chen, Shag, & Harris, 2006; Sadik & Reisman, 2004). The Queensland Virtual Schooling System Physics Class engaged in playful teasing:

> Occasionally the students would tell him that other students were not on task. And he mentioned a case of a particular Asian student who was very bright, the other kids in his class would tell [the Chemistry teacher] that [this bright kid] was playing; when in fact he was working ahead on the simulations. But they all took this in good spirit. They were sort of teasing each other. (field notes from Physics teacher case study) (Davis & Niederhaus, 2005).

When comparing interaction with the teacher, class discussion and student-to-student interaction, one student commented that "video conferencing was better than correspondence but not as good as face-to-face" (Anderson, 2008). Social presence affects academic performance. Several correlations emerged between the student's academic program and the WIHIC sub-scales of Student Cohesiveness, Teacher Support and Cooperation (Hughes et al., 2007). The first and foremost task of an e-instructor is building community. The e-instructor must compensate for the constraints of a distance education and make a conscious, deliberate, and nurturing effort to build rapport and community (Murphy & Rodriguez-Manzanares, 2008)

Discussion

Current research has provided mixed results when academic achievement serves as the benchmark for comparison of traditional to online students (Hughes et al., 2007). Questions regarding other components of successful distance education such as pedagogy, participant satisfaction, social presence, and participant's personal learning styles are under investigation. Each research article called for further exploration and inquiry in the area of distance education and its application in a secondary context.

Distance education is a difficult concept to place in concisely defined containers because distance education blends instructional methodology and instructional technology. Questions arise as to whether technology is enhancing the educational experience or hampering it. Is technology an instructional conduit for transporting education to the far flung corners of the earth or a speed bump slowing instruction to a crawl as the informational superhighway construction crew fixes the digital potholes that hinder teachers from truly teaching? Virtual schooling has more layers than the traditional classroom that must be peeled back before reaching the core of the instructional onion. Face-to-face instruction is constantly undergoing pedagogical adjustments that don't include microphones, projectors or networks. Continuing research and study are required as the demand for distance education continues to grow.

Sampling caused some concern for researchers. Lemley et al. (2007) remarks that students were self-selecting to form comparison groups, direct inputs from participants was void, and arbitrary time constraints could possibly have tainted the study results. Students in Australia, Davis & Niederhauser (2005), and Canada, Barbour (2007), enrolled due to geographical factors that inhibited students from coalescing in a communal arrangement for instruction. The most common measure accessed for comparison is a final exam or course grade. Students were not pre-tested to determine if increases were instructionally motivated or the differences existed prior to the class (Lemly et al., 2007; Hughes et al., 2007). In each study there were additional criteria influencing student decisions to participate in a distance education course other than random placement.

There is a question of external validity and the replicability and generalization of the outcomes given the sampling process. Since none of the studies used random sampling and the effect of the distance education instruction on the learners is subject to influences not corrected for in the study design the results and their application is suspicious.

Connecting Distance Education to Special Education

Distance education has not strayed from its humble origins and remains fixated on delivering content to learners located in a time and/or space different than the instructor. Delivery methods have advanced, tools have evolved and expectations have risen, but the desired outcomes have remained fairly consistent for well over one hundred fifty years. Availability and dispersion of technology have assisted in moving distance education from the fringe to the mainstream of content and instruction conveyance methods. As the trend to meet learners where they are continues, distance education will be discussed, studied and researched as the primary manner of bridging chronological and geographical chasms. More importantly will be the evolution of distance education in bridging the chasms that are social, emotional and communal. Glickman (1993) writes that the very existence of public education is to produce and educated citizenry that can promote the debate, discussion, and defense of the individual's right for life liberty and the pursuit of happiness necessitating education is more than the shifting of facts from one mind to another, whether it is in a traditional classroom or a distance education environment (pg. 8).

Special education has traversed a similar path. Individuals considered unfit or too feeble for education were separated from the able minded and fit-bodied persons and

many times “warehoused” to avoid personal injury and lessen the burden on the schools system. The following literature review chronicles the evolution from isolation to inclusion. It is the confluence of these two distinct streams of educational practice that warrants this research effort. Both disciplines, distance education and special education, exist to meet the needs of defined group or individual yearning for a high quality, free and appropriate public education, both endeavor to overcome and eliminate boundaries and both are melding together out of necessity. Special education as a sub-group was selected due to the fairly consistent distribution across the state. Other sub-groups tend to congregate in regional pockets and are not evenly represented state wide (US Census Bureau, 2007).

Special Education

History

Special Education is considered a recent trend in education services gaining popular acceptance in the early 1970's. Greek philosophers Aristotle and Hippocrates commented on the obvious differences in those possessing all their sensory faculties; the ability to see, hear, and smell, and those deprived of the same abilities and the ability to reason, conceptualize and exhibit rational judgment (Winzer, 1998). The term special education is credited to Alexander Graham Bell as he attempted to form a new professional organization during the 1884 meeting of the National Education Association in Madison, Wisconsin primarily targeting educators of the deaf. The group quickly expanded to include the blind, and eventually those interested in the learning of backward and feeble minded children (National Education Association, 1898). Pioneers Samuel Gridley Smith, founder of Perkins Institution for the Blind, and Thomas Hopkins

Gallaudet, founder of the American Asylum for Deaf Students in 1817, began the trend of educating students with disabilities in segregated facilities from regular education students (Winzer, 1998; Smith, 1998). As introduced in Chapter 1, Gridley actively lobbied the 1848 Massachusetts legislature to provide funding for a school for the teaching and training of students referred to as *idiotic children*. The term *idiot* originated from the Greek language and its meaning is the opposite of citizen, denoting a person that did not participate in public life. Until 1910 blind, deaf, and mentally retarded were served in large institutions. Around 1910, those students were located in public schools in special segregated classes (Smith, 1998).

Though it is widely held that public education is guaranteed by the United States Constitution, it is in fact left to the individual states. Rhode Island was the first to pass a compulsory education law in 1840, with all states having compulsory attendance laws in place by 1918 (Yell, Rogers & Rodgers, 1998). Compulsory attendance laws did not correspond to equality under the law for all students. Enacted in 1975, Public Law 94-124, the Education for All Handicapped Children Act (EAHCA), provided "to support states and localities in protecting the rights of, meeting the individual needs of, and improving the results for infants, toddlers, children, and youth with disabilities and their families" (U.S. Department of Education, 2007). Until this landmark legislation, students with disabilities could be denied access to public education. In 1893, the Massachusetts Supreme Court ruled that children who were weak in mind that could not benefit from instruction, take ordinary care of one's self, or who were troublesome to other children could be expelled from public school. In 1934, Cuyahoga County Court of Appeals in Ohio ruled that compulsory education laws allowed schools to exclude certain students.

In 1969, North Carolina made it illegal for parents to persist in forcing students with disabilities to attend public school after being excluded (Yell, Rogers & Rodgers, 1998).

The real impetus for inclusion of students with disabilities began in the 1950's and 1960's with the Civil Rights Movement. *Brown v. Board of Education* (1954) had implications for minority students, but also provided greater constitutional protection for persons with disabilities (Jorgensen & Hoffmann, 2003; Yell, Rogers & Rodgers, 1998). The original three categories of blind, deaf, and mental retardation have increased to nine categories including; mental retardation, hearing impairment, speech and language impairment, visual impairment, serious emotional disturbance, orthopedic impairment, autism, traumatic brain injury, other health impairment, and specific learning disability (Ed.Gov, 2007). Before the Education for All Handicapped Children Act of 1970, approximately one in five children with disabilities received educational services from a public school. Currently, early intervention programs and services are provided to 200,000 eligible infants and toddlers while nearly 6 million children and teens are served through special education and related services to meet their respective needs (U.S. Department of Education, 2007).

No Child Left Behind and Achieving Classroom Excellence

No Child Left Behind (NCLB) could be considered the catalyst of the distance education and special education chemical reaction. No Child Left Behind is the reauthorization of the 1965 Elementary and Secondary Education Act (ESEA). In a letter introducing the No Child Left Behind Desktop Reference, Secretary of Education Rod Paige stated, “This historic reform gives states and school districts unprecedented flexibility in how they spend their education dollars, in return for setting standards for

student achievement and holding students and educators accountable for results" (US Department of Education, 2002).

No Child Left Behind is built on four pillars: accountability, flexibility and local control, enhanced parental choice, and a focus on what works. Accountability requires each state to establish high academic standards and create assessments that align with those standards. Student performance data will be disaggregated by poverty levels, race, ethnicities, disabilities, and limited English proficiencies. Each state must provide monitoring and accountability standards for holding schools and districts responsible for their students. Increased levels of flexibility and local control give schools greater control to direct funds in areas of known concern with fewer mandates from the federal government. Accompanying the increased self determinedness is increased responsibility for those decisions. Enhanced parental control relates to students in historically low-performing schools and a parent's options to ensure their children receive the best educational opportunities possible. The term "scientifically based" increased in administrators conversational vocabulary as programs had to demonstrate documented levels of success to be allowable as Title I expenditures (NCLB, 2002). The connection between special education and NCLB are founded in the student achievement and accountability components of No Child Left Behind.

No Child Left Behind specifies that all schools will reach 100% proficiency on state level tests by the 2013-2014 school year. The underpinning supposition is that if 100% achievement is not mandated by law educators are accepting leaving some children behind. Failure to make Adequate Yearly Progress (AYP) has consequential outcomes progressing to closing and reopening as a charter school, replacing all or some of the

school staff, state takeover of school operations, or other major restructuring of school governance (Welner, 2005). NCLB is based on the market-based contextual framework of choice and competition in public education, which is substantiated by standardized testing. This approach is also based on the flawed presumption of equitable access and equal opportunity in American schools and society (Hunter & Bartee, 2003).

Not required but allowed is the establishment of "high stakes" testing. Oklahoma's response to NCLB is the Achieving Classroom Excellence (ACE), or Senate Bill 1792, Act in 2006. Four subgroups are specifically identified in NCLB; economically disadvantaged, limited English proficient, students with disabilities, and major ethnic and racial groups. Current evidence suggests these subgroups do not fare well on standardized tests (Hunter & Bartee, 2003). No Child Left Behind and Achieving Classroom Excellence both allow for conditions that provide temporary reprieve for limited English proficient (LEP) and students with special needs, the number of students eligible for test relief are far fewer than students receiving services. At the existing rate, in excess of 15%, or 76,000, Oklahoma students are being served with an Individualized Education Program (IEP). No Child Left Behind (NCLB) caps the percentage of students with disabilities being administered an alternate or modified assessment that may be applied towards Adequate Yearly Progress (AYP) at 3.0% total. A percentage greater than 3% may take an alternate or modified test, but results will all be counted as non-proficient in the calculation of Adequate Yearly Progress, a detriment to schools struggling to make AYP.

Significant penalties can accompany any schools that chronically fail to make AYP including the harshest penalty of reorganization by the Oklahoma State Department

of Education (NCLB, 2002). A February 20, 2009, Oklahoma State Department of Education Achieving Classroom Excellence memorandum answers many of the questions regarding students with an Individualized Education Program. The memo clarifies that students with disabilities must meet the same graduation requirements as regular education students, and that the "nature of special education is that students with disabilities utilize modifications, accommodations, and supplemental aids and services to aid them in the general education classroom" (p. 11) whether that classroom is a distance education course or not (Oklahoma State Department of Education, 2009). The Achieving Classroom Excellence Act places a premium on college preparation and automatically places students in the college preparatory track as they enter high school. Highlights of the ACE initiative are:

1. Requires students to take three years of high school math (middle school credits no longer apply).
2. Requires students to take a college-bound curriculum unless their parents sign a statement opting out of such a curriculum.
3. Implements an end-of-instruction testing program in 8th grade and high school, ultimately requiring students to pass tests in order to advance or graduate. Those who do not pass would receive remediation to improve their skills. The program would be phased in over several years to ensure curriculum matched test goals.
4. Establishes special math labs to boost achievement of middle school students.
5. Establishes math training academies to address Oklahoma's teacher shortage in that subject area.

6. Makes senior year of high school more meaningful by encouraging students to take college courses. The state would pay the cost of college tuition up to six hours per semester.

7. Provides remediation to help students improve their skills (Office of Governor Brad Henry, 2005).

In order to graduate students must score "satisfactory" or higher on four of the seven End Of Instruction (EOI) criterion-referenced tests. Two of the tests, Algebra I and English II, are mandatory. A student may choose two of the other five which consists of Algebra II, Geometry, English III, U. S. History, and Biology I. Students being served with an Individualized Education Program (IEP) must have a statement in their IEP requiring the administration of the End OF Instruction with accommodations normally employed in the student's course of study. Students may also take and alternate or modified assessment within the guidelines of No Child Left Behind (Oklahoma School Law Book, 2008).

Inclusion

Yssel et al. (2007) state, "In the United States, inclusion is broadly defined as placing students with disabilities full time in general education classrooms with special education support services provided in general education classrooms" (December, 2007). Inclusion is more than a state of physical presence but rather a shared responsibility and sense of community where diversity and human relations are valued. Weisel & Dror (2006) stress successful inclusion depend on many factors including the educational and social climate of the school. Smith and Leonard (2005) define inclusive education as an education that attempts to bring all students into full membership, including students with disabilities. It is clear from the definitions that inclusion would encompass the whole of

the educational experience, involving the possibility of distance education if the situation warranted. Distance education continues to grow as an alternative and supplement to more traditional face-to-face classrooms (Trattner, Wang, & Carter, 2000). Michigan and Alabama legislators have mandated participation in distance education as a prerequisite to graduation for all students (Michigan Department of Education, 2006; Singleton-Rickman, 2008).

This growth in distance education delivery and the requirement for all students to participate as distance learners raises the question of where students with special needs land in the distance education equation. IDEA and NCLB Acts require students to receive a free and appropriate public education, FAPE, in the least restrictive environment, LRE. The least restrictive environment is also referred to as inclusion and mainstreaming (IDEA, 2004; NCLB, 2001). Students identified as needing modification to a regular program of instructional process are placed on an individualized educational program, IEP. A component of the plan is determining the extent and location for delivery of additional supports or instructional modifications. Initially, it was thought best that students requiring an individualized educational program be served apart from peers not receiving supplemental services. Over the past twenty plus years, the emphasis has changed to serving students with special needs in the regular education classroom as much as possible. Placement in the mainstream classroom exposes special education students to social and interpersonal situations likely to be experienced in non-educational settings (Ed.Gov, 2007).

Lovitt et al. (1999) found clear parental support for full inclusion, but parents harbored reservations for their children's participation. Parents of learners with

disabilities generally favored inclusion for the purpose of higher expectations, more stimulating learning environment, and exposure to students without disabilities at the same time expressed concerns related to qualified personnel and adequate expertise in implementing programs (Yssel et al., 2007). Regular classroom teachers substantiated parent's perceptions echoing support for inclusion and concerns related to "lack of knowledge and expertise" when ask to implement a program of inclusion (Weisel & Dror, 2006; Smith & Leonard, 2005).

Attitudes contribute to the overall perceived success of inclusion. Attitudes are affected by leadership, communication, collaboration, and resources. Leadership sets the tone in the school setting as well as the execution of a full inclusion program. Principals that practice a shared responsibility and decision-making style of leadership garner greater support and have a positive attitude among participants (Yssel, 207; Weisel & Dror, 2006; Smith & Leonard, 2005). The overall view of a successful inclusion experience is tempered with the fact that the principals are the furthest from the actual education process in the classroom and may have a slightly distorted view of the projects outcomes (Smith & Leonard, 2005).

Training and professional development are paramount for creating a sense of efficacy among teachers charged with implementing an inclusion program. Parents express a need to be educated about special education jargon and procedures. Understanding special education is not automatic just because you are the parents of special needs students. Communication and collaboration are pillars of inclusion, teacher-to-teacher, administrator-to-teacher, and parent-to-teacher. Communication

facilitates the calming of nerves, relieving of concerns, and soldiering alliances to serve kids (Yssel, 207; Weisel & Dror, 2006; Smith & Leonard, 2005).

Though not specifically an endorsement of "inclusion" as a pedagogical practice, No Child Left Behind implies full inclusion by mandating 95% of all subgroups must take the state exams (Welner, 2005). Applying simple math yields a 5% value associated with the number of students are allowed an alternative route to the Oklahoma EOI exams. Given the current special education count of 15% of the student body, 10% of special needs students must take the Oklahoma End Of Instruction tests based on the Oklahoma Priority Academic Student Skills. Students with disabilities and those with none will receive instruction based on the PASS standards in regular education classrooms from regular education instructors. Proliferation of courses delivered via distance education, coupled with expanded demands for core academic courses brought on by the Oklahoma Achieving Classroom Excellence statute, implies the potential inclusion of special needs students in distance education courses.

Conclusion

Distance education has documented success in meeting the educational needs of learners detached from instructional, intellectual, and institutional resources whether the student is a single learner in an isolated location or a room full of students in a school lacking the finances and personnel to provide a required core curriculum. No Child Left Behind creates an environment where all students' achievement will be assessed and accounted for regardless of disability or disadvantage. The number of students with disabilities in Oklahoma outpaced the allowable number to participate in alternative testing by a margin of three to one (Oklahoma State Department of Education, 2008; U.S.

Department of Education, 2007). Achieving Classroom Excellence increased graduation and curriculum requirements for all students (Achieving Classroom Excellence, 2007). The argument for examining the representation of students with disabilities in distance education courses is well made. Butz (2004) recommended as an area for further study item 4. "The online education programs that participated in this study serve student with disabilities. Research into what aspects of online education are important to the parents of these students needs to be conducted" (p 101). Valentine (2001) found students with autism responded favorably to tutoring via distance technology as a way to mitigate a lack of social skills. The use of distance technology allowed "Joe" to work with images and machines and not live, face-to-face interactions (Valentine, 2001). Lance (n.d.) opines the web based classroom "was a perfect venue for me to teach, free from the constraints of my disability."

Distance technology allowed for the focus to be on the discourse, not the disability. It is a reasonable assumption that students with disabilities would benefit from the same freedom in a distance education environment.

CHAPTER THREE

Design

Introduction

The purpose of this study was to determine if the number of students enrolling in distance education courses is representative of the entire school student body. Students with special needs represent 15% of Oklahoma's 634,251 public school students (OSDE, 2008). Generally, many schools are unable to offer courses for gifted students or the appropriate enrichment classes for children with special needs. Students who want or need to take these courses currently have no option in many schools (Christensen, 2008). The Office of Civil Rights in a Dear Colleague letter warned of schools and school districts denying otherwise qualified students with disabilities participation in Advanced Placement or other programs based solely on disability. It is unlawful to prohibit participation in an accelerated class or program because that student's need for an Individualized Education Program or the students need for related aids and services (OCR Letter, 2007). Butz (2004) recommended as an area for further study item 4. "The online education programs that participated in this study serve student with disabilities. Research into what aspects of online education are important to the parents of these students needs to be conducted" (p. 101).

For this study, a particular sub-group was selected based on the relatively consistent distribution of the sub-group across all Oklahoma schools in conjunction with the established and verified methods of identifying members of the sub-group. The specific sub-group selected for this study is students with disabilities. Results of the study will supply pertinent data to decision makers in Oklahoma governing bodies,

school and community leadership positions, and education professionals as these cohorts consider policies, practices and procedures that guide implementation of distance education programs.

Research supports dynamic growth nationally in distance education programs in the K-12 environment. Christensen, Horn, and Johnson (2008) opine, "...when viewed from the logarithmic perspective, the data suggest that by 2019, about 50% of high school courses will be delivered online" (p. 98). Zandberg and Lewis (2008) state, "Between 2003-03 and 2004-05, the number of enrollments in technology-based distance education courses increased by 60% overall, from an estimated 317,070 enrollments in 2002-03 to 506,950 enrollments in 2004-2005" (p. iv). The continuing evolution of online education, including web-enhanced instructional practices in K-12 classrooms, suggests that online and classroom instruction are no longer seen as separate entities, but rather part of a continuum of approaches to education which support individualized instruction for every student and strengthen public education (Watson & Ryan, 2006). Existing distance education programs demonstrate sustained growth in learner enrollment. For example, in the past year Louisiana Virtual School has grown by 18%, Virtual High School by 24%, Florida Virtual School and Idaho Digital Learning Academy by more than 50%, and Ohio's eCommunity Schools collectively by 22% (Watson, J. & Ryan, J., 2006). Data generated from the January 2009 Sloan Consortium report provide the following highlights:

1. Three quarters of the responding public school districts are offering online or blended courses:
    a. 75% had one or more students enrolled in a fully online or blended course

b. 70% had one or more students enrolled in a fully online course

c. 41% had one or more students enrolled in a blended course

d. These percentages represent an increase of approximately 10% since 2005-2006

2. 66% of school districts with students enrolled in online or blended courses anticipate their online enrollments will grow
3. The overall number of K-12 students engaged in online courses in 2007-2008, is estimated at 1,030,000. This represents a 47% increase since 2005-2006
4. Respondents report that online learning is meeting the specific needs of a range of students, from those who need extra help and credit recovery to those who want to take Advanced Placement and college-level courses
5. School districts typically depend on multiple online learning providers, including postsecondary institutions, state virtual schools and independent providers as well as developing and providing their own online courses
6. Perhaps the voices heard most clearly in this survey were those of respondents representing small rural school districts. For them, the availability of online learning is a lifeline and enables them to provide students with course choices and in some cases, the basic courses that should be part of every curriculum (Sloan Consortium, 2009)

Growth in distance education is not contained within the continental United States. The United Kingdom and China struck an agreement in September, 2007, preparing the way for the United Kingdom to develop e-learning content for 20 million Chinese online learners (Wong, 2009). The purpose of this research is to determine if

there representation of sub-groups in distance education viewed through the special needs lens, provide supporting data for policy, procedure and practice development, and substantiate the necessity for further study.

Research Questions

This study investigated the representation of special populations in distance education courses based on the number of students enrolled that are served with an IEP and the total percentage of students with special needs in Oklahoma. Additional insight to the beliefs and values of building level administrators and special education teachers regarding participation of students with special needs in distance education courses will be explored. This study addresses two primary research questions:

1. What is the level of participation of Oklahoma secondary students with disabilities in distance education courses?
2. What is the representation of Oklahoma secondary students with disabilities participating in distance education courses compared to the total population of students with disabilities measured as a percentage of Oklahoma secondary students?

And four corollary research questions:

3. What are the perceptions, beliefs and expectations of secondary school principals related to students with disabilities participating in distance education courses?
4. What are the perceptions, beliefs, and expectations of special education teachers related to students with disabilities participating in distanced education courses?

5. Is there a statistically significant difference in efficacy perception of secondary school principals related to students with disabilities participating in distance education courses according to demographics?
    a. Oklahoma secondary schools identified as urban, suburban or rural.
    b. Oklahoma secondary school enrollments categorized as large, medium, or small.
6. Is there a statistically significant difference in efficacy perception of special education teachers related to students with disabilities participating in distance education courses according to demographics?
    a. Oklahoma secondary schools identified as urban, suburban or rural.
    b. Oklahoma secondary school enrollments categorized as large, medium, or small.

The impetus of this study is to educate administrators and instructors as to the existing perception related to students with disabilities and participation in distance education coursework. Additional outcomes include initiating policy, practice and professional development discussions among educators, legislators, parents and learners. Beginning the discourse at the confluence of distance education and special education will prepare all stakeholders for the challenges, pitfalls and necessities that may arise.

Context

Education in Oklahoma is guaranteed by the Constitution of the State of Oklahoma. Section XIII-1: Establishment and maintenance of public schools provide:

> The Legislature shall establish and maintain a system of free public schools wherein all the children of the State may be educated (http://oklegal.onenet.net/okcon/XIII-1.html).

The following information in Table 1 details the educational landscape in Oklahoma.

Table 1

Summary of Oklahoma Education Statistics

Child Nutrition

- Federal Funds
  - School Lunch, Breakfast, Special Milk, Child and Adult Care, Summer Food and other nutrition programs: $212,541,927
- State Funds
  - Appropriations for School Lunch: $4,295,422
  - Average number of students served meals in schools daily: 384,103
  - Number of public school students qualifying for free and reduced-priced lunches: 351,147
  - Percentage of average daily membership 56.07%

Revenues (2007-2008)

Local & county:	$1,022,228,211	24%
State dedicated:	$386,264,039	9%
State appropriated:	$2,402,014,144	56%
Federal:	$470,717,215	11%
Total:	$4,281,223,609	100%

Expenditures Per Student in Public K-12 Schools (2007-2008)

Oklahoma (46th nationally):	$7,615
Regional Average:	$8,870
National Average:	$9,963

Average Salaries of Public School Teachers (2007-2008)

Oklahoma (42nd nationally):	$43,551
Regional Average:	$45,172
National Average:	$52,308

Students (2007-08)

Average enrolled in class each day:	634,251
American Indian/Alaskan:	19.18%
Asian/Pacific Islander:	1.94%
Black/Non-Hispanic:	10.81%

Table 1: Summary of Oklahoma Education Statistics (continued)

Hispanic:		10.00%
White Non-Hispanic/Other:		58.07%
Special Education (Aged 3-21):		95,323
Alternative Education (Grades 6-12):		11,195
Oklahoma Dropout Rate (2007-08):		3.2%
Schools (2007-08)		
School districts		
Independent (K-12):		427
Elementary (K-8):		112
School sites		
Elementary schools:		1,015
Middle/Junior High schools:		294
High schools:		468
Career Technology Centers:		54
Charter schools:		14
Total school sites:		1,845
Average State Salaries (2007-08)		
Certified staff (all school staff positions requiring certification; fringe benefits included)		$45,256
Instructional staff (teachers only; fringe benefits included)		$43,551
Professional Educators. Full Time Equivalent(FTE) (2007-2008)		
Superintendents		
K-12 district superintendents:		419
K-8 district superintendents:		101
Principals		
Elementary: 851	Middle school: 201	Junior high: 52
High school: 421	Charter school: 13	
Faculty		
Bachelor's degree:		31,227
Master's degree:		18,501
Doctor's degree:		450
All teachers:		50,314
Support Personnel:		31,099
Teaching Assignments		
Early childhood (4-year-olds):		1,315
Kindergarten:		2,181
Elementary:		21,599
Middle school:		5,782

Table 1: Summary of Oklahoma Education Statistics (continued)

Junior high:	1,473
High school:	11,139
Vocational agriculture:	423
Vocational home economics:	392
Other vocational:	358
Counselors:	1,643
Librarians:	1,084
Nurses:	285
Education Diagnostician:	264
Special education:	3,801
	(OSDE, 2008)

Oklahoma is a national leader in early childhood programs. The National Institute for Early Education Research (NIEER) (2008) report ranked Oklahoma number one in the nation for early childhood program enrollment. Oklahoma has maintained the number one ranking since the 2003-2004 school year with 99% of Oklahoma's public schools offering early childhood programs, attended by 71% of Oklahoma's four-year old children. The number one ranking pertains to access only, Oklahoma ranks 17th in state funding and 8th in total spending for early childhood education (NIEER, 2008).

Oklahoma has made tremendous improvement in teaching quality through the National Board Certified Teacher Program. In 2008, 2,307 teachers had achieved National Board Certification, positioning Oklahoma as 8th nationally by percentage of total teachers and 10th in total number of teachers to acquire Nationally Board Certified status. Fifty-eight and four tenths percent of all Oklahoma's National Board Certified Teachers practice in Title I schools (NBPTS). The top five Oklahoma school districts in terms of total National Board Certified Teachers are contained in Table 2.

Table 2

Five Oklahoma School Districts by National Board Certified Teachers

Community	National Board Certified Teachers in Each District
1. Tulsa	131
2. Edmond	112
3. Norman	107
4. Moore	93
5. Oklahoma City	93 (NBPTS).

The American College Test (ACT) was formed in 1959 as a response to increasing national interest in higher education (ACT Website). Oklahoma student scores have stagnated, vacillating within one or two percentage points over a five year span while national scores have steadily increased. ACT results assist students in choosing a college and career to pursue as well as provide information to colleges helpful for student admission and success after enrollment (http://www.act.org/news/data/07/pdf/states/Oklahoma.pdf). Table 3 displays Oklahoma and national test scores for the last five years.

Table 3

A Five Year Comparison of Oklahoma and National ACT Test Scores

Grad Year	Number of Students Tested		Average ACT Scores									
			English		Mathematics		Reading		Science		Composite	
	State	Nation	State	Nation	State	Nation	State	Nation	State	Nation	State	Nation
2003	27,009	1,175,059	20.4	20.3	19.7	20.6	21.1	21.2	20.5	20.8	20.5	20.8
2004	26,556	1,171,460	20.4	20.4	19.8	20.7	21.2	21.3	20.6	20.9	20.6	20.9
2005	26,297	1,186,251	20.3	20.4	19.6	20.7	21.0	21.3	20.4	20.9	20.4	20.9
2006	26,425	1,206,455	20.3	20.6	19.7	20.8	21.1	21.4	20.4	20.9	20.5	21.1
2007	26,360	1,300,599	20.5	20.7	19.8	21.0	21.3	21.5	20.5	21.0	20.7	21.2

Oklahoma is a relatively young state, being admitted into the union as the 46th state on November 16, 1907 (http://www.archives.gov/legislative/features/oklahoma/). The name Oklahoma is the combination of two Choctaw words: "okla" meaning “people” and "humma" meaning “red” producing the name *Oklahoma,* or literally *red people*. Oklahoma has the largest American Indian population of any state, consisting of 252,420 American Indians. Thirty-nine of the American Indian tribes currently living in Oklahoma are headquartered in the state and are descendants from the original 67 tribes inhabiting Indian Territory. Oklahoma is the third largest gas-producing state in the nation, fourth in the nation in the production of all wheat, fourth in cattle and calf production; fifth in the production of pecans; sixth in peanuts and eighth in peaches. Oklahoma is comprised of 77 counties with a land area of 69,919 square miles and ranks 18th in the nation in size (http://www.otrd.state.ok.us). The latest census data provides a source for the following content in Table 4.

Table 4

U.S. Census Data

People QuickFacts	Oklahoma	USA
Population, 2007 estimate	3,617,316	301,621,157
Population, percent change, April 1, 2000 to July 1, 2007	4.8%	7.2%
Population, 2000	3,450,654	281,421,906
Persons under 5 years old, percent, 2007	7.2%	6.9%
Persons under 18 years old, percent, 2007	24.9%	24.5%
Persons 65 years old and over, percent, 2007	13.3%	12.6%
Female persons, percent, 2007	50.6%	50.7%
White persons, percent, 2007 (a)	78.3%	80.0%
Black persons, percent, 2007 (a)	7.9%	12.8%
American Indian and Alaska Native persons, percent, 2007 (a)	7.9%	1.0%
Asian persons, percent, 2007 (a)	1.7%	4.4%
Native Hawaiian and Other Pacific Islander, percent, 2007 (a)	0.1%	0.2%
Persons reporting two or more races, percent, 2007	4.0%	1.6%
Persons of Hispanic or Latino origin, percent, 2007 (b)	7.2%	15.1%
White persons not Hispanic, percent, 2007	71.8%	66.0%
Living in same house in 1995 and 2000, pct 5 yrs old & over	51.3%	54.1%
Foreign born persons, percent, 2000	3.8%	11.1%
Language other than English spoken at home, pct age 5+, 2000	7.4%	17.9%
High school graduates, percent of persons age 25+, 2000	80.6%	80.4%
Bachelor's degree or higher, pct of persons age 25+, 2000	20.3%	24.4%
Persons with a disability, age 5+, 2000	676,098	49,746,248
Mean travel time to work (minutes), workers age 16+, 2000	21.7	25.5
Housing units, 2007	1,623,010	127,901,934
Homeownership rate, 2000	68.4%	66.2%
Housing units in multi-unit structures, percent, 2000	15.2%	26.4%
Median value of owner-occupied housing units, 2000	$70,700	$119,600
Households, 2000	1,342,293	105,480,101

Table 4: U.S. Census Data (continued)

Persons per household, 2000	2.49	2.59
Median household income, 2007	$41,551	$50,740
Per capita money income, 1999	$17,646	$21,587
Persons below poverty, percent, 2007	15.8%	13.0%

Data Collection

Participants

The sample population examined in this study consisted of Principals and Special Education Teachers employed in Oklahoma public high schools. Oklahoma high schools were divided into groups, labeled Large, Medium, and Small as well as Urban, Suburban, and Rural. The Oklahoma Secondary School Athletic Association (OSSAA) establishes classifications determined by each high school's average daily membership. The classification is used to group schools into classes for the determination of athletic competition championships. The OSSAA has been the governing body of Oklahoma secondary school athletics since 1910, and began classifying schools by size in 1928 (National Federation of State High School Associations). Urban, suburban, or rural is not defined; therefore it is left to the individual completing the survey to determine the urban, suburban, or rural status.

Individual Principals received a survey (Appendix D), letter of informed consent, and return envelope. Individual Special Education Teachers also received a survey (Appendix F), letter of informed consent, and return envelope. Every effort was made to ensure anonymity. Principals were asked to provide demographic data as well as personal beliefs related to students with disabilities and their participation in distance education courses. Special Education Teachers questions were confined to personal

beliefs related to students with disabilities and their participation in distance education. Smith and Leonard (2005) state, “Indeed, the role of the principal as a 'support' for inclusion emerged frequently as a significant factor in the successful implementation of the change initiative” (p. 275). Given the importance leadership plays in school climate it is critical to understand principal’s perceptions and beliefs as they relate to students with disabilities and their engagement in distance education courses. Special education teachers are commonly the first line of contact for special education learners. Special education teachers traditionally exert the greatest influence on students with disabilities Individualized Education Program, plans of study and levels of inclusion. With such a fundamental influence on the educational agenda of students with disabilities, it is vital to understand the perceptions and beliefs of Special education teachers towards distance education and its role in the instruction of students with disabilities.

Procedures and Instruments

The setting for this study was Oklahoma's public high schools. A national study would be overly cumbersome and unmanageable. No Child Left Behind currently allows states to develop their own state assessments with minimal input from a federal level. Not all a states have implemented a similar program to Oklahoma's Achieving Classroom Excellence high stakes testing for graduation program. Data collected by the Center on Education Policy, states half of all states now use or plan to soon implement exit exams, tests that students must pass in order to graduate from high school. The exit exams are, on average, required in three subjects and generally measure 10th-grade level skills and knowledge. By 2012, three-quarters of all American public school students (72%) will be required to take the exams (Sullivan, et al., 2006). A consistent standard for distance

education does not exist on a national level. Some states have centralized programs organized by governmental agencies; other states have established policies, yet left the implementation and oversight to local school boards (Watson & Ryan, 2006). Focusing on a single state allows for a consistent application of governance and oversight, assuring a reasonable expectation of reliable data.

Permission was acquired from the University of Oklahoma's Institutional Review Board to conduct research for this study. Two questionnaires were developed to elicit demographic information as well as values and beliefs of high school principals and special education teachers. Principal surveys contained 15 questions, while the special education teacher survey consisted of 10 questions. Questions related to beliefs and values were the same for principals and special education teachers to facilitate a basis for comparison between groups. Each survey included a chart listing all of the high schools in Oklahoma, divided by OSSAA classification for the convenience of the participants and to improve the internal validity of the study by defining the value of school size. Providing the school size value for participants relieves that responsibility from the individual responders and removes inconsistencies due to varying understanding as to whether a school is large, medium or small.

Research packets were mailed to 469 public high schools in Oklahoma. Each packet contained one Principal's cover letter, one Special Education Teacher's cover letter; one Principal's survey instrument, one Special Education Teacher's survey instrument, two informed consent documents, and ample self addressed stamped envelopes for each responder. The quantity and addresses of public high schools in Oklahoma was derived from the Excel spreadsheet “public_excel.xls” located on the

Oklahoma State Department of Education website (OSDE, 2008). The number of special education teachers employed at each public high school was ascertained from a report obtained through an open records request from the Oklahoma State Department of Education (OSDE). A follow-up postcard was mailed one week after the initial mailing of the research packet as a reminder to complete and submit the survey instruments. Crawford and Tindal (2006) realized a significant improvement in the number of surveys collected after a second mailing consisting of reminder postcards. Approximately 200 more surveys were collected as a result of the reminder mailing and Crawford and Tindal (2006) relate that there are "more returns with a second prompt" Additional space is provided for comments that may allow procurement of supplemental information otherwise overlooked as the survey was constructed. No identifying information is collected; therefore, the anonymity of participants is ensured so responses are answered as honestly and accurately as possible.

Questionnaires

Questionnaires were designed to gather school demographic data, school geographic data and educator attitudes, perceptions, and beliefs regarding the participation of students with special needs in distance education courses. The research instruments were single response requests for demographic and geographic collection and a five category Likert scale response for attitudes, perceptions and beliefs. Principals were responsible for the preponderance of the demographic data collection as principals have greater access to the necessary student information. Both cohorts furnished replies to school size, location, and educator attitudes, perceptions and beliefs.

The research surveys were validated in a two-step process. Initial review was provided by a three-person panel consisting of subject matter experts in their related fields. Reviewer one is an expert in the field of distance education for Tandberg Video Conferencing Company. Reviewer two is an expert in the field of instructional technology for the Oklahoma State Department of Education. Reviewer three is an expert in the field of special education for the Oklahoma State Department of Education. Each reviewer observed the research instrument independently, then supplied feedback related to the clarity, content and construction of the research instrument. Clarity related to the readability of the queries. Specifically were the items clearly stated and the information requested clearly identified. Content related to the inclusion of the item in the research instrument. Specifically does the item belong in the survey and is the information requested valid for the research. Construction of the research instrument related to the placement and sequence of the research instrument. Reviewers looked at the survey to determine if subsequent items built on information gathered from the previous items.

A Likert (1932) style scale was employed, given its long history and success in social science research (Weng, 2004). A five-point scale was determined sufficient. Weng (2004) states, "5 response categories are sufficient, because no substantial gains in reliability were observed after 5 categories" (p. 957). Weng (2004) also demonstrates the value of labeling categories as participants exhibited greater consistency as they interpreted responses from one occasion to another enhancing internal validity. Similar studies and dissertations were considered during the research instrument development progressed. Butz (2004) utilizes a five-point Likert scale to evaluate the satisfaction of

students and parents with online education, Crawford and Tindal (2006) apply a five-point or six-point scale. The six-point scale has the additional response of not-applicable (N/A), to ascertain principals and special education teacher's knowledge and beliefs of inclusion for students with disabilities in state mandated assessments. Zandberg and Lewis (2008) use a similarly constructed instrument for the National Center for Education Statistics 2008 report "Technology-Based Distance Education Courses for Public Elementary and Secondary School Students: 2002-03 and 2004-05".

The second step in the validation process was the collection of data from a trial group. A group of thirty-six schools was identified through selective sampling. Twelve schools from each category of large, medium and small with additional emphasis to select schools aligned to the urban, suburban and rural categories. Care was given to choose schools dispersed across the entire state. Additional permission was granted from the University of Oklahoma's Institutional Review Board to place a supplementary recruitment letter in the trial data research packet, stressing the importance of returning the completed trial data surveys.

Research instruments elicited responses to four areas of interest to the research. School size, location and student enrollment comprise the demographic and geographic data based on the October 1 first quarter statistical report required by the Oklahoma State Department of Education. Educator's attitudes, perceptions and beliefs covered three topics:

Student successful participation in distance education courses

Educator and parent preparation and notification

Policy, practice and procedures related to students with disabilities and distance education

Items were framed around students Individualized Education Program (IEP), delivered in the Least Restrictive Environment (LRE).

The study population is comprised of 128 large districts, 128 medium districts and 216 small districts represented by 469 high schools. The discrepancy between the total by division as based on the Oklahoma Secondary School Athletic Association and the number based on the Oklahoma State Department of Education is due to private schools and charter schools that are members of the OSSAA and the practice of smaller schools sharing athletic programs. Large schools vary in size from 4,460 students to 383 students, medium schools vary in size from 382 students to 161 students, and the smallest category varies from 160 students to 17 students. The range from largest to smallest is 4443 students. Appendix H lists the schools included in the study by class size, district name, and average daily membership (ADM).

Methodology

The purpose of this study is to determine the level of participation of students with disabilities in distance education courses as well as the proportionality to the general education population. The study also investigated whether school size and/or location contribute to the participation of students with disabilities in distance education courses. Ten items examine the perceptions, beliefs and expectations of secondary school principals and special education teachers related to the participation of students with disabilities enrollment in distance education courses.

Descriptive statistics were used to analyze participation rates and compare the impact secondary school sites size and location may have on the percentage of participation. Two tailed independent t-test will indicate it there exists a statistically significant difference in the participation of students with disabilities engaging in distance education classes and the general education population's membership in distance education. Additionally, a two-tailed independent t-test will be employed to determine if a statistically significant difference exists related to secondary school sites related to site size and location. Two-factor Analysis of Variance (ANOVA) will be performed to determine if there is a statistically significant difference in participation based on school location and/or school size regarding secondary school principals and special education teacher's responses.

The hypotheses suggested for school size are:

Hypothesis 0 is there is no difference in participation related to school size,

Hypothesis 1 is there is a difference in participation related to school size.

The relationship between the size of the school and the percentage of students with disabilities engaged in distance education will be examined. The possibility exists that school size may impact the likelihood that students participate in distance education courses. Performing a two-factor Analysis of Variance (ANOVA) will demonstrate if a relationship exists or not.

Additionally, school location and students with disabilities participation in distance education will be scrutinized using a two-factor Analysis of Variance (ANOVA). Hypotheses for variance among school size categories are:

Hypothesis 0 is there is no difference in participation related to school location,

Hypothesis 1 is there is a difference in participation related to school location.

Summary

Special education represents a significant portion of Oklahoma's public school student body. Educating students with disabilities in the least restrictive environment, which increasingly includes distance education delivery, is mandated by state and federal law. It is imperative an understanding of the representation of students with disabilities in distance education and the perceptions, beliefs and expectations of principals and special education teachers is scrutinized. This study establishes a framework for the examination of students with disabilities participation in distance education courses and elicits educator's comments regarding the merits of distance education as a method of instruction for special education populations.

CHAPTER FOUR

Research Results

Introduction

The purpose of this study was to determine representation of students with disabilities participating in distance education courses. Students with special needs represent a significant portion of the student body with 15% of Oklahoma's 634,251 public school students being served with an Individualized Education Program (IEP) (OSDE, 2008). Special populations continue to grow as classification identification improves and students with disabilities integrate into regular education classrooms (Stroud, 2009). Students with special needs that want or need to take courses for gifted students or required for graduation currently have no option in many schools other than distance education (Christensen, 2008). Students with special needs are currently participating in distance education courses; therefore further research should be conducted to expand the present body of knowledge available related to participation in distance education courses by students with disabilities (Butz, 2004). It is critical that a greater understanding of the relationship between students with disabilities and distance education is examined.

For this study, a particular sub-group was selected based on the consistent distribution of the sub-group across all Oklahoma schools in conjunction with the established and verified methods of identifying members of the sub-group. The specific sub-group selected for this study is students with disabilities. Results of the study will supply pertinent data to decision makers in Oklahoma governing bodies, school and community leadership positions, and education professionals as these cohorts consider

policies, practices and procedures that guide implementation of distance education programs.

This quantitative study included the administration of surveys given to secondary school principals and special education teachers, the survey instrument was designed to gather information related to the school's size and location, general education enrollment in distance education courses and students with disabilities enrollment in distance education courses, and principals and special education teachers perceptions and beliefs regarding students with disabilities participation in distance education courses. This study utilized descriptive statistics, t-tests, and two-factor Analyses of Variance (ANOVA) to assess secondary school principals and special education teacher's beliefs.

This study addresses two primary research questions:

1. What is the level of participation of Oklahoma secondary students with disabilities in distance education courses?
2. What is the representation of Oklahoma secondary students with disabilities participating in distance education courses compared to the total population of students with disabilities measured as a percentage of Oklahoma secondary students?

And four corollary research questions:

3. What are the perceptions, beliefs and expectations of secondary school principals related to students with disabilities participating in distance education courses?
4. What are the perceptions, beliefs, and expectations of special education teachers related to students with disabilities participating in distanced education courses?
5. Is there a statistically significant difference in efficacy perception of secondary

school principals related to students with disabilities participating in distance education courses according to demographics?

   a. Oklahoma secondary schools identified as urban, suburban or rural.
   b. Oklahoma secondary school enrollments categorized as large, medium, or small.

6. Is there a statistically significant difference in efficacy perception of special education teachers related to students with disabilities participating in distance education courses according to demographics?

   a. Oklahoma secondary schools identified as urban, suburban or rural.
   b. Oklahoma secondary school enrollments categorized as large, medium, or small.

Data Collection Procedures

The survey instrument, developed by the researcher, was validated through a three expert panel review as well as a trial data sample was gathered from twenty-five secondary school principals and twenty-five special education teachers. The sample data were subjected to Chronbach's Alpha to determine item reliability. Procedures for administering the survey and collecting data were approved by the Oklahoma University Institutional Review Board.

The sample population consists of 469 Oklahoma secondary school principals and special education teachers. Secondary schools addresses were obtained from the Oklahoma State Department of Education (OSDE) public school database (http://www.sde.state.ok.us/Services/Data/database.html). School size was determined by the Oklahoma Secondary School Athletic Association (OSSAA) basketball

classification divisions (http://www.ossaa.com/Portals/0/docs/OSSAA%20Forms/Classifications/bkb_classification.pdf). Large schools are schools in classes 6A and 5A, medium schools are schools in classes 4A and 3A, and small schools are schools in classes 2A, A and B. School location was classified as Urban, Suburban, or Rural. The lack of an established database that clearly and effectively classifies Oklahoma schools as Urban, Suburban or Rural resulted in location selection to the perception of the respondent. Principal surveys included data consisting of total student enrollment, general education enrollment in distance education courses, students with disabilities enrollment, and students with disabilities enrolled in distance education courses. Students with disabilities were identified as students currently being served on and Individualized Education Program (IEP) as defined by the Individuals with Disabilities Education Act (IDEA) (Ed.Gov, 2007).

Survey packets were mailed to every Oklahoma secondary school. Survey packets consisting of an IRB anonymous participation consent letter, principals or special education teachers cover letter, survey instrument, and stamped envelope addressed to the researcher. Contents were placed in the large manila envelope then shuffled prior to the application of address and return address labels to eliminate any possible identification of participants. One hundred eighty-seven principals survey were returned and 186 special education teacher surveys were returned. A follow up thank you/reminder post card was mailed to the sample population without any additional responses.

Data Analysis

The research design addressed two primary research questions and four corollary research questions. The two primary research questions, questions 1 and 2, form the crux of the research with the remaining four questions providing supporting information. Question 3 collected data related to the perceptions, beliefs and expectations of secondary school principals regarding the participation of students on an Individualized Education Program (IEP). Question 4 collected data related to the perceptions, beliefs and expectations of special education teachers regarding the participation of students on an Individualized Education Program (IEP). Question 5 collected data to determine if there exists a statistically significant difference in efficacy perception of secondary school principals of students with disabilities based on location and size of the schools responding to the survey. Question 6 collected data to determine if there exists a statistically significant difference in efficacy perception of special education teachers of students with disabilities based on location and size of the schools responding to the survey.

Research Question 1. What is the level of participation of Oklahoma secondary students with disabilities in distance education courses? Table 5 and Table 6 provide a picture of the participation of students on an IEP based on demographic data. Students with disabilities participate in distance education at every size and location of secondary school site. Participation in distance education courses by students with disabilities decreased as the school location moved from an urban setting to rural. The range of urban to rural is in excess of 10% while the number of urban schools reporting responses was a fraction of the number of rural schools completing and returning surveys. The

percentage of students with special needs did not follow any particular pattern of participation based on school size. The difference between the numbers of schools reporting by size was much smaller than the number of schools reporting by location. The range from urban to rural was 136 while the range from large to small is 38. The range from the smallest percentage, medium, to the largest percentage, small, is 2.3%.

Table 5

Percent of Students on an IEP in Distance Education Courses Based on Location

Urban, Suburban, Rural	Mean	Std. Deviation	N
Urban	12.50%	35.355%	8
Suburban	2.93%	11.870%	26
Rural	2.22%	6.736%	144
Total	2.79%	10.513%	178

Table 6

Percent of Students on an IEP in Distance Education Courses Based on Size

Large, Medium, Small	Mean	Std. Deviation	N
Large	2.14%	9.138%	46
Medium	1.62%	5.072%	47
Small	3.91%	13.333%	84
Total	2.84%	10.629%	177

Tables 7 and 8 provide insight to the number of students on an IEP compared to the total number of students at sights by size and location. The percentage of students on an IEP compared to total student population increased as school site size decreased. Comparison of students on an IEP to total population related to location did not follow

any discernable pattern. Suburban schools had the smallest percentage of participation while urban schools had the largest percentage of participation and rural schools fell in the middle.

Table 7

Comparison of Students on an IEP to Total Number of Students Based on School Size

Large, Medium, Small	Mean	Std. Deviation	N
Large	13.86%	5.351%	47
Medium	13.91%	5.460%	49
Small	16.20%	7.664%	81
Total	14.94%	6.607%	177

Table 8

Comparison of Students on an IEP to Total Number of Students Based on School Location

Urban, Suburban, Rural	Mean	Std. Deviation	N
Urban	17.36%	4.405%	9
Suburban	11.66%	5.652%	27
Rural	15.39%	6.746%	142
Total	14.93%	6.628%	178

Table 9 provides an overall percentage of students on an IEP as compared to the total population of regular education students reported by secondary school principals responding to the study survey instrument. The total mean score of 14.9% is consistent with data posted on the Oklahoma State Department of Education (OSDE) web site for all regular education students and students in special education. The 2007-08 Facts: Oklahoma Public Schools states the average number of students enrolled daily in

Oklahoma schools to be 634,251 and students in special education age 3 to 21 to be 95,323 or a mean of 15.0%.

Table 9

Percentage of Special Education Students to the Total Population

	Mean	Std. Deviation	N
Percentage of Special Education Students to the total population	14.95%	6.6%	180

Table 10 demonstrates the comparison of students participating in distance education to the total corresponding student population. Regular education students participating in distance education compared to the total regular education student population had a mean score of 3.9%. Students on an IEP participating in distance education compared to the total population of students on an IEP had a mean score of 2.9%.

Table 10

Percentage of Distance Education Students to the Corresponding Student Population

	Mean	Std. Deviation	Std. Error Mean	N
General Education	3.93%	9.868%	.725%	185
Students on IEP	2.92%	10.651%	.794%	180

Research Question 2. What is the representation of Oklahoma secondary students with disabilities participating in distance education courses compared with the total population of students with disabilities measured as a percentage of Oklahoma secondary students? Table 11 provides a comparison of the percentage of students on an IEP participating in distance education courses to the percentage of regular education students

participating in distance education based on location. No clear pattern emerged in the comparison between students with disabilities participating in distance education courses and students in general education courses. Urban and rural schools aligned with the total comparison of students with disabilities participating in distance education courses to general education students participating in distance education while suburban schools did not. Participation of students with disabilities compared to participation of general education students in distance education courses was smaller in urban and rural school yet greater in suburban schools.

Table 11

Comparison of Students on an IEP in Distance Education to General Education Students in Distance Education Courses Based on School Location.

Secondary school location	Percent of Students on an IEP in Distance Education			Percent of General Education Students in Distance Education		
	Mean	Standard Deviation	N	Mean	Standard Deviation	N
Urban	12.50%	35.355%	8	13.84%	34.918%	8
Suburban	2.93%	11.870%	26	1.41%	2.309%	27
Rural	2.22%	6.736%	144	3.52%	6.327%	148
Total	2.79%	10.513%	178	3.66%	9.237%	183

Table 12 provides a comparison of the percentage of students on an IEP participating in distance education courses to the percentage of regular education students participating in distance education based on location. No trend was determined as participation in distance education courses by students with disabilities was greater for large schools and lesser for medium and small schools as compared to participation in distance education by general education students. Participation by general education students in distance education increased inversely to school size while there was no

pattern in the comparison between school size and participation of students with disabilities in distance education courses.

Table 12

Comparison of Students on an IEP in Distance Education to General Education Students in Distance Education Courses Based on School Size.

Secondary school size	Percent of Students on an IEP in Distance Education			Percent of General Education Students in Distance Education		
	Mean	Standard Deviation	N	Mean	Standard Deviation	N
Large	2.14%	9.138%	46	1.58%	24.440%	47
Medium	1.62%	5.072%	47	2.81%	7.798%	49
Small	3.91%	13.333%	84	5.77%	12.762%	86
Total	2.84%	10.629%	177	3.89%	9.875%	182

Table 11 and Table 12 exhibit a wide degree of variation, this large discrepancy in standard deviation may be the result of the reporting function. There is no requirement to report the number of students with disabilities enrolled in distance education courses. Reporting the number of students with disabilities necessitated the principal identifying students on an Individualized Education Program enrolled in a distance education course, the data gleaned from this process may have produced results that are less than accurate.

Table 13 includes the results of an Independent t-test to determine if there exists a statistically significant difference between students on an IEP participating in distance education courses and regular education students participating in distance education courses. Levene's Test for Equality of Variance had an F of less than .05 indicating the assumption of equal variance was met. The significance is 0.346 demonstrates there is not a statistically significant difference in the percentage of students on an IEP participating in distance education courses and regular education students participating in distance education. The null hypothesis therefore is not rejected. Hypothesis 0: There is

no statistically significant difference in participation of students on an IEP and regular education students participating in distance education courses.

Table 13

Percentage of DE Students to the Total Population

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Percentage of DE students to the total population	Equal variances assumed	.943	363	0.346	.01013	.01074

Research questions 3 and 4 are explored through ten questions designed to provide insight as to the perceptions, beliefs and expectations of secondary school principals and special education teachers related to the participation of students with disabilities participating in distance education courses. Responses were gathered through the use of a five category Likert scale. Response types were all positive in nature. Responses were; 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree. See Appendix D and F for an example of each survey instrument.

Table 14 provides a summary of responses from Secondary Principals and Special Education Teachers. Both surveys, Secondary Principal and Special Education Teacher, contain the same questions. The Secondary Principals survey included demographic data responses that required the perception question to begin with question number 6. A printing error omitted question 13 from the Secondary Principals survey, therefore question 8 on the Special Education Teacher survey did not have a corresponding

response. As demonstrated by Table 14 Secondary Principals and Special Education Teachers responses were very similar and followed a similar pattern. The mean of all responses trended towards the direction of agreement with the question's statement. Question 2 or 7, "Students with an Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered" elicited the strongest alignment with agreement with the questions premise with a mean in excess of 4 score.

Table 14

Secondary Principal and Special Education Teacher Responses

	Principal or Teacher	Mean	Std. Deviation	Std. Error Mean	N
Question 1 or 6	Principal	3.46	1.011	.074	185
	Teacher	3.40	1.104	.081	187
Question 2 or 7	Principal	4.09	.960	.070	186
	Teacher	4.22	.831	.061	187
Question 3 or 8	Principal	3.09	1.223	.090	186
	Teacher	3.27	1.136	.083	186
Question 4 or 9	Principal	3.47	.883	.065	186
	Teacher	3.40	.937	.069	186
Question 5 or 10	Principal	3.21	.843	.062	185
	Teacher	3.17	.971	.071	186
Question 6 or 11	Principal	3.29	.820	.060	185
	Teacher	3.22	.918	.067	186
Question 7 or 12	Principal	3.56	1.042	.077	185
	Teacher	3.81	1.116	.082	186
Question 8 or 13	Principal	.	.	.	0[a]
	Teacher	3.74	.952	.070	186
Question 9 or 14	Principal	3.63	.905	.066	186
	Teacher	3.72	1.020	.075	187
Question 10 or 15	Principal	3.59	.963	.071	185
	Teacher	3.78	.944	.069	185

a. t cannot be computed because at least one of the groups is empty.

Table 15 Independent sample t-tests did not produce any statistically significant difference between Secondary Principals and Special Education Teachers responses. Bonferroni correction was employed to reduce the risk of a Type 1 error due to multiple comparisons, results in a significance at the <.005 level. None of the results demonstrated a statistically significant difference between Secondary Principals and Special Education Teachers responses.

Table 15

Secondary Principals and Special Education Teachers Responses

	t-test for Equality of Means				
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Question 1 or 6	.581	370	.562	.064	.110
Question 2 or 7	-1.490	371	.137	-.139	.093
Question 3 or 8	-1.494	370	.136	-.183	.122
Question 4 or 9	.797	370	.426	.075	.094
Question 5 or 10	.410	369	.682	.039	.094
Question 6 or 11	.731	369	.465	.066	.090
Question 7 or 12	-2.275	369	.023	-.255	.112
Question 9 or 14	-.930	371	.353	-.093	.100
Question 10 or 15	-1.908	368	.057	-.189	.099

Research questions 5 and 6 sought to determine if a statistically significant difference exists based on location; Urban, Suburban, or Rural or size; Large, Medium, or Small. Table 16 provides results for Secondary School Principals responses to survey questions 6 through 15 designed to provide insight to the principal's perceptions, beliefs and expectations of students with disabilities participation in distance education. The means of principal responses are categorized by location; Urban, Suburban, Rural and the total population responding. Secondary School Principals responses tend to group

towards the “Neutral” or average score of 3. Questions 7 “Students with an Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered” and 14 “Distance education courses should be considered as an option when considering Least Restrictive Environment (LRE)” trended more toward “Agree” or an average score of 4.

Table 16

Secondary School Principals Responses Based on School Location

Question Numbers	Urban Mean	Urban Std Dev	Urban N	Suburban Mean	Suburban Std Dev	Suburban N	Rural Mean	Rural Std Dev	Rural N	Total Mean	Total Std Dev	Total N
Question 6	3.11	1.16	9	3.38	0.89	26	3.50	1.02	148	3.46	1.01	183
Question 7	3.89	1.05	9	4.04	0.77	26	4.12	0.97	149	4.10	0.95	184
Question 8	2.78	1.20	9	3.35	0.97	26	3.08	1.25	149	3.10	1.21	184
Question 9	3.44	1.13	9	3.35	0.79	26	3.50	0.88	149	3.48	0.88	184
Question 10	3.11	1.16	9	3.23	0.76	26	3.22	0.84	148	3.21	0.84	183
Question 11	3.44	1.13	9	3.23	0.76	26	3.28	0.81	148	3.28	0.82	183
Question 12	3.33	1.00	9	3.54	0.90	26	3.57	1.06	148	3.56	1.03	183
Question 14	4.00	0.50	9	3.58	0.85	26	3.62	0.92	149	3.64	0.90	184
Question 15	3.44	1.13	9	3.77	0.76	26	3.57	0.98	148	3.60	0.96	183

Table 17 provides results for Secondary School Principals responses to survey items 6 through 15 designed to provide insight to the principal’s perceptions, beliefs and expectations of students with disabilities participation in distance education. The means of principal responses are categorized by location; Large, Medium, Small and the total population responding. Questions 7 “Students with an Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered” had a mean of 4 (Agree) or greater for all school sizes and the total for all populations.

Table 17

Secondary School Principals Responses based on School Size

	Large			Medium			Small			Total		
Question Numbers	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	N
Question 6	3.17	0.86	47	3.35	1.18	49	3.73	0.88	86	3.48	1.00	182
Question 7	4.00	0.86	47	4.00	1.03	50	4.20	0.91	86	4.09	0.94	183
Question 8	3.34	1.10	47	3.12	1.27	50	2.91	1.24	86	3.08	1.23	183
Question 9	3.28	0.82	47	3.22	0.95	50	3.73	0.80	86	3.48	0.88	183
Question 10	3.13	0.76	47	3.06	0.98	49	3.36	0.78	86	3.22	0.85	182
Question 11	3.26	0.73	47	3.16	0.96	49	3.38	0.77	86	3.29	0.82	182
Question 12	3.77	0.93	47	3.73	1.07	49	3.35	1.01	86	3.56	1.03	182
Question 14	3.60	0.82	47	3.62	0.96	50	3.66	0.90	86	3.63	0.90	183
Question 15	3.91	0.69	46	3.30	1.05	50	3.63	0.90	86	3.61	0.93	182

Table 18 includes results of the two-way Analysis of Variance (ANOVA) related to Principal responses to individual items. The mean difference is significant at the <.005 level. A two factor Analyses of Variance (ANOVA) with the dependent variable of the survey item number was used to determine if a statistically significant difference exists related to location and size. Item 15, "Administrators, teachers, and parents should receive training related to students on an Individualized Education Program (IEP) and distance education" showed a statistically significant difference by district size. Bonferroni correction was used to ensure a Type I error was not created by multiple comparisons. Item 15, "Administrators, teachers, and parents should receive training related to students on an Individualized Education Program (IEP) and distance education" demonstrated a statistically significant difference of .001 based on size between Large and Medium size schools.

Table 18

Significance Between Location and Size by Secondary School Principals

Question Num	Source	F	df	Sig
Question 6	Dist Location	0.54	2	0.580
	Dist Size	2.16	2	0.110
	Location*Size	0.36	4	0.830
Question 7	Dist Location	0.28	2	0.750
	Dist Size	0.10	2	0.890
	Location*Size	0.34	4	0.849
Question 8	Dist Location	1.44	2	0.238
	Dist Size	3.26	2	0.040
	Location*Size	1.20	4	0.310
Question 9	Dist Location	0.09	2	0.914
	Dist Size	0.42	2	0.654
	Location*Size	0.28	4	0.889
Question 10	Dist Location	0.44	2	0.645
	Dist Size	0.60	2	0.547
	Location*Size	0.34	4	0.848
Question 11	Dist Location	0.43	2	0.645
	Dist Size	0.70	2	0.496
	Location*Size	0.42	4	0.792
Question 12	Dist Location	1.10	2	0.333
	Dist Size	1.17	2	0.313
	Location*Size	0.22	4	0.923
Question 14	Dist Location	1.02	2	0.363
	Dist Size	0.11	2	0.889
	Location*Size	0.78	4	0.537
Question 15	Dist Location	1.80	2	0.167
	Dist Size	6.47	2	0.002
	Location*Size	1.14	4	0.338

Question 15 returned a statistically significant difference of .002 for district size. Table 19 identifies Large and Medium size school responses to be the source of the statistically significant difference.

Table 19

Multiple Comparisons

Question 10 or 15
Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.
Large	Medium	.67*	.185	.001
	Small	.33	.165	.118
Medium	Large	-.67*	.185	.001
	Small	-.34	.160	.086
Small	Large	-.33	.165	.118
	Medium	.34	.160	.086

*. The mean difference is significant at the .005 level.

Table 20 provides results for Special Education Teachers responses to survey questions 1 through 10 designed to provide insight to the special education teacher's perceptions, beliefs and expectations of students with disabilities participation in distance education. The means of teachers responses are categorized by location; Urban, Suburban, Rural and the total population responding. Special Education Teachers responses trended towards a mean score of 3 or "Neutral" although a greater number of questions did trend toward a mean of 4 or "Agree." Question 2 "Students with an Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered" has all locations mean greater than 4 or "Agree." While question 10 "Administrators, teachers, and parents should receive

training related to students on an Individualized Education Program (IEP) and distance education" did not exceed a mean of 4 (Agree) or greater the trend was towards a mean of 4 or "Agree."

Table 20

Special Education Teachers Responses based on School Location

Question Numbers	Urban			Suburban			Rural			Total		
	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	N
Question 1	3.27	1.19	11	3.11	1.12	27	3.45	1.11	140	3.39	1.12	178
Question 2	4.36	0.67	11	4.22	0.69	27	4.23	0.86	140	4.24	0.83	178
Question 3	4.09	0.83	11	3.67	0.92	27	3.11	1.15	139	3.25	1.13	177
Question 4	3.55	0.82	11	3.15	0.94	27	3.42	0.93	140	3.39	0.92	178
Question 5	2.55	0.68	11	2.85	0.94	27	3.29	0.96	140	3.17	0.96	178
Question 6	2.82	0.87	11	3.04	0.89	27	3.29	0.91	140	3.22	0.91	178
Question 7	3.73	0.78	11	3.78	1.25	27	3.80	1.13	140	3.79	1.13	178
Question 8	3.91	1.04	11	3.56	1.01	27	3.76	0.92	139	3.74	0.94	177
Question 9	3.91	1.04	11	3.22	1.12	27	3.78	0.99	140	3.70	1.03	178
Question 10	4.09	0.83	11	3.89	0.93	27	3.71	0.95	139	3.76	0.94	177

Table 21 provides results for Special Education Teachers responses to survey questions 1 through 10 designed to provide insight to the special education teacher's perceptions, beliefs and expectations of students with disabilities participation in distance education. The means of teachers responses are categorized by size; Large, Medium, Small and the total population responding. Again, Question 2 "Students with an

Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered" has all locations mean greater than 4 or "Agree".

Table 21

Special Education Teachers Responses based on School Size

Question Numbers	Large			Medium			Small			Total		
	Mean	N	Std Dev	Mean	N	Std Dev	Mean	N	Std Dev	Mean	N	Std Dev
Question 1	3.24	49	1.01	3.17	46	1.19	3.64	74	1.06	3.40	169	1.10
Question 2	4.12	49	0.75	4.20	46	0.95	4.35	74	0.74	4.24	169	0.81
Question 3	3.51	49	1.06	3.20	46	1.14	3.12	73	1.15	3.26	168	1.13
Question 4	3.35	49	0.77	3.39	46	1.04	3.47	74	0.92	3.41	169	0.91
Question 5	3.00	49	0.93	3.13	46	1.04	3.42	74	0.82	3.22	169	0.93
Question 6	3.14	49	0.86	3.22	46	1.03	3.32	74	0.87	3.24	169	0.91
Question 7	3.55	49	1.13	4.02	46	1.00	3.77	74	1.14	3.78	169	1.11
Question 8	3.67	49	0.87	3.73	45	1.00	3.80	74	0.90	3.75	168	0.92
Question 9	3.47	49	1.04	3.72	46	1.06	3.91	74	0.87	3.73	169	0.99
Question 10	3.84	49	0.96	3.74	46	0.99	3.81	73	0.89	3.80	168	0.93

Table 22 includes results of individual item ANOVA's for Special Education teacher responses. Table 22 demonstrates the level of significance related to Special Education Teacher responses to individual items. The mean difference is significant at the <.005 level. A two factor Analyses of Variance (ANOVA) with the dependent variable of the survey item number was used to determine if a statistically significant difference exists related to location and size. Bonferroni correction was used to ensure a

Type I error was not created by multiple comparisons. No statistically significant difference was determined to exist as related to location or size. Appendix I includes source tables containing results of the individual research data.

Table 22

Significance Between Location and Size by Special Education Teachers

Question Num	Source	F	df	Sig
Question 1	Dist Location	2.282	2	0.106
	Dist Size	1.765	2	0.175
	Location*Size	3.156	2	0.045
Question 2	Dist Location	0.248	2	0.781
	Dist Size	0.840	2	0.434
	Location*Size	0.313	2	0.732
Question 3	Dist Location	2.345	2	0.099
	Dist Size	0.263	2	0.769
	Location*Size	0.330	2	0.720
Question 4	Dist Location	2.466	2	0.088
	Dist Size	0.038	2	0.963
	Location*Size	2.089	2	0.127
Question 5	Dist Location	3.062	2	0.050
	Dist Size	0.781	2	0.460
	Location*Size	0.611	2	0.544
Question 6	Dist Location	2.148	2	0.120
	Dist Size	0.350	2	0.705
	Location*Size	0.367	2	0.693
Question 7	Dist Location	0.536	2	0.586
	Dist Size	1.153	2	0.318
	Location*Size	0.017	2	0.983
Question 8	Dist Location	1.595	2	0.206
	Dist Size	0.900	2	0.409
	Location*Size	2.194	2	0.115
Question 9	Dist Location	2.363	2	0.098
	Dist Size	0.844	2	0.432
	Location*Size	0.559	2	0.573

Question 10	Dist Location	0.279	2	0.757
	Dist Size	0.012	2	0.988
	Location*Size	0.100	2	0.905

At the conclusion of the survey participants were allowed space to provide any additional comments. Comments were completely at the respondent's discretion and no instruction was given as to the nature of the comment. Comments could be directed towards any area of the study. Forty-five Secondary School Principals recorded comments while seventy-six Special Education Teachers supplied comments. Of the forty-six additional comments by Secondary School Principals, nineteen, 41%, referred to the individual aspect of students on an IEP or the items were too broad. Forty-three, 57%, Special Education Teachers referenced the individual student's needs or survey items being too broad. Appendix G contains each response recorded by contributors identified by school size and location.

Summary of Results

Six research questions were addressed with results generated by data collected from 186 Secondary School Principals and 187 Special Education Teachers. Four hundred sixty-nine research packets were mailed to secondary public high school principals and special education teachers. Secondary School Principals and Special Education Teachers completed survey instruments designed to measure the level of participation of students with disabilities, as identified by being served on an IEP, in distance education courses. Additional insight as to the level of participation was the perceptions, beliefs and expectations of Secondary School Principals and Special Education Teachers related to students with disabilities participating in distance education. School location and size was analyzed to determine if these two variables

influenced participation by students with disabilities in distance education courses and the perceptions, beliefs and expectations of Secondary School Principals and Special Education Teachers.

The results of this study indicate that a statistically significant difference in the participation of students with disabilities in distance education courses does not exist; therefore the null hypothesis cannot be rejected. Further investigation indicates that no statistically significant difference exists in perceptions, beliefs and expectations of Secondary School Principals or Special Education Teachers related to location or size of school. One item did indicate a statistically significant difference for Secondary School Principals related to school size. Item 13 was omitted from the Secondary School Principals survey negating the opportunity to determine if a statistically significant difference exists between secondary school principals and special education teachers.

A small N for Urban schools may have impacted the reliability of the results related to school location. A smaller number of Urban schools responding is not unexpected as Oklahoma is a predominantly rural state. Mean scores tended to congregate to the middle of the Likert scale for both secondary school principals and special education teachers. Respondent's comments contained references to the "individualized" component of students on an Individualized Education Program and how it "depended" on whether a student could benefit from distance education. This obvious concern with the unique needs of students served with an IEP contributed to the grouping of responses around the "Neutral" response almost as a safe answer to a difficult question.

A lack of a universally accepted definition or understanding of what distance education consists of also could contribute to the non-committal attitude of the respondents. The nature of the study was expressed as a distance education research project yet the focus of the responses centered on the special education component of the research. A possible explanation could be the overwhelming volume of training associated with special education and limited exposure to distance education that respondents migrated to what they know best. Defining and describing the various types of distance education would be beneficial for future research.

Results of the study have revealed the need for further research in the area of students with special needs and their participation in distance education. An effort to develop and disseminate a clear definition of distance education and its delivery methods should be undertaken. Additionally, researching the relationship between specific learning disability categories of special education and distance education could move the respondents from the safety of a “Neutral” response.

CHAPTER FIVE

Conclusions and Recommendations

Introduction

This study was conducted to determine the representation of secondary special populations in distance education courses. Students with disabilities were selected as the sub population for this research due to the prevalence of students with disabilities in Oklahoma secondary school sites. Information was collected from secondary school principals and special education teachers relevant to the participation of students with disabilities, the perceptions, beliefs and expectations of secondary school principals and special education teachers, and if a statistically significant difference exists by school location and size for students with disabilities in distance education courses. Results were analyzed and conclusions drawn relevant to participation of students with disabilities in distance education. Implications for practice and recommendations for future research will be explored.

Threats to Validity

Sample size appears to be an area of concern. The total sample size is adequate with nearly 40 percent of the surveyed populations returning the completed survey instruments. The specific concern is the small N for Urban schools; only eight urban schools were represented in the study, (this is not unexpected as Oklahoma is a predominantly a rural state therefore compromising the external validity of the study). Could this study reasonably expect similar results in states with greater student density and smaller geographic bounds? The 2008 Technology-Based Distance Education Courses for Public Elementary and Secondary Schools: 2002-2003 and 2004-2005

statistical analysis report published by the National Center for Educational Statistics (NCES) employed a stratified sampling strategy for categorizing public schools to determine the quantity and type of distance education courses offered. The study identified schools as urban, suburban, or rural, large (9999 or more students), medium (2500 to 9999 students) and small (less than 2500 students). Utilizing the same classifications to identify secondary schools in Oklahoma by the school's enrollment, as reported to the Oklahoma Secondary School Athletic Association (OSSAA), would have Oklahoma void of large schools, only four medium sized schools and 434 small districts (Zanberg & Lewis, 2008; OSSAA, 2008).

Internal validity could also be an issue as the survey instruments were researcher developed. A five point Likert scale was determined the most appropriate scoring scale for the survey instrument, given its long history and success in social science research (Weng, 2004). Weng (2004) states, "5 response categories are sufficient, because no substantial gains in reliability were observed after 5 categories" (p. 957). Subject matter experts were summoned to review the survey instrument for item clarity, content and construction. A sample survey was administered to twenty-five secondary school principals and special education teachers. Responses from the sample group were subjected to analysis via Chronbach's Alpha for individual item reliability.

Comments from respondents such as "Neutral responses indicate the opinion that this would be an individual student issue that is unrelated to the student being on an IEP" from a secondary school principal and "There is really no way of answering these questions. It totally depends on the student and what their disabilities are" from a special education teacher raise concerns of data fidelity. Did the data collected reflect the intent

of the research design? Many of the item responses focused on the student's disability rather than the application of distance education as a mode of instruction. The "feel" of the respondent's comments indicated a greater understanding of students on an Individualized Education Program (IEP) and a lesser degree of comfort with distance education. Therefore survey data may reflect more of the respondent's perceptions, beliefs and expectations related to special education rather than distance education.

Conclusions

Considering the original intent and design of the study as outlined by the research questions compared to the analysis of the results collected lead to the following three general conclusions.

- There is no statistically significant difference in the representation of students with disabilities in distance education courses.
- An effort to clearly define what constitutes distance education and employ that definition across discussions of distance education is necessary.
- Secondary school principals and special education teachers have common ground regarding students with disabilities and the student's participation in distance education courses.

Each of these general conclusions has specific conclusions falling under the umbrella of the general conclusions.

The results of the independent t-test indicated students with disabilities are participating in distance education courses at a rate comparable with the general education population. Although there is not a statistically significant difference between students with disabilities and general education populations participating in distance

education the percentages for each are relatively small at 2.9% of students with disabilities and 3.9% of the general education enrollment. Nationally the participation rate for grades 9-12 is approximately 4.6% of all students (Picciano & Seaman, 2007). Zandberg & Lewis (2008) state, "A higher percentage of schools in rural districts than schools in suburban or urban districts had students enrolled in technology-based distance education courses (16 percent compared to 9 and 5 percent, respectively)" which is contrary to the findings of this study in Oklahoma. Secondary school principals reported that Urban school participation was 13.9%, Suburban school 1.4% and Rural school 3.7% of the general education population in Oklahoma enrolled in distance education courses.

A secondary school principal states, "My neutral responses were due to a lack of details or information on student. I am not a fan of distance learning and don't believe it is in any way as successful as a classroom teacher. I believe distance learning is a poor response to unfunded mandates." This response is contrary to current literature. Hughes et al. (2008) argue that online students outperformed traditional face-to-face students on the Assessment of Algebraic Understanding test and suggested that schools need to ensure equitable access to online course as online course can level the playing field for students. "As we have no distance education courses in [our school], I am unfamiliar with the requirements and rigidity of such a course. I would think that those IEP students, who realistically and capably plan to attend college, should be able to participate in such a course," confesses a special education teacher. The statement, "I am unfamiliar with the requirements and rigidity of such a course" would create an impossible situation for this teacher when asked to evaluate the appropriateness of distance education for students with disabilities. The question "Administrators, teachers,

and parents should receive training related to students on an Individualized Education Program (IEP) and distance education" had a mean score of 3.59 for secondary school principals and 3.78 for special education teachers. A reply of 4 was to agree with the premise. The research indicated there is a need for information and education related to distance education.

Secondary school principals and special education teachers found common ground when expressing perceptions, beliefs and expectations related to students with disabilities participating in distance education. Both groups reported an average score on every survey question with the exception of "Student with an Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered." Secondary school principals had a mean score of 4.09 and special education teachers had a mean score of 4.22, indicating a greater level of agreement than for the other questions.

There was not a statistically significant difference between any of the responses with the exception of the following question. Question 15, "Administrators, teachers, and parents should receive training related to students on an Individualized Education Program (IEP) and distance education" did elicit a statistically significant difference between secondary school principals at large and medium sized schools. Principals and teachers repeatedly emphasized the themes of the individual student and "it depends" when providing comments regarding the study. Some of the comments of note from secondary school principals include:

IEP's vary from individual, distance education would vary from student to student. These questions were answered neutral since students on IEP's are unique with different learning abilities.

Each question on this survey depends on what type IEP a student has…on what their disability is. It would also be dependent upon which class students are taking. The classes offered at [our school] would not be conducive to students who have various disorders. Only if the distance learning classroom were geared for the special education services would I agree that distance learning would be an option. If you are taking classes, the burden of modification would lie in a teacher who can't possibly get the full understanding of what the needs of the special students are. For these reasons, I answered neutral on each question.

I am certified special ed mild/moderate and severe/profound. I have worked with both categories/ taught and admin. As you know their categorically is a big different. For me your survey could separate these very different categories and I respond differently.

The focus of each comment is the student's individual needs and the severity of disability. Respondents indicate they would have answered differently of chose all neutrals because they lacked enough information to accurately or adequately answer the ten items designed to collect information related to the secondary school principals perceptions, beliefs, and expectations. Principals were very cognizant of the individualized, student centered nature of special education.

Similarly, special education teachers responded with the following comments.

Answers based on IEP students that fall in the mild to moderate catagories of disabilities. Survey statements are too general especially statements #4, #5, #6, #7. This statement could be very appropriate for some IEP students and completely inappropriate for other depending on the nature and severity of their disability.

For questions 5-7 I marked neutral because it depends on the student and their disability, for some students I would agree and some students I would disagree.It was hard to answer these questions.

The success of distance education depends on the disability and severity of the disability.

Much like their principal peers, the special education teachers were far more concerned with the special education point of view than the distance education angle. There are some encouraging remarks from some of the special education teachers, who should be more aware of the student's daily interaction with all learning tools including distance education. Many of the secondary school principals predicated their statements with the phrases "I believe" or "I feel" without any concrete examples of actual student participation. While many of the special education teachers employed the same "I believe" or "I feel" terms, the special education teachers also provided evidence of factual interaction of students with disabilities and distance education.

I currently have a special education student on an IEP taking Spanish I for high school credit. This class is a distance learning class and has a teaching assistant to monitor the class. This student made an 80/B

for the 1st 9 weeks grade. This seems to work fine for the particular student.

We are just in the early stages of E2020 classes that are available to all students. These are on campus with certified teacher always present. Early data shows success for many IEP students. BUT we need more experience to call it a successful alternative to the classroom.

Secondary school principals and special education teachers tended to agree on many of the general concepts associated with their perceptions, beliefs and expectations related to students with disabilities participation in distance education courses.

Recommendations for Practice

Special education and distance education will inevitably coincide to serve the learning requirements of individual students in Oklahoma's secondary schools. A mounting body of evidence is being revealed as educators look to technology to assist students with disabilities experience, acquire and practice social and academic tools to be successful citizens in a democratic society. New York's District 75 serves 5000 student diagnosed with autism or other disabilities. The district purchased an island in Second Life where students can communicate with one another and hone practical skills (Stroud, 2009). Christensen (2008) opines that "when viewed from the logarithmic perspective, the data suggest that by 2019, about 50 percent of high school courses will be delivered online" (pg. 98). Data collected from this study indicates that students with disabilities are currently participating in distance education courses. Additionally, the data indicate the need for a consistent, cohesive definition of what distance education is and methods of implementing distance education programs in secondary school sites. Colleges and

universities are a logical point of origin for exposing future educators to the challenges and benefits for students with disabilities participating in distance education courses. Additionally, teacher and administrator preparatory programs provide a platform for developing and disseminating definitions and descriptions for the copious forms of distance education.

At some level, the state legislature or Oklahoma State Department of Education, a centralized governing body must devise a core set of standards to define and deploy distance education guidelines, policies and practices. Survey questions related to providing professional development and training opportunities for parents, teachers and administrators received the highest mean scores. Survey questions related to consideration of student placement as a component of an Individualized Education Program (IEP) and Least Restrictive Environment (LRE) also reported mean scores in excess of 3.5. The survey question with the lowest mean score queried the need for local boards of education establishing policies to address students with disabilities participating in distance education. Survey responses indicate a need to promote the implementation of and the education of students, parents, teachers and administrators regarding distance education and the benefits it can offer students in special education classes while avoiding hard and fast rules and policies. The intent is not to mandate the implementation of distance education programs or to insist on the inclusion of students with disabilities in distance education. The purpose of guidelines, policies and practices are meant to create a common, consistent framework of understanding to assist local board of education as they confront the inclusion of students with disabilities participating in distance education courses. Local boards of education should evaluate

existing policy to determine if the required internet or online policies adequately address the participation of students with disabilities.

Survey questions related to the actual instructional or academic machinery of including students with disabilities in distance education garnered the lowest mean scores for both teachers and administrators. It is difficult to determine if the lower mean scores were a result of a belief that students with disabilities would not benefit from participation in distance education or the underlying theme that the term "students on an IEP" was to general therefore eliciting neutral responses. Respondents did agree across administrative and instructional boundaries that the physical presence of a teacher in the classroom was required. It may be valuable if special education reporting included in conjunction with the student's disability category were to indicate whether the student participated in distance education. Parents are presented a survey as a component of the Individualized Education Program (IEP) team meeting that could be expanded to include questions regarding their student's participation in distance education and the satisfaction of such participation.

Dissemination of a common framework should included in-service, professional development, and training for parents, board members, administrators and instructors related to the participation of students with disabilities in distance education courses. Federal, state, and local laws as well as mandates and policies should be reflected in the methods students and parents are informed about the availability, enrollment and expectations of distance education opportunities. During the Individualized Education Program (IEP) meeting the Least Restrictive Environment (LRE) discussion may include consideration of delivery via distance education technology. At the proper juncture, the

determination of appropriate placement would be established by the IEP team members as to the participation in distance education courses by the student. The following comment was provided by a secondary school principal.

> Placement in distance education classes should be optional for IEP students. The IEP team should evaluate the student and only place the student in distance education classes if the student will be successful.

Secondary school site principals and special education teachers should actively engage in the investigation of distance education technology and the implications for students with disabilities discovered. The following comment by a special education teacher provides insight to the need for information dissemination.

> I feel this could be a great idea for IEP's student to give them a wider range of course option. However since I have little information my knowledge level is limited. I do feel this would assist with highly qualified situation for high school special ed teachers.

Distance education technology and practice is an ever evolving science. Devices and instructional methodology are continuing to improve and the availability of high speed connectivity increase. Distance education pedagogy is constantly scrutinized and improved as application and participation increase.

Recommendations for Further Research

This comment from a secondary school site principal exemplifies the frustration respondents had in completing the survey.

> Each question on this survey depends on what type IEP a student has…on what their disability is. It would also be dependent upon which class

> students are taking. The classes offered at X would not be conducive to students who have various disorders. Only if the distance learning classroom were geared for the special education services would I agree that distance learning would be an option. If you are taking classes, the burden of modification would lie in a teacher who can't possibly get the full understanding of what the needs of the special students are. For these reasons, I answered neutral on each question.

It is evident that students with disabilities participate in distance education courses. Further study to determine which type of distance education delivery would be best suited for the different types of learning disabilities is warranted. Reproducing this study to determine which type of distance education delivery is most appropriate for each disability category would be beneficial. Second Life, a virtual world, is proving valuable in the education of children with autism while a secondary student in Oklahoma is making “B’s” in a Spanish course delivered via distance. Investigating the potential correlation between delivery method and learning disability could provide valuable insight as students with disabilities Individualized Education Programs are developed in the Least Restrictive Environment (LRE).

Conversely, identifying the participation of students by disability category would provide valuable insight into the development of distance education programs for specific disabilities. If a preponderance of students with a specific learning disability are participating successfully in one method of distance education delivery, future program development could concentrate on that style of distance education delivery. This

comment by a special education teacher exemplifies the need for further research in this area.

> Making such a broad statement as "a student on an IEP can…" is misleading. The very title IEP means individualized. While one student with a disability (specific learning disability) can progress through distance education, another student with a disability (intellectually disabled, ADHD or autism) cannot. Progress and success also depends on the motivation of the student. A student motivated to work will have success just about anywhere, while an unmotivated student won't. You can't lump special education students together. It's just like comparing apples and oranges.

Potential data collection may replace the term “student on an IEP” with “a student with a specific learning disability.” Each of the specific special education categories could be represented in the data collection instrument. Surveys should consider employing a four point Likert scale to avoid the use of a neutral response as a safe haven. Eliminating the middle ground would compel respondents to express an opinion as to their agreement or disagreement with the premise proposed. Future research that defines and describes distance education delivery by type would benefit researchers as they identified the effective and ineffective characteristics of each type of delivery method. Correlation of delivery methods technological strengths and pedagogical approaches to students individual needs may further the integration of distance education technology as a viable instructional tool for students with disabilities.

Summary

This chapter was a review of the study, research questions, description of the survey instrument and the data collection method. Study findings were summarized providing a foundation for conclusions, recommendations for future research, and recommendations for practice. The six research questions, two primary and four corollary, examined perceptions, beliefs and expectations of secondary school site principals and special education teachers related to participation of students with disabilities in distance education. Threats to statistical validity were exposed and examined in the conclusions.

Data determined there were no statistically significant difference in the participation of students with a disability and the general education population in distance education courses. Principals and teachers found common ground in their responses to the responses designed to express their perceptions, beliefs and expectations related to students with disabilities participating in distance education. Common threads of considering the individual student and not "lumping" students on an Individualized Education Program in to one group were replete throughout the respondent's comments.

Implications for future research indicated the need for increased understanding regarding specific special education categories and aligning the benefits of different distance education delivery methods and students with disabilities learning modalities. The scholarly body of knowledge continues to expand as educators turn to technology to meet the instructional needs of students with disabilities. Finally, a concise and consistent definition and description of distance education would benefit legislators, board members, parents and educators.

This study compliments existing research by establishing participation of students with disabilities in distance education courses. Students with disabilities represent a substantial percentage of the student body in Oklahoma and nationally. The specific disability of autism exemplifies the swell of students being identified as having a disability. Stroud (2009) opines, "There's a tidal wave called autism coming at school districts. We're less than four years away from having 1 million children in the US with autism" (pp. 20). This coincides with the sharp upswing in the delivery of courses via distance (Christensen, 2008). This study has determined special education and distance education co-exist and serve a portion of the same students.

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APPENDICES

APPENDIX A

University of Oklahoma – Norman Campus

Institutional Review Board Description of Study Protocol

Submission of a copy of a grant application does not replace completion of this form. Please respond to each item. Incomplete submission forms will be returned to you.

1) Click below to describe the research design of the study.

This study is a quantitative study. Data will be collected through surveys of building principals and special education teachers. Statistical analysis will be performed on the data.

2) In the input area below, describe the recruitment procedures. Attach a copy of any material used to recruit subjects (e.g., informed consent forms, advertisement, flyers, telephone scripts, verbal recruitment scripts, cover letters, etc.) Explain who will approach potential participants to request participation in the research study and what will be done to protect the individual's privacy in this process.

Recruitment will be direct mail to building principals and special education teachers in Oklahoma Schools containing ninth through twelfth grade students. A cover letter introducing the study in addition to an information sheet will accompany the survey instrument. Participants will only be identified as to size and rurality and no other identifiers will exist.

3) Below, list and describe the tasks that participants will be asked to perform, including a step-by-step description for each procedure you plan to use with your subjects. Provide the approximate duration of subject participation for each procedure.

Participants will complete a survey consisting of simple answer and Likert scale responses. Time of participation should not exceed 30 minutes.

4) Describe your data collection procedures. If data collection instruments will be used, indicate the time necessary to complete them, the frequency of

administration, and the setting in which they will be administered, such as telephone, mail, or face-to-face interview. (You must submit a copy of each study instrument, including all questionnaires, surveys, protocols for interviews, etc.)

Data collection consists of a single survey requiring approximately 30 minutes to complete. Surveys will be distributed via mail with a follow up reminder.

5) Click below and provide background information for the study including the objective of the proposed research, purpose, research question, hypothesis and other information deemed relevant. Include up to 5 references from the literature.

The objective of the study is to gain insight as to the representation of students being served with an Individualized Education Plan participating in a distance education course. The research question is "are students with disabilities equitably represented in distance education courses?"

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APPENDIX B

Information Sheet To Participate In A Research Study

My name is Mike Woods and I am a graduate student in Education Administration, Curriculum, and Supervision at the University of the Oklahoma. I am requesting that you volunteer to participate in a research study titled Investigating the Representation of Students with Disabilities in Distance Education You were selected as a possible participant because you are an administrator or special education teacher in an Oklahoma public school. Please read this information sheet and contact me to ask any questions that you may have before agreeing to take part in this study.

Purpose of the Research Study: The purpose of this study is to examine the number of students with disabilities being served by an individualized education plan enrolled in distance education courses.

Procedures: If you agree to be in this study, you will be asked to do the following things: Complete and return a short survey.

Alternative Procedures: There are no alternative procedures for this study.

Risks and Benefits of Being in the Study: The study has the following risks; this study does not have any risks associated with the research. The benefits of this study include increased awareness of students with disabilities participating in distance education and examine the need for dissemination of information related to students with disabilities and distance education.

Compensation: You will not be compensated for your time and participation in this study.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not result in penalty or loss of benefits to which you are otherwise entitled. If you decide to participate, you are free not to answer any question or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Length of Participation: It will take approximately 10 minutes to complete the survey. Participant's responsibilities terminate with the submission of the survey.

Confidentiality: The records of this study will be kept private and your supervisor will not have access to your responses. In published reports, there will be no information included that will make it possible to identify you as a research participant. Research records will be stored securely. All research survey information will be shredded at the conclusion of the research. Only approved researchers will have access to the records.

Contacts and Questions: If you have concerns or complaints about the research, the researcher(s) conducting this study please contact Dr. Jeffery Maiden at 405.325.1524 by phone or maiden@ou.edu by e-mail or contact Mike Woods, Principle Investigator, at 580.273.1146 or mcwoods@pldi.net via email. In the event of a research-related injury, contact the researcher(s). You are encouraged to contact the researcher(s) if you have any questions. If you have any questions, concerns, or complaints about the research and wish to talk to someone other than the individuals on the research team, or if you cannot reach the research team, you may contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at (405) 325-8110 or irb@ou.edu.

Please keep this information sheet for your records. By completing and returning this questionnaire, I am agreeing to participate in this study. The University of Oklahoma is an Equal Opportunity Institution.

APPENDIX C

Principal Cover Letter

Dear Principal,

I would like to thank you for your participation in this short survey. You are providing critical information to help influence the future of education in Oklahoma's public schools.

My name is Mike Woods, a Doctoral student and Superintendent of Drummond Public Schools. I am asking for about 10 minutes of your time to provide information about your school and its students that participate in distance education.

All information is confidential and no identifying information will be submitted. Please read the enclosed Information Sheet document then complete the enclosed survey labeled "Principal Survey". ***After the survey is complete please return it in the enclosed stamped, self addressed envelope by November 6, 2009.***

I sincerely thank you for your time and willingness to help shape public education in Oklahoma. The University of Oklahoma is an Equal Opportunity Institution.

For the Kids,

Mike Woods

APPENDIX D

Principal Survey

PRINCIPAL SURVEY

Please use the October 2009 First Quarter Statistical Report numbers to complete this form.

You believe your district or school is:(please check the appropriate box)	Urban	☐	Large (see back of survey)	☐
	Suburban	☐	Medium (see back of survey)	☐
	Rural	☐	Small (see back of survey)	☐

Distance Education is defined as any course where the instruction is provided through Interactive Educational Television, with video conferencing equipment, through the Internet, over the Web, or any combination. Courses can be High School level, College

1 What grade levels are educated in your building? _____

2 What is the total student population in your building? _____

3 What is the total number of students enrolled in distance education courses? Count each student once regardless of the number of courses the student is enrolled in. A student taking three distance education courses would only be counted as one student en _____

4 What is the total student population in your building being served with an Individualized Education Program as defined by IDEA. _____

5 What is the total number of students with an Individualized Education Program enrolled in distance education courses? Count each student once regardless of the number of courses the student is enrolled in. A student taking three distance education course _____

Please respond to the following questions by checking the box that most closely reflects your beliefs using the following scale:
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

		1	2	3	4	5
6	Students on an Individualized Education Program (IEP) can successfully participate in distance education courses.	☐	☐	☐	☐	☐
7	Students with an Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered.	☐	☐	☐	☐	☐
8	Local school boards should establish policies related to students with Individualized Education Program (IEP) participation in distance education.	☐	☐	☐	☐	☐

9	Students with an Individualized Education Program (IEP) benefit academically from interaction with distance education technology.	☐	☐	☐	☐	☐
10	Students with an Individualized Education Program (IEP) possess the behavioral skills necessary to be successful in a distance education course.	☐	☐	☐	☐	☐
11	Students with an Individualized Education Program (IEP) possess the social skills necessary to be successful in a distance education course.	☐	☐	☐	☐	☐
12	Students with an Individualized Education Program (IEP) require the physical presence of a teacher in the classroom.	☐	☐	☐	☐	☐

PRINCIPAL SURVEY

Please use the October 2009 First Quarter Statistical Report numbers to complete this form.

Please respond to the following questions by checking the box that most closely reflects your beliefs using the following scale:
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

		1	2	3	4	5
14	Distance education courses should be considered as an option when considering Least Restrictive Environment (LRE).	☐	☐	☐	☐	☐
15	Administrators, teachers, and parents should receive training related to students on an Individualized Education Program (IEP) and distance education.	☐	☐	☐	☐	☐

Please add any additional comments you believe would be beneficial to this research project below. Attach additional sheets if necessary. Thank you.

APPENDIX E

Special Education Teacher Cover Letter

Dear Special Education Teacher,

I would like to thank you for your participation in this short survey. You are providing critical information to help influence the future of education in Oklahoma's public schools.

My name is Mike Woods, a Doctoral student and Superintendent of Drummond Public Schools. I am asking for about 10 minutes of your time to provide information about your school and its students that participate in distance education.

All information is confidential and no identifying information will be submitted. Please read the enclosed Information Sheet document then complete the enclosed survey labeled "Special Education Teacher". ***After the survey is complete please return it in the enclosed stamped, self addressed envelope by November 6, 2009.***

I sincerely thank you for your time and willingness to help shape public education in Oklahoma. The University of Oklahoma is an Equal Opportunity Institution.

For the Kids,

Mike Woods

APPENDIX F

Special Education Teacher Survey

SPECIAL EDUCATION TEACHER SURVEY

You believe your district or school is:(please check the appropriate box)	Urban	☐	Large (see back of survey)	☐
	Suburban	☐	Medium (see back of survey)	☐
	Rural	☐	Small (see back of survey)	☐

Distance Education is defined as any course where the instruction is provided through Interactive Educational Television, with video conferencing equipment, through the Internet, over the Web, or any combination. Courses can be High School level, College level, dual credit, or concurrent enrollment.

Please respond to the following questions by checking the box that most closely reflects your beliefs using the following scale:
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

		1	2	3	4	5
1	Students on an Individualized Education Program (IEP) can successfully participate in distance education courses.	☐	☐	☐	☐	☐
2	Students with an Individualized Education Program (IEP) and their parents or guardians should be informed about distance education courses offered.	☐	☐	☐	☐	☐
3	Local school boards should establish policies related to students with Individualized Education Program (IEP) participation in distance education.	☐	☐	☐	☐	☐
4	Students with an Individualized Education Program (IEP) benefit academically from interaction with distance education technology.	☐	☐	☐	☐	☐
5	Students with an Individualized Education Program (IEP) possess the behavioral skills necessary to be successful in a distance education course.	☐	☐	☐	☐	☐
6	Students with an Individualized Education Program (IEP) possess the social skills necessary to be successful in a distance education course.	☐	☐	☐	☐	☐
7	Students with an Individualized Education Program (IEP) require the physical presence of a teacher in the classroom.	☐	☐	☐	☐	☐
8	Distance education courses should be considered as an option when developing students with disabilites Individualized Education Program (IEP).	☐	☐	☐	☐	☐

9	Distance education courses should be considered as an option when considering Least Restrictive Environment (LRE).	☐	☐	☐	☐	☐
10	Administrators, teachers, and parents should receive training related to students on an Individualized Education Program (IEP) and distance education.	☐	☐	☐	☐	☐

Please add any additional comments you believe would be beneficial to thisresearch project below. Attach additional sheets if necessary. Thank you.

APPENDIX G

Secondary Principal and Special Education Teacher Comments

Principal				Special Education Teacher			
NUM	LOC	SIZ	COMMENT	NUM	LOC	SIZ	COMMENT
0		M	Most students on an IEP are not highly motivated. I believe that they can be successful but they are more successful in a traditional setting.				
X	R	S	IEP's vary from individual, distance education would vary from student to student. These questions were answered neutral since students on IEP's are unique with different learning abilities.	X	R	S	
				0	U		
4	S	L		4	S	L	I don' feel that most IEP kids could be successful with distance education. Most are not motivated enough to follow through with assignments, etc.
5				5	R	M	
6	R	M	Good luck with your Doctorate! Questions 10-12 are too broad to answer-depends on student, disability, etc.				
8	R	S	It is very hard to categorize students on an IEP as one group. Each one has a definite different strengths and weaknesses as the term IEP suggests. Each as an individual is unique. Good luck with the study.				
				10	R	M	
18				18	R	M	
21	R	S		21	R	S	Distance learning might benefit a few students in some situations. Almost all of ours need more "eyeball-to-eyeball."
				25	R	S	Answers based on IEP students that fall in the mild to moderate categories of disabilities. Survey statements are too general especially statements #4, #5, #6, #7. This statement could be very appropriate for some IEP students and completely inappropriate for other depending on the nature and severity of their disability.

26	R	S		26	R		I think any student that is classified as mild to moderate would greatly benefit from distance educational courses. Most small districts are very limited on money and may not be able to put it into their budget. I would personally be thrilled if we could have music as well as art in our school. I also believe that sports are pushed to the extent that students think academics are less important. If children are so important to the state as so many educators and state department employees say then why are we taking so many days out for workshops instead of teaching our children? Personally, most of our workshops don't help with our everyday problems that we deal with in our schools. The schools spend moneys on some over priced ego that believes he or she knows more than most of us simply because of a Dr. in front of his or her name. If the state department wants to be beneficial to our schools it should spend the money and time on the children instead of speakers that really are of no value in the classroom. This is the reality of our everyday lives. We are in the trenches of education because we truly love the children and our jobs, while men and women are working at the state level, may or may not have taught more than a year or so, dictate to us on what we should do. Many teachers in the trenches having spent years dealing with our educational system have a pretty good idea on what is really needed. Are the state department employees so much wiser because of where they work? Where has common sense gone from our schools? Why else would we be taking lower salaries and fewer benefits than our counterparts in the job markets? The reason is simply, we love teaching. Sincerely; A Special Education Teacher.
27	R	M	An IEP is an individual plan for each student, some of the questions ask things that cannot be answered without knowing the student. Some IEP students function at a high level while others function very low.	27	R	M	
28				28	S	M	
29	R	M		29	R	M	

31	R	L		31	R	L	We are just in the early stages of E2020 classes that are available to all students. These are on campus with certified teacher always present. Early data shows success for many IEP students. BUT we need more experience to call it a successful alternative to the classroom
32	R	M		32	R	M	
34	R	S	Placement in distance education classes should be optional for IEP students. The IEP team should evaluate the student and only place the student in distance education classes if the student will be successful.				
35	R	M		35	R	M	
36	R	M					
37	R	S		37	R	S	
38	R			38			
40	R	S					
				41	S		
42	R			42	R	S	#5 depending on student. # 6 depending on student. # 10 as needed.
43	R	S					
44	R		We currently do not offer distance learning courses	44	R	M	I feel this could be a great idea for IEP's student to give them a wider range of course option. However since I have little information my knowledge level is limited. I do feel this would assist with highly qualified situation for high school special ed teachers.
45	R	S		45	R	S	
				46	R		X has Choctaw through interactive educational TV and any student is allowed or accommodated to rake the course. It would be advantageous if other courses were available to all students.
49	R	S	These questions depend on the nature of the IEP, the modifications made for the student, the abilities of the student, and many other factors.	49	R	S	
50	U	M		50	R	M	Everything depends on the individual needs of the student.
51	R	S		51	R	S	

53	R	S	Each question on this survey depends on what type IEP a student has…on what their disability is. It would also be dependent upon which class students are taking. The classes offered at X would not be conducive to students who have various disorders. Only if the distance learning classroom were geared for the special education services would I agree that distance learning would be an option. If you are taking classes, the burden of modification would lie in a teacher who can't possibly get the full understanding of what the needs of the special students are. For these reasons, I answered neutral on each question.				
54	R	S					
				55	R	S	
56	R	M		56	R	L	I am unaware of any distance education courses offered here except through WOSC for college credit.
				62	R		
63	R	S		63	R	S	
				69	R	S	#5-6-Some do and some don't. #7 It depends on the individual.
70	R	M		70	R	M	Making such a broad statement as "a student on an IEP can…" is misleading. The very title IEP means individualized. While one student with a disability (specific learning disability) can progress through distance education, another student with a disability (intellectually disabled, ADHD or autism) cannot. Progress and success also depends on the motivation of the student. A student motivated to work will have success just about anywhere, while an unmotivated student won't. You can't lump special education students together. It's just like comparing apples and oranges.
72	R	S		72	R	S	
				73	R	L	As we have no distance education courses in X, I am unfamiliar with the requirements and rigidity of such a course. I would think that those IEP students, who realistically and capably plan to attend college, should be able to participate in such a course.
75	R	S	I am certified special ed mild/moderate and severe/profound. I have worked with both categories/ taught and admin. As you know their categorically is a big different. For me your survey could separate these very different categories and I respond differently.	75	R		

76	R	S		76	R	S	
77	R	S	Students on an IEP are as individualized as regular ed students but in our school the tendency that a large % of IEP students and ADD and would have difficulty on most distance learning because they tend to be less motivated to a self paced program of study.	77	R	S	#2 This is done as a group not just for special ed. # 3 Why? # 5, #6, #7 Some do some don't. #8 All courses are considered. # 8 and vice-versa, #10 What kind? Why? As you know each IEP student is different. Some would be able to participate (#6) in the distance ed. course while others need (#7) a teacher present.
78	R	S		78			
				80	R	S	#5,6 depend on the student, not a disability.
81	U	L		81	U	L	
82	U		Most schools, or at least in our district, do not have the funding necessary to address the current mandates placed on schools by the state/federal government. The before mentioned programs would be wonderful for all students. However, the expense of the required technology does not exist. Mandates are put in place regularly with the promise of funding only to not be funded. Then the school is left with the requirement and no way to pay for it. I am leery of making a law/policy that doesn't give the school and "opt-out" if the money doesn't come with it.	82	U	L	Distance education is not part of our district's curriculum unless the student transfers the credit in. I think this is beneficial to homebound students (chronically ill)
85	R	L		85	R	L	Have you any expertise in the Special Education field? If not, I would select a topic you are more familiar with. Distance education may be more successful for students on 504 plans. IEPs have so many points and issues to address and adding an option for discussion that requires a student to be organized and self-motivated is unrealistic and, very likely, inappropriate placement. With all issues involved with special education students (NCLB and EOI exams) this topic is a bit frivolous.
88	R			88	R	S	Question #3 - I think the IEP team should consider each student's need separately, not the local school board. Each student's needs modifications should be handled on a case by case basis.
90	S	L					
94				94	R	M	
95	R	M		95	R	M	
96	R	S		96	R	S	
97	R	L		97			
99	R	S		99		S	
100	R	S					
101	R	S		101	R	S	

102	R	L	Your questions are very general when questioning about students on an IEP. Yes we have one student involved in distance learning who is on an IEP and also an honor student (her disability is health related). The IEP spectrum is so wide that I feel your questions should have been more specific to get a true representation of the answers you should receive for your survey. My answers are basically derived from one student's success, the typical student on an IEP in my school would not be successful in a distance learning situation without a teacher/para professional being present to also instruct.	102			
				104	R	S	Most (4,5,6) of the questions depend on the student's ability. Some would do well and handle the environment and others could not handle it at all.
105				105	S	L	Just as an IEP is individualized, distance education has to be individualized; each student and case has to be looked into differently
				108	S	L	
109	R	M	Many of the answers above would, of course, depend on the content of the IEP, and the nature of the disability.	109	R	M	I am sure you already are aware that we need to keep in mind that not all students in special ed can do all of the things I answered as agree. We will need to look at each individual student, but overall, most would be able to.
110	R	L		110	R	L	
112	R	M	IEP is too broad for some of these questions. A policy just for IEP and distance learning would single out a group, should be individual. Determined by the team.				

114				114	R	S	Dear Mr. Woods: Thank you for the opportunity to express my opinion regarding the inclusion of IEP studnets in distance education courses. However I have a few concerns about the survey. The survey is written in a manner that suggests that all IEP students have identical academic, behavioral, and social skills. Obviously this is not the case, which is why the term Individual Education Plan is used. As I am sure you know, LEA's are required to allow all students the opportunity to participate in any or all academic and/or extracurricular activities. The mere fact that the student has an IEP cannot be a reason for exclusion. It is up to the IEP team to decide if a particular class or activity is appropriate for that individual student. As a result of these concerns about the wording of the surveys I could not honestly state that I strongly agreed with any of the statements. Yes, these students should have the opportunity to participate in distance learning classes, however, not all IEP students would have the ability to participate successfully in such an environment. It is a judgment call on the part of each IEP team. By the same token, stating that I agree to or disagree that local school boards need to establish a policy regarding IEP students' participation in distance learning would be redundant. State and federal regulations are very clear concerning nondiscriminatory practices. Again, thank you for the chance to express my opinion and good luck with your research.
115				115	R	L	I need more information regarding distance education courses. Some IEP students could benefit-others would not. I have not participated in a distance education course for students.
118	R	M		118			
119				119	R	S	I feel some IEP students could benefit, and some wouldn't. It would depend on the severity of the disability and on each students individual learning style.
120	S	L		120			
126	S	L		126			
				128	S	L	#4. This statement is too broad. Some students on IEP's would do well and others do not have the skills needed. #5. Ditto. #6. Ditto. #7. Ditto.

130	R	S		130	R	S	I currently have a special education student on an IEP taking Spanish I for high school credit. This class is a distance learning class and has a teaching assistant to monitor the class. This student made an 80/B for the 1st 9 weeks grade. This seems to work fine for the particular student.
131	R	S		131	R	S	All IEP students are different, so it just depends on the student and their capabilities.
				134	R	M	#7. on site @ district school. #8. higher functioning students.
138	R	M		138			
				139			I do not feel distance education would be in special education students best interest of learning.
140	R	S	Best of luck! Question 8-11 can only be answered based on the personality, temperament and need of each individual student!	140			
141	R	S		141	R	S	I think as in everything each individual student must be considered on a case by case basis. Some special education students will not benefit from this but some would benefit.
142	R	M		142	R	M	
143	R			143	R	S	Questions 5,6,8,9 This is really dependent on the nature/severity of the disability. Question 10 depends on student and parents. Each case is so different because the disabilities are different.
144				144	R	S	
145	R	M		145	S	M	There may many students with IEP's that would benefit from distance education but most students I have found need the presences of a instructor/aide to keep them settled and on task. I think any use of modern technology will help students in their transition to post secondary.
147	R	S		147	R	S	
149	R	S					
150				150	R		
152	R	S					
153	R	S					
154	R	S		154	R	S	
155	R	L		155	S	L	These types of courses are rarely offered to any student at our school. Our school is completely competent with all of its educational courses. Students would deal with these courses on an individual basis. At this time, it is not necessary for our students on an IEP to have them.
158	R	S		158	R	S	
159				159	R	S	

161	R	M	Funding for distance learning is vital for an effective program to implemented.	161	R	M	We need the money to set up a distance learning lab.
162	R	L	Question #6 how do those professors modify. Question # 10 and # 11 it all depends on the individual IEP. This is a difficult questionnaire to address because all students are individuals-some students on IEP's could possibly benefit from distance learning but the problem is how does a professor (who is not present) modify for those students and do we have the right to ask a college to do so for those IEP students? College policy is not the same as secondary policy. So truly my answer to most questions is that it depends on the individual student, what their behaviors are, their modifications are, etc. Some could possibly handle it, some could not-but can we ask colleges to modify and will they really?	162	S	L	
163	R	S		163	R	S	The main thing to remember is that each child is different. For some distance education will work, and for others it may not. But each child should be given the option.
164	R	S		164			
165	R	S		165	R	S	This was a hard survey because of the variable of "students". Distance learning has its place in the curriculum and any IEP student should have the opportunity. Yet, again it must be based on an individual basis.
167	R	M		167	R	M	
176	R	S		176	R		
177	R	S	When you speak of students on IEP's, you are talking about students with a WIDE range of abilities, problems, and situations. Some would do just fine in a distance ed environment while others would not be able to handle it what so ever.	177		S	
179	R	S		179	R	S	
181				181	R	S	
183	R	M		183	R	M	These questions tend to group all students who have an IEP. As you know, some students on an IEP would never have the skills, academic, behavioral, or social needed to be successful on a distance education classes, and some would. It seems that without specifying a target group (LD, ID, ED, or OHI) you cannot get valid results.

184				184	S	L	Students on an IEP need direct instruction most of the time. They also need close monitoring. Both of these are difficult to achieve with distance learning but can be accomplished with the right technology. Unfortunately it is rare to have it.
189	S	L	Our students respond to a more personalized learning experience involving teachers who can immediately interact with students, provide encouragement, redirects when need and closely monitors student progress, Internal motivation tends to be a universal challenge for our students who are on IEP's. Hope this information helps and good luck with the research.				
190	S	L		190			
191	S	L	An IEP by its nature has dictated that a student should not and cannot be grouped with other students regarding the his or her ability to receive instruction, assessment, etc. It would follow then, that not all students would benefit from or be able to perform in a distance learning course or courses. This makes it difficult to answer #'s 9-12 because to me, this would be determined on a case by case basis. Thanks.	191	S	L	Because disabilities are so broad - from very minor to severe, this survey does not seem beneficial. It would be more valuable if you had stated either a cognitive/particular disability, academic ability range or a (ID, ED, LD) mild or severe.
192	S	L	This year our "virtual" high school is considered a "pilot" program. It is our first year offering distance education courses to student. We can see our numbers increase as the program becomes more established. Good luck with your research!	192	S	L	These questions would vary depending on the students abilities. Students with multiple disabilities would not benefit from a distance education course while someone with a mild learning disability may learn better.
193	S	L		193	S	L	
194				194	R	S	No IEP students are being served through distance learning
195	R	L		195	R	L	
197	S	L	Since distance education classes are not offered to our students at this building, my survey might not help you much.	197			
198	S	L		198			
199	S			199	U	L	Distance education would be great for some students.
202	S	L	When generalizing a student as an IEP student the spectrum is so broad that it is difficult to give a meaningful answer. There are simply too many variables. In general, I do not feel that distance learning is a viable option, if other options (smaller classes, tutorial programs) are available. The quality of instructions is also too far from local control to efficiently or effective enact any changes that might be needed to meet students' individualized goals.	202	S	L	For questions 5-7 I marked neutral because it depends on the student and their disability, for some students I would agree and some students I would disagree.

204				204	S	L	This is very dependent on student's levels and desire.
205	S	L	We have had very little experience with this.	205			
				206	S	L	
				214	U	L	Distance education would work for students who are attempting to complete high school. I've worked in Alt Ed for six years. Older, very mature L.D. students are successful when they can "see" the end.
215	R	S		215	R		
				218	S	L	It was hard to answer these questions. The success of distance education depends on the disability and severity of the disability.
219	R	S		219		S	We currently have no distance education program here but are in the process of developing one.
221	R	S		221	R	S	Depends on student. Needs 1 on 1.
226	R	S		226		S	
227				227		L	
229	R	S	Good luck.	229	R		
233				233	R	S	This is so general and student participation would have to be on an individual basis, some students could handle this environment, but many could not.
234	R	L					
236	R	S	Distance learning is an excellent way to bring new opportunities to students in rural areas. However, with our close proximity to X and X university's higher ed center, we do not offer distance learning classes. I was a special ed teacher/director for 10 years. Special ed students ability to be successful in distance learning classes would have to be judged on a case by case basis. There are currently students who could benefit from this opportunity.	236	R		
237	R	M		237			
239	R	S					
248		L					
249				249	R	S	
251	R	L		251	R	L	
				254	R	M	IEP students should not be treated different than regular ed students.
255	R	S					
256	R			256			
				257	R	S	
258	R	S		258			
261	R	S					
262	R	S		262	R	S	
				264	S	L	

265	R	M					
266	R	L		266	R	L	Students with an IEP seems like a very general term; perhaps if we were given specific categories it would be easier to generalize. For example students with mild learning disabilities may excel in distance learning while some with intellectual disabilities of ADHD may struggle with the content. The same applies for behavior, social skills, and the need for the physical presence of teacher. Over all, I think all students have the ability to succeed in distance education and should be given the option, but each needs different support.
267	R	L	Training for students on IEP's-yes. Distance learning-only if you're going to use it.	267			
270	R	L		270	R	L	There is a strong gap in the area of distance ect (Internet) and students with disabilities. It's an area of ed. That can be of benefit to them.
272	R	S	There is no pat answered for this. I believe some IEP students might have excellent chances for being successful in a distance learning classroom, while others could not. As with any student, administrator, teaching staff and parent must look at what is expected from the student in a course and consider if the student has the capabilities for success.				
273	R	S	I agree with your premise but supervision is an issue. Could a paraprofessional be used.	273	R		
275	U	S		275			
276	R	M		276	R	M	It should be considered an option but it would depend on each student on a case by case basis. All of the above such as behavior or skill and technology. It would depend on the student, looked at on a case by case basis.
277				277	R	S	
278	R	L	The scores of "3" on certain questions is in response to the fact some students on IEP could do it, but the question paints them all with a broad stroke. Some could, some could not. I answered "3" on certain ones.	278	R	L	
279	S	L					

282	R	S		282	R	S	Because students on an IEP have varying disabilities and the severity of their disabilities may vary significantly, it is difficult to respond to many of the questions. Higher functioning learning disabled students may be successful in distance education, whereas, students with an emotional disturbance, attention deficit, hyperactivity disorder, (ADHD), or intellectual disability would require close supervision and numerous modifications and adaptations.
283	R	M		283	U	M	
285	R	L	We do not have any distance learning here at this time. We are currently working to get A+ available.				
286	R	M					
287	R	S		287	R		
288	R	S		288			
				290	R	M	
292	R	S		292			
297	R	M		297	R	M	
				301	R	S	There is really no way of answering these questions. It totally depends on the student and what their disabilities are.
302	R	M		302	R	M	
307	R	S		307	R	S	
308	S	M		308	S	L	
309	R	L		309	R	L	
310	R	M		310	R	S	
311	R	S					
314	U	L		314	U	L	
316	R	S		316			
318	S	L	My neutral responses were due to a lack of details or information on student. I am not a fan of distance learning and don't believe it is in anyway as successful as a classroom teacher. I believe distance learning is a poor response to unfunded mandates.	318			
320				320	R	S	I am the special education teacher for grades 7-12. I am in each English class (grades 7-11) co-teaching and each Math class co-teaching 7-9 and 10th graders can come into our resource room for help each day. If any student took a distance education course 7-10 a teacher (either special education or regular education) should be present-for discipline and for clarification of material taught and reinforcement. Every student should have a LRE in which they can function, learn, and expand their education experience. Sometimes that means a teacher

							present for an optimum learning experience. AMEN!
321	R	S					
322	R	S		322	R		
323	R	L		323	R	L	We currently have no experience with distance education but I believe it may be useful for students with severe behavior problems where safety overrides social issues.
324	R	S		324	R	S	I believe some special education students would have the ability to be successful with a distance learning course. However, being a rural school I would have very few that would be able to maintain and ask for help as they need it. I do think it should be considered, but not mandatory. I have many students who have very low motivation.
327				327	R	S	
328				328	R	M	
331	R	M	Students on IEP's are placed on the plan to level their learning field. At our educational institution, we strive hard not to show the special need aspect of the student, but we strive to socially and culturally to have our students feel as if they are one body, not disjointed. Distance learning is a viable option for all students. The IEP is just a tool or instrument to better the environment or level the learning curve.	331			
335	U	L		335	U	L	
337				337	U	M	
342	U	M					
				344	S		
345	R	M		345	R	M	
347	R	M		347	R	S	
349				349	R	S	

350	R	M	Neutral responses indicate the opinion that this would be an individual student issue that is unrelated to the student being on an IEP.	350	R	M	At this time our school district is in its second full ITV year, to my knowledge there have not been any special education students participate. Presently our district uses ITV courses for dual credit/concurrent enrollment. The possibilities of special education students being able to use this technology is great. Question 5 is the question that I would be concerned with most, does the student have the behavior skills to participate in an appropriate manner. Lower level special education students may not benefit as much as college bound students, in special education, would with technology the door can open for students with needs.
351	R	S	This is my first year to be a principal and we don't have anyone taking distance learning classes. I don't know how much help I was. These are just my opinions. I don't have any facts to back up my answers.	351	R	S	Some IEP students are capable while others are not. It should be considered for each student and determine whether or not that particular child is capable.
352	R	S					
355	R	S					
358	R	M	I would be more in favor of distance learning for HS IEP student, if they came to us, more suited for it from elem & ms. To take them out of a teacher or resource environment at just HS age is not really feasible.	358			
359	R	M		359	R	M	
360				360	U	L	You cannot generalize. Some IEP students would be successful. Others would not. I do feel parents and students (IEP) should have access to the same opportunities as general ed students.
363				363	R	S	Depends on the student.
365	R	S		365	R		
				366	R	M	
368	R	M	The only distance education courses we offer are concurrent enrollment. Since these are college courses, the only monitor is a proctor for testing. I don't believe you can lump all IEP students into one hopper. What if the student is only on an IEP for written expression. This student may excel at math and therefore could be in a distance math course.	368	R	M	I believe a large portion of children with an IEP could be successful in distance education courses
369	R	S		369			
370	R	S		370	R	S	
372				372	R	M	

376	R	M		376	R	M	I believe this would be great for a higher functioning student. I do not think I would want to use distance education with my lower functioning kids.
382	S	L		382			
383	S	M		383	R	M	
384	R	L	I feel that some students may benefit from distance education instruction and others may not be able to handle it. It depends upon the student.	384			
387				387	R	S	
388	R	S					
391	R	L					
393	R	L		393	S	L	
394	R	M		394	S		If a student has a disability in math, he or she should not participate in distance education courses. If same student is not disabled in English, he or she could possibly participate.
398	S	L		398			
399				399	R	M	
400	R	M	We do not offer distance learning.	400	R	M	
				402	R	M	I believe every option should be explored when considering methods of instruction, but do not believe these statements blanket are true or false-should be considered on an individualized basis hence Individualized Education Plan.
410				410	R	L	
411	S	S		411			
414	R	M		414	R	M	
416	R	M					
419				419	R	L	
421	R	S		421	R	S	
423	R	M		423	R	M	
424				424	R	S	Each student is a different case. All options should be considered when making a new IEP for a student.
425	R	S		425			
428				428	R	L	I believe that high functioning students can participate successfully. About 10 out of our 60 students at the HS level would be a candidate. I don't think we need policies. Behavior and social skills will play a large part in the making decisions about who would be a good candidate. Expectations would need to be modified for an IEP student to be successful.
429	R	M		429			
431				431	S	L	
433	R	M		433			

434	S	L		434			
435	S	L					
436	S	L					
				437	R	M	It is hard to make decisions about IEP students when there is a range of disabilities.
439	S	L	X no longer offers the distance learning courses, as other options have become available. In a larger district, this I less necessary. However, we have implemented over the past 5-6 years a computer web-based program with OdysseyWare that serves our IEP students and our credit recovery students. It is self-paced with a teacher on hand to explain, assist, or review. Testing is online and the teacher can see each screen through Vision software. Core classes can be offered. This has been a great option, though expensive.	439	S	L	Appropriateness of distance learning would need to be considered on a case by case basis. Most students require interaction with teacher and other students to be successful.
441	U	L	Generalizations for students on IEP's are not possible. We have approximately 230 students served on an IEP for many different reasons.	441	U	L	We do not have distance education at our high school. I believe most of our IEP students would not be successful in this type of class.
443	R	M	Many questions would be determined by the individual. Just because a student has an IEP does not mean they share behaviors etc of other IEP students.	443	R	M	The moderate to severe population wouldn't benefit as much from distance education. This program seems to be fitted for students with mild disabilities.
446	R	S		446	R	S	
450	R	S		450	R	S	
452	S	M		452	S	M	I've not had any experience in 27 years of teaching special ed with any distance education. Very difficult to judge!
454	R	S		454	R	S	
455	S	S		455		S	Distance education would not work for every student on an IEP. There are numerous factors to consider on an individual basis, but this could prove to be very beneficial to a special ed student.
456	R	S	Possibly upper grade special ed kids (Jr.s, Sr.'s) could work on their own in a distance learning environment.	456	R	S	
				458	R	S	Some students could participate in IE television. In my opinion, most would not be able to handle this, but I would always keep this option open for a student on an IEP. I would never say a blanket no to all students on an IEP, but in my past experience of 30+ years, you might have 1 out of 25 who could benefit. I serve 25 students and I feel only one might benefit.
459	R	S		459	R	S	
460	U	S		460	R	L	This depends on the student. Some would benefit from this and others would not.
461	R	S		461	R	S	

462	R	M					
464	R	S		464	R	S	
467	R	S	An IEP is exactly that an individual plan; the IEP team should determine if a student is capable of utilizing distance learning.	467			

APPENDIX H

School Districts by Size, District Name, and Average Daily Membership

LARGE SCHOOLS						
Nbr	School	ADM		Nbr	School	ADM
1	Broken Arrow	4459.33		40	Altus	1056.66
2	Union	4202.37		41	Carl Albert	1050.38
3	Jenks	2889.43		42	Will Rogers	1047.6
4	Owasso	2563.42		43	Northwest Classen	1026.2
5	Mustang	2255.19		44	Duncan	980.28
6	Westmoore	2231		45	Guthrie	944.23
7	Edmond North	2094.17		46	Capitol Hill	861
8	Moore	2078		47	Bishop Kelley	842
9	Norman North	2075.93		48	Coweta	839.35
10	Yukon	2019.15		49	McAlester	838.17
11	Edmond Memorial	1936		50	Durant	817.61
12	Putnam City North	1900		51	Deer Creek (Edmond)	793.71
13	Edmond Santa Fe	1870.35		52	Noble	770.66
14	Bartlesville	1819.18		53	Ardmore	760.49
15	Lawton	1819		54	Western Heights	759.31
16	Southmoore	1809		55	Nathan Hale	758.2
17	Putnam City	1800		56	Chickasha	756.26
18	Sand Springs	1738.28		57	Ada	733.19
19	Norman	1693.32		58	Skiatook	722.4
20	Enid	1626.87		59	El Reno	713.72
21	Muskogee	1593.6		60	Pryor	705.44
22	Ponca City	1526.73		61	Collinsville	685.84
23	Midwest City	1525.32		62	Stilwell	684.61
24	Eisenhower	1491		63	Southeast	684.2
25	Stillwater	1464.18		64	Harrah	682.27
26	Choctaw	1454.54		65	Bishop McGuinness	677.11
27	US Grant	1436.6		66	Grove	674.01
28	Sapulpa	1431.63		67	Central (Tulsa)	671.7
29	Putnam City West	1400		68	Miami	668.88
30	Del City	1379.69		69	Tecumseh	653.37
31	East Central	1306.5		70	Woodward	643.57
32	Memorial (Tulsa)	1288		71	Wagoner	626.82
33	Claremore	1255.03		72	Glenpool	624.57
34	Booker T Washington	1250.1		73	Broken Bow	624.43
35	Bixby	1244.55		74	Catoosa	621.38
36	Shawnee	1240.16		75	Guymon	615.43
37	Thomas Edison	1228.1		76	Poteau	592.73
38	Tahlequah	1220.07		77	Piedmont	589.99
39	MacArthur	1176		78	Oologah	582.51

79	Classen SAS	576.7		120	Lone Grove	395.31
80	Sallisaw	575.02		121	Byng	394.68
81	Ft. Gibson	555.59		122	Harding Charter Prep	392
82	Star-Spencer	554		123	Northeast	391.5
83	McLain	544.1		124	Perkins-Tryon	388.04
84	McLoud	542.23		125	Bethel	386.51
85	Elk City	528.15		126	Victory Christian	386
86	Muldrow	527.6		127	Dickson	384.74
87	Clinton	521.99		128	Marlow	382.53
88	Jay	520.56				
89	Cushing	518.39				
90	Weatherford	517.6				
91	Mannford	505.52				
92	Vinita	497.5				
93	Santa Fe South	494.89				
94	Cleveland	492.84				
95	Locust Grove	483.31				
96	Okmulgee	482.48				
97	Douglass	477.3				
98	Hilldale	475.44				
99	Idabel	470.35				
100	Daniel Webster	466.3				
101	Elgin	465.25				
102	Seminole	464.88				
103	Anadarko	453.8				
104	Blackwell	448.99				
105	Tuttle	448.88				
106	Cache	448.49				
107	Roland	440.03				
108	Madill	437.1				
109	Bristow	436.25				
110	Pauls Valley	433.91				
111	Dewey	419.26				
112	Berryhill	419.14				
113	Blanchard	415.62				
114	Hugo	411.67				
115	Checotah	405.09				
116	Sequoyah (Claremore)	404.62				
117	Bethany	402.59				
118	Newcastle	399.57				
119	Inola	399.13				

MEDIUM SCHOOLS						
Nbr	School	ADM		Nbr	School	ADM
129	Kellyville	381.12		168	Meeker	303.03
130	Plainview	379.44		169	Chelsea	299.86
131	Purcell	378.17		170	Antlers	292.03
132	The New John Marshall	378		171	Kingston	291.24
133	Spiro	375.85		172	Oklahoma Centennial	291.2
134	Cascia Hall	374.22		173	Wilburton	290.43
135	Metro Christian	368.37		174	Vian	286.77
136	Atoka	367.57		175	Adair	285.52
137	Little Axe	364.92		176	Alva	272.84
138	Sulphur	363.05		177	Hartshorne	272.51
139	Eufaula	362.02		178	Okemah	270.73
140	Chandler	360.95		179	Colcord	269.38
141	Justice Alma Wilson	358.18		180	Millwood	267.7
142	Henryetta	354.7		181	Pawhuska	265.8
143	Sperry	353.98		182	Marietta	264.48
144	Valliant	350.96		183	Chouteau-Mazie	264.27
145	Stigler	350.51		184	Caney Valley 263.19	263.19
146	Kingfisher	349.38		185	Haskell 260.08	260.08
147	Sequoyah (Tahlequah)	348.22		186	Salina 255.58	255.58
148	Keys (Park Hill)	344.69		187	Okla. Christian School	254.42
149	Morris	342.39		188	ASTEC 254.00	254
150	Verdigris	338.82		189	Coalgate	253.88
151	Prague	335.96		190	Washington	252.73
152	Lexington	331		191	Frederick	249.35
153	Heritage Hall	329.33		192	Panama	248.72
154	Bridge Creek	327.39		193	Dove Science (OKC0)	246
155	Mt. Saint Mary	321.13		194	Hobart	245.9
156	Comanche	319.25		195	Stroud	245.46
157	Perry	318.2		196	Newkirk	244.07
158	Jones	317.4		197	Pocola	243.63
159	Kansas	316.09		198	Chisholm	241.3
160	Riverside	316		199	Hennessey	240.53
161	Heavener	314.37		200	Wyandotte	237.16
162	Beggs	314.28		201	Pawnee	232.21
163	Nowata	307.9		202	Commerce	231.37
164	Tishomingo	306.37		203	Mounds	229.05
165	Westville	305.28		204	Fairview	228.31
166	Holdenville	304.81		205	Davis	228.22
167	Lindsay	304.03		206	Crooked Oak	226.46

207	Christian Heritage	222.5		248	Porum	169.35
208	Watonga	222.3		249	Fairlan	169.26
209	Luther	221.39		250	Howe	165.22
210	Tonkawa	220.88		251	Oklahoma Bible	164
211	Lincoln Christian	219		252	Ringling	163.38
212	Haworth	216.97		253	Hinton	163.36
213	Oktaha	216.94		254	Dove Science (Tulsa)	163.1
214	Quapa	212.78		255	Foyil	161.07
215	Dale	211.44		256	Wright City	160.66
216	Walters	210.97				
217	Drumright	209.94				
218	Colbert	208.84				
219	Latta	207.64				
220	Konawa	207.37				
221	Warner	206.77				
222	Crescent	203.71				
223	Hulbert	202.34				
224	Harding Fine Arts Center	199				
225	Ketchum	198.51				
226	Liberty	198.05				
227	Savanna	197.73				
228	Talihina	197.69				
229	Wynnewood	197.38				
230	Hominy	196.5				
231	Cordell	196.02				
232	Gore	195.69				
233	Tushka	194.32				
234	Silo	194.01				
235	Wellston	193.95				
236	Dibble	193.56				
237	Mangum	188.29				
238	Wewoka	183.08				
239	Apache	180.95				
240	Central (Sallisaw)	178.22				
241	Sayre	177.98				
242	Carnegie	177.3				
243	Healdton	174.5				
244	Vanoss	172.05				
245	Yale	171.31				
246	Rush Springs	171.08				
247	Oklahoma Union	169.87				

SMALL SCHOOLS						
Nbr	School	ADM		Nbr	School	ADM
257	Pioneer-Pleasant Vale	160.28		296	Mooreland	133.52
258	Empire	159.42		297	Watts	133.31
259	Snyder	159.34		298	Dewar	131.77
260	Calera	158.9		299	Quinton	130.33
261	Woodland	157.96		300	Ripley	129.83
262	Preston	157.68		301	Elmore City-Pernell	128.69
263	Stratford	157.56		302	Achille	128.38
264	Crowder	156.52		303	Indianola	127.75
265	Fletcher	156.46		304	Olive	126.8
266	Rattan	156.45		305	Copan	125.06
267	Burns Flat-Dill City	156		306	Canadian	124.82
268	Porter Consolidated	155.38		307	Ft. Towson	124.07
269	Wister	155.32		308	Thomas-Fay-Custer	123.78
270	Minco	152.84		309	Okeene	123.27
271	Hollis	152.15		310	Sterling	121.52
272	Barnsdall	150.99		311	Wetumka	120.47
273	Depew	150.84		312	Welch	119.86
274	Cashion	150.42		313	Fox	118.55
275	Rock Creek	149.19		314	Boswell	118.42
276	Navajo	148.94		315	Bowlegs	118
277	Bray-Doyle	148.11		316	Alex	117.65
278	Afton	147.71		317	Smithville	116.97
279	Okay	147.64		318	Cameron	116.51
280	Amber-Pocasset	145.86		319	Canton	115.66
281	Wayne	145.17		320	Allen	115.59
282	Clayton	143.31		321	Waurika	114.98
283	Velma-Alma	142.78		322	Hydro-Eakly	114.2
284	Geary	140.77		323	Texhoma	114
285	Ninnekah	139.96		324	Gans	113.01
286	Caddo	139.89		325	South Coffeyville	112.36
287	Wilson	136.99		326	Ringwood	112.32
288	Merritt	136.88		327	Beaver	112.31
289	Laverne	136.85		328	Soper	110.93
290	Maysville	135.21		329	Central High	110.64
291	Hooker	134.96		330	Kiefer	109.88
292	Turpin	134.23		331	Oilton	109.69
293	Weleetka	133.96		332	Verden	109.5
294	Haileyville	133.88		333	Frontier	109.29
295	Morrison	133.55		334	Stonewall	108.43

SMALL SCHOOLS						
Nbr	School	ADM		Nbr	School	ADM
257	Pioneer-Pleasant Vale	160.28		296	Mooreland	133.52
258	Empire	159.42		297	Watts	133.31
259	Snyder	159.34		298	Dewar	131.77
260	Calera	158.9		299	Quinton	130.33
261	Woodland	157.96		300	Ripley	129.83
262	Preston	157.68		301	Elmore City-Pernell	128.69
263	Stratford	157.56		302	Achille	128.38
264	Crowder	156.52		303	Indianola	127.75
265	Fletcher	156.46		304	Olive	126.8
266	Rattan	156.45		305	Copan	125.06
267	Burns Flat-Dill City	156		306	Canadian	124.82
268	Porter Consolidated	155.38		307	Ft. Towson	124.07
269	Wister	155.32		308	Thomas-Fay-Custer	123.78
270	Minco	152.84		309	Okeene	123.27
271	Hollis	152.15		310	Sterling	121.52
272	Barnsdall	150.99		311	Wetumka	120.47
273	Depew	150.84		312	Welch	119.86
274	Cashion	150.42		313	Fox	118.55
275	Rock Creek	149.19		314	Boswell	118.42
276	Navajo	148.94		315	Bowlegs	118
277	Bray-Doyle	148.11		316	Alex	117.65
278	Afton	147.71		317	Smithville	116.97
279	Okay	147.64		318	Cameron	116.51
280	Amber-Pocasset	145.86		319	Canton	115.66
281	Wayne	145.17		320	Allen	115.59
282	Clayton	143.31		321	Waurika	114.98
283	Velma-Alma	142.78		322	Hydro-Eakly	114.2
284	Geary	140.77		323	Texhoma	114
285	Ninnekah	139.96		324	Gans	113.01
286	Caddo	139.89		325	South Coffeyville	112.36
287	Wilson	136.99		326	Ringwood	112.32
288	Merritt	136.88		327	Beaver	112.31
289	Laverne	136.85		328	Soper	110.93
290	Maysville	135.21		329	Central High	110.64
291	Hooker	134.96		330	Kiefer	109.88
292	Turpin	134.23		331	Oilton	109.69
293	Weleetka	133.96		332	Verden	109.5
294	Haileyville	133.88		333	Frontier	109.29
295	Morrison	133.55		334	Stonewall	108.43

335	Agra	107.28		376	Victory Life Academy	85
336	Davenport	107.13		377	McCurtain	84.65
337	Macomb	106.71		378	Boise City	84.42
338	Seiling	106.21		379	Eagletown	84.22
339	Oaks	105.78		380	Paden	83.66
340	Okarche	105.18		381	Turner	83.6
341	Arkoma	103.75		382	Panola	83.15
342	Sentinel	102.66		383	LeFlore	83.1
343	Glencoe	102.62		384	Earlsboro	82.21
344	Cave Springs	100.97		385	Tupelo	82.09
345	Waukomis	100.87		386	Ryan	81.84
346	Keota	100.36		387	Waynoka	81.37
347	Ft. Cobb-Broxton	100.28		388	Chattanooga	80.33
348	Coyle	99.13		389	Cimarron	80.32
349	Wilson (Henryetta)	98.5		390	Butner	79.9
350	Calumet	98.4		391	Geronimo	79.76
351	Cherokee	98.11		392	Binger-Oney	79.34
352	Midway	98.06		393	Kiowa	78.86
353	Paoli	97.66		394	Deer Creek-Lamont	78.3
354	Summit Christian Academy	97		395	Temple	78.13
355	Garber	96.64		396	Indiahoma	77.54
356	Pond Creek-Hunter	96.12		397	Tipton	77.38
357	New Lima	95.13		398	Thackerville	76.82
358	Okla. Christian Academy	95		399	Medford	76.24
359	Strother	93.23		400	Covington-Douglas	76.2
360	Stuart	91.28		401	Caney	76.05
361	Arapaho	90.77		402	Granite	75.56
362	Prue	90.73		403	Bennington	75.31
363	Wapanucka	90.3		404	Sharon-Mutual	75.05
364	Union City	89.86		405	SW Covenant	75
365	Roff	89.76		406	Timberlake	73.78
366	Cyril	89.74		407	Dover	73.72
367	Drummond	89.57		408	Battiest	72.67
368	Bokoshe	88.87		409	Mason	72.26
369	Kremlin-Hillsdale	88.74		410	Lookeba-Sickles	72.06
370	Maud	88.67		411	Shattuck	71.2
371	Sasakwa	88.41		412	Grandfield	70.71
372	Webbers Falls	87.28		413	Buffalo	70.36
373	Mt. View-Gotebo	87.1		414	Blair	70.35
374	Vici	86.55		415	Cheyenne	70.27
375	Big Pasture	85.07		416	Mulhall-Orlando	70.23

APPENDIX I

Data Source Tables

Descriptive Statistics

Descriptive Statistics Percentage of DE students to the total population

	N	Minimum	Maximum	Mean	Std. Deviation
Percentage of DE students to the total population	185	.00	1.00	.0393	.09868
Percent of students on an IEP in distance education	180	.00	1.00	.0292	.10651
Valid N (listwise)	180				

Means

Percent of students on an IEP in distance education by location

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
PER_IEP_N_DE * Urban, Suburban, Rural	178	47.2%	199	52.8%	377	100.0%

Report

Percent of students on an IEP by location

Urban, Suburban, Rural	Mean	N	Std. Deviation
Urban	.1250	8	.35355
Suburban	.0293	26	.11870
Rural	.0222	144	.06736
Total	.0279	178	.10513

Means

Percent of students on an IEP by school site size

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
PER_IEP_N_DE * Large, Medium, Small	177	46.9%	200	53.1%	377	100.0%

Report

Percent of students on an IEP by school site size

Large, Medium, Small	Mean	N	Std. Deviation
Large	.0214	46	.09138
Medium	.0162	47	.05072
Small	.0391	84	.13333
Total	.0284	177	.10629

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
PER_IEP_N_DE * Large, Medium, Small	177	46.9%	200	53.1%	377	100.0%
Percentage of DE students to the total population * Large, Medium, Small	182	48.3%	195	51.7%	377	100.0%
PER_IEP_N_DE * Urban, Suburban, Rural	178	47.2%	199	52.8%	377	100.0%

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
PER_IEP_N_DE * Large, Medium, Small	177	46.9%	200	53.1%	377	100.0%
Percentage of DE students to the total population * Large, Medium, Small	182	48.3%	195	51.7%	377	100.0%
PER_IEP_N_DE * Urban, Suburban, Rural	178	47.2%	199	52.8%	377	100.0%
Percentage of DE students to the total population * Urban, Suburban, Rural	183	48.5%	194	51.5%	377	100.0%

Percentage of DE students to the total population * Large, Medium, Small

Large, Medium, Small		PER_IEP_N_DE	Percentage of DE students to the total population
Large	Mean	.0214	.0158
	N	46	47
	Std. Deviation	.09138	.02444
Medium	Mean	.0162	.0281
	N	47	49
	Std. Deviation	.05072	.07798
Small	Mean	.0391	.0577
	N	84	86
	Std. Deviation	.13333	.12762
Total	Mean	.0284	.0389
	N	177	182
	Std. Deviation	.10629	.09875

Percentage of DE students to the total population * Urban, Suburban, Rural

Urban, Suburban, Rural		PER_IEP_N_DE	Percentage of DE students to the total population
Urban	Mean	.1250	.1384
	N	8	8
	Std. Deviation	.35355	.34918
Suburban	Mean	.0293	.0141
	N	26	27
	Std. Deviation	.11870	.02309
Rural	Mean	.0222	.0352
	N	144	148
	Std. Deviation	.06736	.06327
Total	Mean	.0279	.0366
	N	178	183
	Std. Deviation	.10513	.09237

Descriptives

Percentage of Special Education Students to the total population

	N	Minimum	Maximum	Mean	Std. Deviation
Percentage of Special Education Students to the total population	180	.00	.41	.1495	.06600
Valid N (listwise)	180				

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Percentage of Special Education Students to the total population * Large, Medium, Small	177	46.9%	200	53.1%	377	100.0%

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Percentage of Special Education Students to the total population * Large, Medium, Small	177	46.9%	200	53.1%	377	100.0%
Percentage of Special Education Students to the total population * Urban, Suburban, Rural	178	47.2%	199	52.8%	377	100.0%

Percentage of Special Education Students to the total population

Large, Medium, Small	Mean	N	Std. Deviation
Large	.1386	47	.05351
Medium	.1391	49	.05460
Small	.1620	81	.07664
Total	.1494	177	.06607

Percentage of Special Education Students to the total population

Urban, Suburban, Rural	Mean	N	Std. Deviation
Urban	.1736	9	.04405
Suburban	.1166	27	.05652
Rural	.1539	142	.06746
Total	.1493	178	.06628

T-Test

Percentage of DE students to the total population

	0 general ed 1 IEP	N	Mean	Std. Deviation	Std. Error Mean
Percentage of DE students to the total population	.00	185	.0393	.09868	.00725
	1.00	180	.0292	.10651	.00794

Percentage of DE students to the total population

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Percentage of DE students to the total population	Equal variances assumed	.003	.958	.943	363	.346	.01013	.01074	-.01100	.03126
	Equal variances not assumed			.942	359.141	.347	.01013	.01075	-.01102	.03128

Warnings

No valid cases remain for Question 8 or 13 in Question 1 or 6 Question 2 or 7 Question 3 or 8 Question 4 or 9 Question 5 or 10 Question 6 or 11 Question 7 or 12 Question 8 or 13 Question 9 or 14 Question 10 or 15 * Urban, Suburban, Rural. Statistics cannot be computed
No valid cases remain for Question 8 or 13 in Question 1 or 6 Question 2 or 7 Question 3 or 8 Question 4 or 9 Question 5 or 10 Question 6 or 11 Question 7 or 12 Question 8 or 13 Question 9 or 14 Question 10 or 15 * Large, Medium, Small. Statistics cannot be computed

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Question 1 or 6 * Urban, Suburban, Rural	183	97.3%	5	2.7%	188	100.0%
Question 2 or 7 * Urban, Suburban, Rural	184	97.9%	4	2.1%	188	100.0%
Question 3 or 8 * Urban, Suburban, Rural	184	97.9%	4	2.1%	188	100.0%
Question 4 or 9 * Urban, Suburban, Rural	184	97.9%	4	2.1%	188	100.0%
Question 5 or 10 * Urban, Suburban, Rural	183	97.3%	5	2.7%	188	100.0%
Question 6 or 11 * Urban, Suburban, Rural	183	97.3%	5	2.7%	188	100.0%
Question 7 or 12 * Urban, Suburban, Rural	183	97.3%	5	2.7%	188	100.0%
Question 8 or 13 * Urban, Suburban, Rural	0	.0%	188	100.0%	188	100.0%
Question 9 or 14 * Urban, Suburban, Rural	184	97.9%	4	2.1%	188	100.0%
Question 10 or 15 * Urban, Suburban, Rural	183	97.3%	5	2.7%	188	100.0%

Question 1 or 6 * Large, Medium, Small	182	96.8%	6	3.2%	188	100.0%
Question 2 or 7 * Large, Medium, Small	183	97.3%	5	2.7%	188	100.0%
Question 3 or 8 * Large, Medium, Small	183	97.3%	5	2.7%	188	100.0%
Question 4 or 9 * Large, Medium, Small	183	97.3%	5	2.7%	188	100.0%
Question 5 or 10 * Large, Medium, Small	182	96.8%	6	3.2%	188	100.0%
Question 6 or 11 * Large, Medium, Small	182	96.8%	6	3.2%	188	100.0%
Question 7 or 12 * Large, Medium, Small	182	96.8%	6	3.2%	188	100.0%
Question 8 or 13 * Large, Medium, Small	0	.0%	188	100.0%	188	100.0%
Question 9 or 14 * Large, Medium, Small	183	97.3%	5	2.7%	188	100.0%
Question 10 or 15 * Large, Medium, Small	182	96.8%	6	3.2%	188	100.0%

Question 1 or 6 Question 2 or 7 Question 3 or 8 Question 4 or 9 Question 5 or 10 Question 6 or 11 Question 7 or 12 Question 8 or 13 Question 9 or 14 Question 10 or 15 * Urban, Suburban, Rural

Urban, Suburban, Rural		Question 1 or 6	Question 2 or 7	Question 3 or 8	Question 4 or 9	Question 5 or 10	Question 6 or 11	Question 7 or 12	Question 9 or 14	Question 10 or 15
Urban	Mean	3.11	3.89	2.78	3.44	3.11	3.44	3.33	4.00	3.44
	N	9	9	9	9	9	9	9	9	9
	Std. Deviation	1.167	1.054	1.202	1.130	1.167	1.130	1.000	.500	1.130
Suburban	Mean	3.38	4.04	3.35	3.35	3.23	3.23	3.54	3.58	3.77
	N	26	26	26	26	26	26	26	26	26
	Std. Deviation	.898	.774	.977	.797	.765	.765	.905	.857	.765
Rural	Mean	3.50	4.12	3.08	3.50	3.22	3.28	3.57	3.62	3.57

	N	148	149	149	149	148	148	148	149	148
	Std. Deviation	1.020	.979	1.255	.882	.845	.817	1.063	.926	.983
Total	Mean	3.46	4.10	3.10	3.48	3.21	3.28	3.56	3.64	3.60
	N	183	184	184	184	183	183	183	184	183
	Std. Deviation	1.010	.953	1.217	.881	.847	.823	1.035	.901	.961

Principal responses

Question 1 or 6 Question 2 or 7 Question 3 or 8 Question 4 or 9 Question 5 or 10 Question 6 or 11 Question 7 or 12 Question 8 or 13 Question 9 or 14 Question 10 or 15 * Large, Medium, Small

Large, Medium, Small		Question 1 or 6	Question 2 or 7	Question 3 or 8	Question 4 or 9	Question 5 or 10	Question 6 or 11	Question 7 or 12	Question 9 or 14	Question 10 or 15
Large	Mean	3.17	4.00	3.34	3.28	3.13	3.26	3.77	3.60	3.91
	N	47	47	47	47	47	47	47	47	46
	Std. Deviation	.868	.860	1.109	.826	.769	.736	.937	.825	.694
Medium	Mean	3.35	4.00	3.12	3.22	3.06	3.16	3.73	3.62	3.30
	N	49	50	50	50	49	49	49	50	50
	Std. Deviation	1.182	1.030	1.272	.954	.988	.965	1.076	.967	1.055
Small	Mean	3.73	4.20	2.91	3.73	3.36	3.38	3.35	3.66	3.63
	N	86	86	86	86	86	86	86	86	86
	Std. Deviation	.887	.918	1.243	.803	.781	.770	1.015	.902	.908
Total	Mean	3.48	4.09	3.08	3.48	3.22	3.29	3.56	3.63	3.61
	N	182	183	183	183	182	182	182	183	182
	Std. Deviation	.996	.936	1.225	.882	.845	.820	1.027	.897	.926

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	145
Large, Medium, Small	1	Large	46
	2	Medium	48
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 1 or 6

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12.659[a]	8	1.582	1.647	.115
Intercept	434.219	1	434.219	451.875	.000
District_Location	1.038	2	.519	.540	.584
District_Size	4.160	2	2.080	2.164	.118
District_Location * District_Size	1.393	4	.348	.362	.835
Error	164.319	171	.961		
Total	2368.000	180			
Corrected Total	176.978	179			

a. R Squared = .072 (Adjusted R Squared = .028)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 1 or 6

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.27	.379	.751	-1.48	.93
	Rural	-.42	.337	.427	-1.49	.65
Suburban	Urban	.27	.379	.751	-.93	1.48
	Rural	-.15	.209	.763	-.81	.52
Rural	Urban	.42	.337	.427	-.65	1.49
	Suburban	.15	.209	.763	-.52	.81

Based on observed means.

The error term is Mean Square(Error) = .961.

Homogeneous Subsets

Question 1 or 6

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Urban	9	3.11
Suburban	26	3.38
Rural	145	3.53
Sig.		.383

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .961.

a. Uses Harmonic Mean Sample Size = 19.173.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 1 or 6

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.14	.202	.775	-.78	.50
	Small	-.54	.179	.009	-1.11	.03
Medium	Large	.14	.202	.775	-.50	.78
	Small	-.40	.177	.064	-.96	.16
Small	Large	.54	.179	.009	-.03	1.11
	Medium	.40	.177	.064	-.16	.96

Based on observed means.

The error term is Mean Square(Error) = .961.

Homogeneous Subsets

Question 1 or 6

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Large	46	3.20
Medium	48	3.33
Small	86	3.73
Sig.		.012

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .961.

a. Uses Harmonic Mean Sample Size = 55.350.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	146
Large, Medium, Small	1	Large	46
	2	Medium	49
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 2 or 7

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.013[a]	8	.377	.426	.904
Intercept	602.706	1	602.706	682.042	.000
District_Location	.502	2	.251	.284	.753
District_Size	.192	2	.096	.109	.897
District_Location * District_Size	1.208	4	.302	.342	.849
Error	151.993	172	.884		
Total	3205.000	181			
Corrected Total	155.006	180			

a. R Squared = .019 (Adjusted R Squared = -.026)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 2 or 7

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.15	.364	.911	-1.30	1.01
	Rural	-.24	.323	.736	-1.27	.78
Suburban	Urban	.15	.364	.911	-1.01	1.30
	Rural	-.09	.200	.891	-.73	.54
Rural	Urban	.24	.323	.736	-.78	1.27
	Suburban	.09	.200	.891	-.54	.73

Based on observed means.

The error term is Mean Square(Error) = .884.

Homogeneous Subsets

Large, Medium, Small

Multiple Comparisons

Question 2 or 7

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.04	.193	.972	-.57	.66
	Small	-.15	.172	.642	-.70	.39
Medium	Large	-.04	.193	.972	-.66	.57
	Small	-.20	.168	.470	-.73	.34
Small	Large	.15	.172	.642	-.39	.70
	Medium	.20	.168	.470	-.34	.73

Based on observed means.

The error term is Mean Square(Error) = .884.

Homogeneous Subsets

Question 2 or 7

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Medium	49	4.00
Large	46	4.04
Small	86	4.20
Sig.		.509

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .884.

a. Uses Harmonic Mean Sample Size = 55.788.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	146
Large, Medium, Small	1	Large	46
	2	Medium	49
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 3 or 8

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	16.238[a]	8	2.030	1.390	.204
Intercept	304.234	1	304.234	208.342	.000
District_Location	4.231	2	2.116	1.449	.238
District_Size	9.542	2	4.771	3.267	.040
District_Location * District_Size	7.043	4	1.761	1.206	.310
Error	251.166	172	1.460		
Total	2000.000	181			
Corrected Total	267.403	180			

a. R Squared = .061 (Adjusted R Squared = .017)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 3 or 8

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.57	.467	.445	-2.05	.92
	Rural	-.29	.415	.764	-1.61	1.03
Suburban	Urban	.57	.467	.445	-.92	2.05
	Rural	.28	.257	.528	-.54	1.09
Rural	Urban	.29	.415	.764	-1.03	1.61
	Suburban	-.28	.257	.528	-1.09	.54

Based on observed means.

The error term is Mean Square(Error) = 1.460.

Homogeneous Subsets

Question 3 or 8

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Urban	9	2.78
Rural	146	3.07
Suburban	26	3.35
Sig.		.315

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.460.

a. Uses Harmonic Mean Sample Size = 19.179.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 3 or 8

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.25	.248	.577	-.54	1.04
	Small	.48	.221	.075	-.22	1.19
Medium	Large	-.25	.248	.577	-1.04	.54
	Small	.24	.216	.521	-.45	.92
Small	Large	-.48	.221	.075	-1.19	.22
	Medium	-.24	.216	.521	-.92	.45

Based on observed means.

The error term is Mean Square(Error) = 1.460.

Homogeneous Subsets

Question 3 or 8

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Small	86	2.91
Medium	49	3.14
Large	46	3.39
Sig.		.089

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.460.

a. Uses Harmonic Mean Sample Size = 55.788.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	146
Large, Medium, Small	1	Large	46
	2	Medium	49
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 4 or 9

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.549[a]	8	1.444	1.945	.056
Intercept	427.517	1	427.517	576.126	.000
District_Location	.133	2	.067	.090	.914
District_Size	.631	2	.315	.425	.654
District_Location * District_Size	.837	4	.209	.282	.889
Error	127.633	172	.742		
Total	2332.000	181			
Corrected Total	139.182	180			

a. R Squared = .083 (Adjusted R Squared = .040)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 4 or 9

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.10	.333	.953	-.96	1.16
	Rural	-.06	.296	.976	-1.00	.88
Suburban	Urban	-.10	.333	.953	-1.16	.96
	Rural	-.16	.183	.656	-.74	.42
Rural	Urban	.06	.296	.976	-.88	1.00
	Suburban	.16	.183	.656	-.42	.74

Based on observed means.

The error term is Mean Square(Error) = .742.

Homogeneous Subsets

Question 4 or 9

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	26	3.35
Urban	9	3.44
Rural	146	3.51
Sig.		.832

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .742.

a. Uses Harmonic Mean Sample Size = 19.179.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 4 or 9

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.10	.177	.838	-.46	.66
	Small	-.43	.157	.020	-.93	.07
Medium	Large	-.10	.177	.838	-.66	.46
	Small	-.53*	.154	.002	-1.02	-.04
Small	Large	.43	.157	.020	-.07	.93
	Medium	.53*	.154	.002	.04	1.02

Based on observed means.

The error term is Mean Square(Error) = .742.

*. The mean difference is significant at the .005 level.

Homogeneous Subsets

Question 4 or 9

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1	Subset 2
Medium	49	3.20	
Large	46	3.30	3.30
Small	86		3.73
Sig.		.812	.025

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .742.

a. Uses Harmonic Mean Sample Size = 55.788.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	145
Large, Medium, Small	1	Large	46
	2	Medium	48
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 5 or 10

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.602[a]	8	.575	.790	.612
Intercept	397.261	1	397.261	545.597	.000
District_Location	.641	2	.320	.440	.645
District_Size	.882	2	.441	.605	.547
District_Location * District_Size	1.002	4	.251	.344	.848
Error	124.509	171	.728		
Total	1998.000	180			
Corrected Total	129.111	179			

a. R Squared = .036 (Adjusted R Squared = -.009)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 5 or 10

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.12	.330	.930	-1.17	.93
	Rural	-.12	.293	.917	-1.05	.81
Suburban	Urban	.12	.330	.930	-.93	1.17
	Rural	.00	.182	1.000	-.57	.58
Rural	Urban	.12	.293	.917	-.81	1.05
	Suburban	.00	.182	1.000	-.58	.57

Based on observed means.

The error term is Mean Square(Error) = .728.

Homogeneous Subsets

Question 5 or 10

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Urban	9	3.11
Rural	145	3.23
Suburban	26	3.23
Sig.		.901

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .728.

a. Uses Harmonic Mean Sample Size = 19.173.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 5 or 10

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.07	.176	.921	-.49	.63
	Small	-.23	.156	.305	-.73	.27
Medium	Large	-.07	.176	.921	-.63	.49
	Small	-.30	.154	.131	-.79	.19
Small	Large	.23	.156	.305	-.27	.73
	Medium	.30	.154	.131	-.19	.79

Based on observed means.

The error term is Mean Square(Error) = .728.

Homogeneous Subsets

Question 5 or 10

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Medium	48	3.06
Large	46	3.13
Small	86	3.36
Sig.		.161

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .728.

a. Uses Harmonic Mean Sample Size = 55.350.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	145
Large, Medium, Small	1	Large	46
	2	Medium	48
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 6 or 11

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.280[a]	8	.410	.596	.781
Intercept	430.975	1	430.975	626.152	.000
District_Location	.605	2	.302	.439	.645
District_Size	.969	2	.484	.704	.496
District_Location * District_Size	1.164	4	.291	.423	.792
Error	117.698	171	.688		
Total	2068.000	180			
Corrected Total	120.978	179			

a. R Squared = .027 (Adjusted R Squared = -.018)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 6 or 11

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.21	.321	.784	-.81	1.23
	Rural	.15	.285	.850	-.75	1.06
Suburban	Urban	-.21	.321	.784	-1.23	.81
	Rural	-.06	.177	.941	-.62	.50
Rural	Urban	-.15	.285	.850	-1.06	.75
	Suburban	.06	.177	.941	-.50	.62

Based on observed means.

The error term is Mean Square(Error) = .688.

Homogeneous Subsets

Question 6 or 11

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	26	3.23
Rural	145	3.29
Urban	9	3.44
Sig.		.705

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .688.

a. Uses Harmonic Mean Sample Size = 19.173.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 6 or 11

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.12	.171	.780	-.43	.66
	Small	-.12	.152	.697	-.60	.36
Medium	Large	-.12	.171	.780	-.66	.43
	Small	-.24	.149	.252	-.71	.24
Small	Large	.12	.152	.697	-.36	.60
	Medium	.24	.149	.252	-.24	.71

Multiple Comparisons

Question 6 or 11

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.12	.171	.780	-.43	.66
	Small	-.12	.152	.697	-.60	.36
Medium	Large	-.12	.171	.780	-.66	.43
	Small	-.24	.149	.252	-.71	.24
Small	Large	.12	.152	.697	-.36	.60
	Medium	.24	.149	.252	-.24	.71

Based on observed means.

The error term is Mean Square(Error) = .688.

Homogeneous Subsets

Question 6 or 11

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Medium	48	3.15
Large	46	3.26
Small	86	3.38
Sig.		.289

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .688.

a. Uses Harmonic Mean Sample Size = 55.350.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	145
Large, Medium, Small	1	Large	46
	2	Medium	48
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 7 or 12

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12.593[a]	8	1.574	1.549	.144
Intercept	454.386	1	454.386	447.233	.000
District_Location	2.252	2	1.126	1.108	.333
District_Size	2.378	2	1.189	1.170	.313
District_Location * District_Size	.923	4	.231	.227	.923
Error	173.735	171	1.016		
Total	2469.000	180			
Corrected Total	186.328	179			

a. R Squared = .068 (Adjusted R Squared = .024)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 7 or 12

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.21	.390	.859	-1.44	1.03
	Rural	-.25	.346	.758	-1.35	.85
Suburban	Urban	.21	.390	.859	-1.03	1.44
	Rural	-.04	.215	.980	-.72	.64
Rural	Urban	.25	.346	.758	-.85	1.35
	Suburban	.04	.215	.980	-.64	.72

Based on observed means.

The error term is Mean Square(Error) = 1.016.

Homogeneous Subsets

Question 7 or 12

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Urban	9	3.33
Suburban	26	3.54
Rural	145	3.58
Sig.		.731

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.016.

a. Uses Harmonic Mean Sample Size = 19.173.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 7 or 12

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.10	.208	.889	-.56	.76
	Small	.46	.184	.038	-.13	1.04
Medium	Large	-.10	.208	.889	-.76	.56
	Small	.36	.182	.120	-.22	.94
Small	Large	-.46	.184	.038	-1.04	.13
	Medium	-.36	.182	.120	-.94	.22

Based on observed means.

The error term is Mean Square(Error) = 1.016.

Homogeneous Subsets

Question 7 or 12

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Small	86	3.35
Medium	48	3.71
Large	46	3.80
Sig.		.048

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.016.

a. Uses Harmonic Mean Sample Size = 55.350.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Warnings

No valid cases were found.
This command is not executed.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	146
Large, Medium, Small	1	Large	46
	2	Medium	49
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 9 or 14

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.949[a]	8	.494	.608	.771
Intercept	501.308	1	501.308	617.179	.000
District_Location	1.658	2	.829	1.020	.363
District_Size	.191	2	.096	.118	.889
District_Location * District_Size	2.545	4	.636	.783	.537
Error	139.708	172	.812		
Total	2543.000	181			
Corrected Total	143.657	180			

a. R Squared = .027 (Adjusted R Squared = -.018)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 9 or 14

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.42	.349	.447	-.68	1.53
	Rural	.37	.310	.458	-.61	1.35
Suburban	Urban	-.42	.349	.447	-1.53	.68
	Rural	-.05	.192	.958	-.66	.56
Rural	Urban	-.37	.310	.458	-1.35	.61
	Suburban	.05	.192	.958	-.56	.66

Based on observed means.

The error term is Mean Square(Error) = .812.

Homogeneous Subsets

Question 9 or 14

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	26	3.58
Rural	146	3.63
Urban	9	4.00
Sig.		.316

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .812.

a. Uses Harmonic Mean Sample Size = 19.179.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 9 or 14

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.02	.185	.995	-.57	.61
	Small	-.03	.165	.979	-.56	.49
Medium	Large	-.02	.185	.995	-.61	.57
	Small	-.05	.161	.947	-.56	.46
Small	Large	.03	.165	.979	-.49	.56
	Medium	.05	.161	.947	-.46	.56

Multiple Comparisons

Question 9 or 14

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.02	.185	.995	-.57	.61
	Small	-.03	.165	.979	-.56	.49
Medium	Large	-.02	.185	.995	-.61	.57
	Small	-.05	.161	.947	-.56	.46
Small	Large	.03	.165	.979	-.49	.56
	Medium	.05	.161	.947	-.46	.56

Based on observed means.

The error term is Mean Square(Error) = .812.

Homogeneous Subsets

Question 9 or 14

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset
		1
Medium	49	3.61
Large	46	3.63
Small	86	3.66
Sig.		.953

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .812.

a. Uses Harmonic Mean Sample Size = 55.788.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	9
	2	Suburban	26
	3	Rural	145
Large, Medium, Small	1	Large	45
	2	Medium	49
	3	Small	86

Tests of Between-Subjects Effects

Dependent Variable:Question 10 or 15

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.598[a]	8	1.950	2.434	.016
Intercept	417.056	1	417.056	520.740	.000
District_Location	2.896	2	1.448	1.808	.167
District_Size	10.366	2	5.183	6.472	.002
District_Location * District_Size	3.659	4	.915	1.142	.338
Error	136.952	171	.801		
Total	2507.000	180			
Corrected Total	152.550	179			

a. R Squared = .102 (Adjusted R Squared = .060)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 10 or 15

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.32	.346	.617	-1.42	.77
	Rural	-.16	.307	.869	-1.13	.82
Suburban	Urban	.32	.346	.617	-.77	1.42
	Rural	.17	.191	.649	-.44	.77
Rural	Urban	.16	.307	.869	-.82	1.13
	Suburban	-.17	.191	.649	-.77	.44

Based on observed means.

The error term is Mean Square(Error) = .801.

Homogeneous Subsets

Question 10 or 15

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Urban	9	3.44
Rural	145	3.60
Suburban	26	3.77
Sig.		.501

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .801.

a. Uses Harmonic Mean Sample Size = 19.173.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Large, Medium, Small

Multiple Comparisons

Question 10 or 15

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	99.5% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.67*	.185	.001	.08	1.26
	Small	.33	.165	.118	-.20	.85
Medium	Large	-.67*	.185	.001	-1.26	-.08
	Small	-.34	.160	.086	-.85	.17
Small	Large	-.33	.165	.118	-.85	.20
	Medium	.34	.160	.086	-.17	.85

Based on observed means.

The error term is Mean Square(Error) = .801.

*. The mean difference is significant at the .005 level.

Homogeneous Subsets

Question 10 or 15

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset	
		1	2
Medium	49	3.29	
Small	86	3.63	3.63
Large	45		3.96
Sig.		.113	.135

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .801.

a. Uses Harmonic Mean Sample Size = 55.291.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .005.

Means

Special Education Teachers

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Question 1 or 6 * Urban, Suburban, Rural	178	94.2%	11	5.8%	189	100.0%
Question 2 or 7 * Urban, Suburban, Rural	178	94.2%	11	5.8%	189	100.0%
Question 3 or 8 * Urban, Suburban, Rural	177	93.7%	12	6.3%	189	100.0%
Question 4 or 9 * Urban, Suburban, Rural	178	94.2%	11	5.8%	189	100.0%
Question 5 or 10 * Urban, Suburban, Rural	178	94.2%	11	5.8%	189	100.0%
Question 6 or 11 * Urban, Suburban, Rural	178	94.2%	11	5.8%	189	100.0%
Question 7 or 12 * Urban, Suburban, Rural	178	94.2%	11	5.8%	189	100.0%
Question 8 or 13 * Urban, Suburban, Rural	177	93.7%	12	6.3%	189	100.0%
Question 9 or 14 * Urban, Suburban, Rural	178	94.2%	11	5.8%	189	100.0%
Question 10 or 15 * Urban, Suburban, Rural	177	93.7%	12	6.3%	189	100.0%
Question 1 or 6 * Large, Medium, Small	169	89.4%	20	10.6%	189	100.0%

Question 2 or 7 * Large, Medium, Small	169	89.4%	20	10.6%	189	100.0%
Question 3 or 8 * Large, Medium, Small	168	88.9%	21	11.1%	189	100.0%
Question 4 or 9 * Large, Medium, Small	169	89.4%	20	10.6%	189	100.0%
Question 5 or 10 * Large, Medium, Small	169	89.4%	20	10.6%	189	100.0%
Question 6 or 11 * Large, Medium, Small	169	89.4%	20	10.6%	189	100.0%
Question 7 or 12 * Large, Medium, Small	169	89.4%	20	10.6%	189	100.0%
Question 8 or 13 * Large, Medium, Small	168	88.9%	21	11.1%	189	100.0%
Question 9 or 14 * Large, Medium, Small	169	89.4%	20	10.6%	189	100.0%
Question 10 or 15 * Large, Medium, Small	168	88.9%	21	11.1%	189	100.0%

Special Education Teacher Response Means by Location

Question 1 or 6 Question 2 or 7 Question 3 or 8 Question 4 or 9 Question 5 or 10 Question 6 or 11 Question 7 or 12 Question 8 or 13 Question 9 or 14 Question 10 or 15 * Urban, Suburban, Rural

Urban, Suburban, Rural		Question 1 or 6	Question 2 or 7	Question 3 or 8	Question 4 or 9	Question 5 or 10	Question 6 or 11	Question 7 or 12	Question 8 or 13	Question 9 or 14	Question 10 or 15
Urban	Mean	3.27	4.36	4.09	3.55	2.55	2.82	3.73	3.91	3.91	4.09
	N	11	11	11	11	11	11	11	11	11	11
	Std. Deviation	1.191	.674	.831	.820	.688	.874	.786	1.044	1.044	.831
Suburban	Mean	3.11	4.22	3.67	3.15	2.85	3.04	3.78	3.56	3.22	3.89
	N	27	27	27	27	27	27	27	27	27	27
	Std. Deviation	1.121	.698	.920	.949	.949	.898	1.251	1.013	1.121	.934
Rural	Mean	3.45	4.23	3.11	3.42	3.29	3.29	3.80	3.76	3.78	3.71
	N	140	140	139	140	140	140	140	139	140	139

	Std. Deviation	1.114	.868	1.153	.930	.962	.917	1.139	.921	.997	.959
Total	Mean	3.39	4.24	3.25	3.39	3.17	3.22	3.79	3.74	3.70	3.76
	N	178	178	177	178	178	178	178	177	178	177
	Std. Deviation	1.121	.831	1.137	.927	.967	.918	1.133	.942	1.034	.949

Special Education Teacher Response Means by Size

Question 1 or 6 Question 2 or 7 Question 3 or 8 Question 4 or 9 Question 5 or 10 Question 6 or 11 Question 7 or 12 Question 8 or 13 Question 9 or 14 Question 10 or 15 * Large, Medium, Small

Large, Medium, Small		Question 1 or 6	Question 2 or 7	Question 3 or 8	Question 4 or 9	Question 5 or 10	Question 6 or 11	Question 7 or 12	Question 8 or 13	Question 9 or 14	Question 10 or 15
Large	Mean	3.24	4.12	3.51	3.35	3.00	3.14	3.55	3.67	3.47	3.84
	N	49	49	49	49	49	49	49	49	49	49
	Std. Deviation	1.011	.754	1.063	.779	.935	.866	1.138	.875	1.043	.965
Medium	Mean	3.17	4.20	3.20	3.39	3.13	3.22	4.02	3.73	3.72	3.74
	N	46	46	46	46	46	46	46	45	46	46
	Std. Deviation	1.198	.957	1.147	1.043	1.046	1.031	1.000	1.009	1.068	.999
Small	Mean	3.64	4.35	3.12	3.47	3.42	3.32	3.77	3.81	3.91	3.81
	N	74	74	73	74	74	74	74	74	74	73
	Std. Deviation	1.067	.748	1.154	.925	.828	.878	1.141	.902	.878	.892
Total	Mean	3.40	4.24	3.26	3.41	3.22	3.24	3.78	3.75	3.73	3.80
	N	169	169	168	169	169	169	169	168	169	168
	Std. Deviation	1.103	.813	1.132	.916	.935	.916	1.111	.920	.992	.939

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	128
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 1 or 6

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.012[a]	6	2.502	2.082	.058
Intercept	433.061	1	433.061	360.276	.000
District_Location	5.485	2	2.743	2.282	.106
District_Size	4.243	2	2.121	1.765	.175
District_Location * District_Size	7.588	2	3.794	3.156	.045
Error	185.112	154	1.202		
Total	2045.000	161			
Corrected Total	200.124	160			

a. R Squared = .075 (Adjusted R Squared = .039)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 1 or 6

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.21	.415	.865	-.77	1.20
	Rural	-.15	.360	.914	-1.00	.71
Suburban	Urban	-.21	.415	.865	-1.20	.77
	Rural	-.36	.248	.321	-.95	.23
Rural	Urban	.15	.360	.914	-.71	1.00
	Suburban	.36	.248	.321	-.23	.95

Based on observed means.

The error term is Mean Square(Error) = 1.202.

Homogeneous Subsets

Question 1 or 6

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	23	3.09
Urban	10	3.30
Rural	128	3.45
Sig.		.560

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.202.

a. Uses Harmonic Mean Sample Size = 19.829.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 1 or 6

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.01	.229	.998	-.53	.55
	Small	-.41	.207	.121	-.90	.08
Medium	Large	-.01	.229	.998	-.55	.53
	Small	-.42	.210	.112	-.92	.07
Small	Large	.41	.207	.121	-.08	.90
	Medium	.42	.210	.112	-.07	.92

Based on observed means.

The error term is Mean Square(Error) = 1.202.

Homogeneous Subsets

Question 1 or 6

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Medium	45	3.20
Large	47	3.21
Small	69	3.62
Sig.		.125

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.202.

a. Uses Harmonic Mean Sample Size = 51.732.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	128
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 2 or 7

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.553[a]	6	.259	.387	.886
Intercept	720.426	1	720.426	1077.083	.000
District_Location	.332	2	.166	.248	.781
District_Size	1.124	2	.562	.840	.434
District_Location * District_Size	.419	2	.210	.313	.732
Error	103.006	154	.669		
Total	3019.000	161			
Corrected Total	104.559	160			

a. R Squared = .015 (Adjusted R Squared = -.024)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 2 or 7

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.08	.310	.962	-.65	.82
	Rural	.04	.269	.986	-.59	.68
Suburban	Urban	-.08	.310	.962	-.82	.65
	Rural	-.04	.185	.974	-.48	.40
Rural	Urban	-.04	.269	.986	-.68	.59
	Suburban	.04	.185	.974	-.40	.48

Based on observed means.

The error term is Mean Square(Error) = .669.

Homogeneous Subsets

Question 2 or 7

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	23	4.22
Rural	128	4.26
Urban	10	4.30
Sig.		.946

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .669.

a. Uses Harmonic Mean Sample Size = 19.829.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 2 or 7

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.05	.171	.950	-.46	.35
	Small	-.16	.155	.544	-.53	.20
Medium	Large	.05	.171	.950	-.35	.46
	Small	-.11	.157	.759	-.48	.26
Small	Large	.16	.155	.544	-.20	.53
	Medium	.11	.157	.759	-.26	.48

Multiple Comparisons

Question 2 or 7

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.05	.171	.950	-.46	.35
	Small	-.16	.155	.544	-.53	.20
Medium	Large	.05	.171	.950	-.35	.46
	Small	-.11	.157	.759	-.48	.26
Small	Large	.16	.155	.544	-.20	.53
	Medium	.11	.157	.759	-.26	.48

Based on observed means.

The error term is Mean Square(Error) = .669.

Homogeneous Subsets

Question 2 or 7

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset
		1
Large	47	4.17
Medium	45	4.22
Small	69	4.33
Sig.		.569

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .669.

a. Uses Harmonic Mean Sample Size = 51.732.

b. The group sizes are unequal. The
harmonic mean of the group sizes is used.
Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	127
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	68

Tests of Between-Subjects Effects

Dependent Variable:Question 3 or 8

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.436[a]	6	1.906	1.522	.174
Intercept	502.548	1	502.548	401.431	.000
District_Location	5.871	2	2.935	2.345	.099
District_Size	.657	2	.329	.263	.769
District_Location * District_Size	.825	2	.413	.330	.720
Error	191.539	153	1.252		
Total	1880.000	160			
Corrected Total	202.975	159			

a. R Squared = .056 (Adjusted R Squared = .019)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 3 or 8

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.43	.424	.562	-.57	1.44
	Rural	.88*	.367	.046	.01	1.75
Suburban	Urban	-.43	.424	.562	-1.44	.57
	Rural	.45	.254	.185	-.15	1.05
Rural	Urban	-.88*	.367	.046	-1.75	-.01
	Suburban	-.45	.254	.185	-1.05	.15

Based on observed means.

The error term is Mean Square(Error) = 1.252.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Question 3 or 8

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset	
		1	2
Rural	127	3.12	
Suburban	23	3.57	3.57
Urban	10		4.00
Sig.		.421	.441

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.252.

a. Uses Harmonic Mean Sample Size = 19.821.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 3 or 8

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.24	.233	.547	-.31	.80
	Small	.43	.212	.109	-.07	.93
Medium	Large	-.24	.233	.547	-.80	.31
	Small	.19	.215	.664	-.32	.69
Small	Large	-.43	.212	.109	-.93	.07
	Medium	-.19	.215	.664	-.69	.32

Based on observed means.

The error term is Mean Square(Error) = 1.252.

Homogeneous Subsets

Question 3 or 8

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Small	68	3.06
Medium	45	3.24
Large	47	3.49
Sig.		.127

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.252.

a. Uses Harmonic Mean Sample Size = 51.542.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	128
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 4 or 9

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.948[a]	6	.825	1.009	.421
Intercept	434.899	1	434.899	532.347	.000
District_Location	4.029	2	2.015	2.466	.088
District_Size	.061	2	.031	.038	.963
District_Location * District_Size	3.413	2	1.706	2.089	.127
Error	125.810	154	.817		
Total	1996.000	161			
Corrected Total	130.758	160			

a. R Squared = .038 (Adjusted R Squared = .000)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 4 or 9

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.23	.342	.787	-.58	1.04
	Rural	-.05	.297	.987	-.75	.66
Suburban	Urban	-.23	.342	.787	-1.04	.58
	Rural	-.27	.205	.383	-.76	.21
Rural	Urban	.05	.297	.987	-.66	.75
	Suburban	.27	.205	.383	-.21	.76

Based on observed means.

The error term is Mean Square(Error) = .817.

Homogeneous Subsets

Question 4 or 9

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	23	3.17
Urban	10	3.40
Rural	128	3.45
Sig.		.612

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .817.

a. Uses Harmonic Mean Sample Size = 19.829.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 4 or 9

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.10	.189	.846	-.55	.34
	Small	-.08	.171	.887	-.48	.32
Medium	Large	.10	.189	.846	-.34	.55
	Small	.02	.173	.989	-.39	.43
Small	Large	.08	.171	.887	-.32	.48
	Medium	-.02	.173	.989	-.43	.39

Multiple Comparisons

Question 4 or 9

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.10	.189	.846	-.55	.34
	Small	-.08	.171	.887	-.48	.32
Medium	Large	.10	.189	.846	-.34	.55
	Small	.02	.173	.989	-.39	.43
Small	Large	.08	.171	.887	-.32	.48
	Medium	-.02	.173	.989	-.43	.39

Based on observed means.

The error term is Mean Square(Error) = .817.

Homogeneous Subsets

Question 4 or 9

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Large	47	3.34
Small	69	3.42
Medium	45	3.44
Sig.		.828

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .817.

a. Uses Harmonic Mean Sample Size = 51.732.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	128
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 5 or 10

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10.188[a]	6	1.698	2.047	.063
Intercept	331.900	1	331.900	400.060	.000
District_Location	5.080	2	2.540	3.062	.050
District_Size	1.296	2	.648	.781	.460
District_Location * District_Size	1.015	2	.507	.611	.544
Error	127.762	154	.830		
Total	1811.000	161			
Corrected Total	137.950	160			

a. R Squared = .074 (Adjusted R Squared = .038)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 5 or 10

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.27	.345	.715	-1.09	.55
	Rural	-.74*	.299	.040	-1.44	-.03
Suburban	Urban	.27	.345	.715	-.55	1.09
	Rural	-.47	.206	.065	-.95	.02
Rural	Urban	.74*	.299	.040	.03	1.44
	Suburban	.47	.206	.065	-.02	.95

Based on observed means.

The error term is Mean Square(Error) = .830.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Question 5 or 10

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset	
		1	2
Urban	10	2.60	
Suburban	23	2.87	2.87
Rural	128		3.34
Sig.		.621	.244

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .830.

a. Uses Harmonic Mean Sample Size = 19.829.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 5 or 10

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.18	.190	.619	-.63	.27
	Small	-.41	.172	.051	-.81	.00
Medium	Large	.18	.190	.619	-.27	.63
	Small	-.23	.175	.394	-.64	.19
Small	Large	.41	.172	.051	.00	.81
	Medium	.23	.175	.394	-.19	.64

Based on observed means.

The error term is Mean Square(Error) = .830.

Homogeneous Subsets

Question 5 or 10

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Large	47	3.00
Medium	45	3.18
Small	69	3.41
Sig.		.064

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .830.

a. Uses Harmonic Mean Sample Size = 51.732.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	128
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 6 or 11

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.705[a]	6	.784	.933	.473
Intercept	357.793	1	357.793	425.952	.000
District_Location	3.609	2	1.804	2.148	.120
District_Size	.588	2	.294	.350	.705
District_Location * District_Size	.617	2	.308	.367	.693
Error	129.357	154	.840		
Total	1833.000	161			
Corrected Total	134.062	160			

a. R Squared = .035 (Adjusted R Squared = -.003)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 6 or 11

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.06	.347	.985	-.88	.77
	Rural	-.43	.301	.332	-1.14	.28
Suburban	Urban	.06	.347	.985	-.77	.88
	Rural	-.37	.208	.176	-.86	.12
Rural	Urban	.43	.301	.332	-.28	1.14
	Suburban	.37	.208	.176	-.12	.86

Based on observed means.

The error term is Mean Square(Error) = .840.

Homogeneous Subsets

Question 6 or 11

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Urban	10	2.90
Suburban	23	2.96
Rural	128	3.33
Sig.		.308

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .840.

a. Uses Harmonic Mean Sample Size = 19.829.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 6 or 11

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.14	.191	.748	-.59	.31
	Small	-.19	.173	.514	-.60	.22
Medium	Large	.14	.191	.748	-.31	.59
	Small	-.05	.176	.953	-.47	.36
Small	Large	.19	.173	.514	-.22	.60
	Medium	.05	.176	.953	-.36	.47

Multiple Comparisons

Question 6 or 11

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.14	.191	.748	-.59	.31
	Small	-.19	.173	.514	-.60	.22
Medium	Large	.14	.191	.748	-.31	.59
	Small	-.05	.176	.953	-.47	.36
Small	Large	.19	.173	.514	-.22	.60
	Medium	.05	.176	.953	-.36	.47

Based on observed means.

The error term is Mean Square(Error) = .840.

Homogeneous Subsets

Question 6 or 11

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Large	47	3.13
Medium	45	3.27
Small	69	3.32
Sig.		.540

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .840.

a. Uses Harmonic Mean Sample Size = 51.732.

b. The group sizes are unequal. The
harmonic mean of the group sizes is used.
Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	128
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 7 or 12

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.261[a]	6	1.210	.947	.463
Intercept	581.787	1	581.787	455.257	.000
District_Location	1.371	2	.685	.536	.586
District_Size	2.948	2	1.474	1.153	.318
District_Location * District_Size	.044	2	.022	.017	.983
Error	196.801	154	1.278		
Total	2470.000	161			
Corrected Total	204.062	160			

a. R Squared = .036 (Adjusted R Squared = -.002)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 7 or 12

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	-.23	.428	.858	-1.24	.79
	Rural	-.15	.371	.914	-1.03	.73
Suburban	Urban	.23	.428	.858	-.79	1.24
	Rural	.08	.256	.952	-.53	.68
Rural	Urban	.15	.371	.914	-.73	1.03
	Suburban	-.08	.256	.952	-.68	.53

Based on observed means.

The error term is Mean Square(Error) = 1.278.

Homogeneous Subsets

Question 7 or 12

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Urban	10	3.60
Rural	128	3.75
Suburban	23	3.83
Sig.		.804

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.278.

a. Uses Harmonic Mean Sample Size = 19.829.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 7 or 12

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.47	.236	.119	-1.03	.09
	Small	-.21	.214	.597	-.71	.30
Medium	Large	.47	.236	.119	-.09	1.03
	Small	.26	.217	.452	-.25	.77
Small	Large	.21	.214	.597	-.30	.71
	Medium	-.26	.217	.452	-.77	.25

Based on observed means.

The error term is Mean Square(Error) = 1.278.

Homogeneous Subsets

Question 7 or 12

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Large	47	3.53
Small	69	3.74
Medium	45	4.00
Sig.		.092

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.278.

a. Uses Harmonic Mean Sample Size = 51.732.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	127
Large, Medium, Small	1	Large	47
	2	Medium	44
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 8 or 13

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.143[a]	6	.857	1.050	.395
Intercept	582.679	1	582.679	714.016	.000
District_Location	2.604	2	1.302	1.595	.206
District_Size	1.468	2	.734	.900	.409
District_Location * District_Size	3.581	2	1.791	2.194	.115
Error	124.857	153	.816		
Total	2380.000	160			
Corrected Total	130.000	159			

a. R Squared = .040 (Adjusted R Squared = .002)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 8 or 13

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.28	.342	.695	-.53	1.09
	Rural	.01	.297	.999	-.69	.71
Suburban	Urban	-.28	.342	.695	-1.09	.53
	Rural	-.27	.205	.399	-.75	.22
Rural	Urban	-.01	.297	.999	-.71	.69
	Suburban	.27	.205	.399	-.22	.75

Based on observed means.

The error term is Mean Square(Error) = .816.

Homogeneous Subsets

Question 8 or 13

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	23	3.52
Rural	127	3.79
Urban	10	3.80
Sig.		.597

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .816.

a. Uses Harmonic Mean Sample Size = 19.821.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 8 or 13

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.16	.189	.685	-.61	.29
	Small	-.16	.171	.623	-.56	.25
Medium	Large	.16	.189	.685	-.29	.61
	Small	.00	.174	1.000	-.41	.41
Small	Large	.16	.171	.623	-.25	.56
	Medium	.00	.174	1.000	-.41	.41

Multiple Comparisons

Question 8 or 13

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.16	.189	.685	-.61	.29
	Small	-.16	.171	.623	-.56	.25
Medium	Large	.16	.189	.685	-.29	.61
	Small	.00	.174	1.000	-.41	.41
Small	Large	.16	.171	.623	-.25	.56
	Medium	.00	.174	1.000	-.41	.41

Based on observed means.

The error term is Mean Square(Error) = .816.

Homogeneous Subsets

Question 8 or 13

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset
		1
Large	47	3.64
Medium	44	3.80
Small	69	3.80
Sig.		.647

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .816.

a. Uses Harmonic Mean Sample Size = 51.285.

b. The group sizes are unequal. The
harmonic mean of the group sizes is used.
Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	128
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	69

Tests of Between-Subjects Effects

Dependent Variable:Question 9 or 14

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.361[a]	6	1.893	1.945	.077
Intercept	533.836	1	533.836	548.370	.000
District_Location	4.602	2	2.301	2.363	.098
District_Size	1.643	2	.822	.844	.432
District_Location * District_Size	1.089	2	.544	.559	.573
Error	149.919	154	.973		
Total	2375.000	161			
Corrected Total	161.280	160			

a. R Squared = .070 (Adjusted R Squared = .034)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 9 or 14

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.67	.374	.176	-.21	1.55
	Rural	.00	.324	1.000	-.77	.76
Suburban	Urban	-.67	.374	.176	-1.55	.21
	Rural	-.67*	.223	.008	-1.20	-.15
Rural	Urban	.00	.324	1.000	-.76	.77
	Suburban	.67*	.223	.008	.15	1.20

Based on observed means.

The error term is Mean Square(Error) = .973.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Question 9 or 14

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Suburban	23	3.13
Urban	10	3.80
Rural	128	3.80
Sig.		.083

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .973.

a. Uses Harmonic Mean Sample Size = 19.829.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 9 or 14

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	-.31	.206	.296	-.79	.18
	Small	-.46*	.187	.040	-.90	-.02
Medium	Large	.31	.206	.296	-.18	.79
	Small	-.15	.189	.705	-.60	.30
Small	Large	.46*	.187	.040	.02	.90
	Medium	.15	.189	.705	-.30	.60

Based on observed means.

The error term is Mean Square(Error) = .973.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Question 9 or 14

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Large	47	3.43
Medium	45	3.73
Small	69	3.88
Sig.		.050

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .973.

a. Uses Harmonic Mean Sample Size = 51.732.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Urban, Suburban, Rural	1	Urban	10
	2	Suburban	23
	3	Rural	127
Large, Medium, Small	1	Large	47
	2	Medium	45
	3	Small	68

Tests of Between-Subjects Effects

Dependent Variable:Question 10 or 15

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.907[a]	6	.151	.164	.986
Intercept	598.236	1	598.236	649.181	.000
District_Location	.514	2	.257	.279	.757
District_Size	.021	2	.011	.012	.988
District_Location * District_Size	.184	2	.092	.100	.905
Error	140.993	153	.922		
Total	2422.000	160			
Corrected Total	141.900	159			

a. R Squared = .006 (Adjusted R Squared = -.033)

Post Hoc Tests

Urban, Suburban, Rural

Multiple Comparisons

Question 10 or 15

Tukey HSD

(I) Urban, Suburban, Rural	(J) Urban, Suburban, Rural	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Urban	Suburban	.17	.364	.882	-.69	1.03
	Rural	.25	.315	.704	-.49	1.00
Suburban	Urban	-.17	.364	.882	-1.03	.69
	Rural	.08	.218	.932	-.44	.59
Rural	Urban	-.25	.315	.704	-1.00	.49
	Suburban	-.08	.218	.932	-.59	.44

Based on observed means.

The error term is Mean Square(Error) = .922.

Homogeneous Subsets

Question 10 or 15

Tukey HSD[a,,b,,c]

Urban, Suburban, Rural	N	Subset 1
Rural	127	3.75
Suburban	23	3.83
Urban	10	4.00
Sig.		.687

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .922.

a. Uses Harmonic Mean Sample Size = 19.821.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Large, Medium, Small

Multiple Comparisons

Question 10 or 15

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.10	.200	.880	-.38	.57
	Small	.07	.182	.932	-.37	.50
Medium	Large	-.10	.200	.880	-.57	.38
	Small	-.03	.184	.984	-.47	.41
Small	Large	-.07	.182	.932	-.50	.37
	Medium	.03	.184	.984	-.41	.47

Multiple Comparisons

Question 10 or 15

Tukey HSD

(I) Large, Medium, Small	(J) Large, Medium, Small	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Large	Medium	.10	.200	.880	-.38	.57
	Small	.07	.182	.932	-.37	.50
Medium	Large	-.10	.200	.880	-.57	.38
	Small	-.03	.184	.984	-.47	.41
Small	Large	-.07	.182	.932	-.50	.37
	Medium	.03	.184	.984	-.41	.47

Based on observed means.

The error term is Mean Square(Error) = .922.

Homogeneous Subsets

Question 10 or 15

Tukey HSD[a,,b,,c]

Large, Medium, Small	N	Subset 1
Medium	45	3.73
Small	68	3.76
Large	47	3.83
Sig.		.867

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .922.

a. Uses Harmonic Mean Sample Size = 51.542.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

T-Test

Group Statistics

	Principal or Teacher	N	Mean	Std. Deviation	Std. Error Mean
Question 1 or 6	Principal	185	3.46	1.011	.074
	Teacher	187	3.40	1.104	.081
Question 2 or 7	Principal	186	4.09	.960	.070
	Teacher	187	4.22	.831	.061
Question 3 or 8	Principal	186	3.09	1.223	.090
	Teacher	186	3.27	1.136	.083
Question 4 or 9	Principal	186	3.47	.883	.065
	Teacher	186	3.40	.937	.069
Question 5 or 10	Principal	185	3.21	.843	.062
	Teacher	186	3.17	.971	.071
Question 6 or 11	Principal	185	3.29	.820	.060
	Teacher	186	3.22	.918	.067
Question 7 or 12	Principal	185	3.56	1.042	.077
	Teacher	186	3.81	1.116	.082
Question 8 or 13	Principal	0[a]	.	.	.
	Teacher	186	3.74	.952	.070
Question 9 or 14	Principal	186	3.63	.905	.066
	Teacher	187	3.72	1.020	.075
Question 10 or 15	Principal	185	3.59	.963	.071
	Teacher	185	3.78	.944	.069

a. t cannot be computed because at least one of the groups is empty.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Question 1 or 6	Equal variances assumed	2.437	.119	.581	370	.562	.064	.110	-.152	.280
	Equal variances not assumed			.581	367.797	.562	.064	.110	-.152	.280
Question 2 or 7	Equal variances assumed	.057	.812	-1.490	371	.137	-.139	.093	-.321	.044
	Equal variances not assumed			-1.490	362.992	.137	-.139	.093	-.322	.044
Question 3 or 8	Equal variances assumed	.859	.355	-1.494	370	.136	-.183	.122	-.423	.058
	Equal variances not assumed			-1.494	367.991	.136	-.183	.122	-.423	.058
Question 4 or 9	Equal variances assumed	.482	.488	.797	370	.426	.075	.094	-.110	.261
	Equal variances not assumed			.797	368.704	.426	.075	.094	-.110	.261
Question 5 or 10	Equal variances assumed	5.095	.025	.410	369	.682	.039	.094	-.147	.224
	Equal variances not assumed			.411	362.377	.682	.039	.094	-.147	.224
Question 6 or 11	Equal variances assumed	3.241	.073	.731	369	.465	.066	.090	-.112	.244
	Equal variances not assumed			.731	364.835	.465	.066	.090	-.112	.244

Question 7 or 12	Equal variances assumed	.290	.591	-2.275	369	.023	-.255	.112	-.476	-.035
	Equal variances not assumed			-2.276	367.521	.023	-.255	.112	-.475	-.035
Question 9 or 14	Equal variances assumed	2.703	.101	-.930	371	.353	-.093	.100	-.289	.103
	Equal variances not assumed			-.931	366.227	.353	-.093	.100	-.289	.103
Question 10 or 15	Equal variances assumed	.152	.697	-1.908	368	.057	-.189	.099	-.384	.006
	Equal variances not assumed			-1.908	367.845	.057	-.189	.099	-.384	.006