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A Descriptive Study of 21st Century Instructional Practices In the Association of Christian Schools International in Kentucky, Ohio and West Virginia

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A DESCRIPTIVE STUDY OF 21ST CENTURY INSTRUCTIONAL PRACTICES IN THE ASSOCIATION OF CHRISTIAN SCHOOLS INTERNATIONAL IN KENTUCKY, OHIO AND WEST VIRGINIA

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ABSTRACT

Association of Christian Schools International serves the evangelical Christian community and includes preschools, elementary and secondary schools as well as postsecondary institutions. Offering a viable and authoritative voice in education and contributing to the public good, ACSI enables Christian school students worldwide to acquire wisdom, knowledge, and a biblical worldview as evidenced by a lifestyle of character, leadership, service, stewardship and worship. Core beliefs include spiritual and academic excellence while their statement of faith shows their commitment to providing assistance to the needs of Christian educators and schools (Association of Christian Schools International, 2009).

The rationale of this research project was to obtain online survey data from ACSI principals to determine the extent to which ACSI Christian Schools in Ohio, West Virginia and Kentucky were using 21st century instructional practices and to investigate the effectiveness of these practices in facilitating student learning. Differences were investigated based on demographic data such as school size, developmental levels, state, school accreditation and the agency from which the principal received certification. The study population included 246 ACSI principals from Ohio, Kentucky and West Virginia.

The results of this study show that ACSI Christian schools in Ohio, West Virginia and Kentucky are using 21st century instructional practices in their classrooms when planning and delivering classroom instruction or assessing student learning. It can also be concluded that responding principals perceived the 21st Century Instructional practices to be effective in facilitating student learning in ACSI Christian Schools in Kentucky, Ohio and West Virginia.

DEDICATION

I dedicate this dissertation to my family; to my husband, Gerry; my daughter, Chloe'; my parents, Robert and Connie Edwards; my brother, Grant and his family; and my grandmother, Lucy Wilson. Their encouragement and unwavering belief in me has inspired my achievement and guided my success. I am blessed to have such a wonderful family who believes in me and who have always taught me that I can "do all things through Christ who strengthens me"; Philippians 4:13.

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CHAPTER ONE: INTRODUCTION

Nationally, there is a growing movement to improve America's schools. Policymakers, elected officials, educators, parents and students agree that American schools are not adequately preparing all students for success in the 21st century (Partnership for 21st Century Skills, 2003). By the time students are ready to leave high school, they should be well prepared for citizenship, work and postsecondary education.

In *The World Is Flat,* Friedman (2006) explained how swiftly global changes are taking place in technology and how developments are putting people all over the globe in touch as never before. The increased use of technology and communication are quickly becoming commonplace. We only need to look in our purse or pocket to see how inter-connected we have become. Freidman describes this phenomenon as a shrinking world, and explains that the explosion of wealth and travel that comes with this globalization affects every area of life.

Economics, government, foreign policy and business are experiencing transformations that affect American education. Friedman (2006) explained how globalization has changed the landscape of our society and concluded that American students, schools and parents must be ready to adapt. The world has changed and as the world changed, people have changed.

In 1983, the standards-based movement was born with the publication of "A Nation at Risk" (Marzano & Kenall, 1996). This movement called for academic standards that could provide the basics for measuring student academic performance. Rather than the norm-referenced rankings of the past, the standards-based system would measure each student against a prescribed standard, instead of measuring how they

compare to other students. This restructuring called for all graduating high school students to receive a meaningful diploma that guarantees the student can read, write and do basic arithmetic.

In response to the need for public school reform, President George W. Bush invited all fifty state governors to convene at an education summit where six broad goals for education reform were set. These goals became known as the "No Child Left Behind Act" (National Education Goals Panel, 2000).

Students today are different than they were 20, 30 or 40 years ago; they are adept at multi-tasking and using digital media and technology devices. Brain-based research shows us that the visual cortex of today's students is 15 percent larger when compared to students of 15 years ago (Jukes & Dosaj, 2006). Research projects describe the classroom of tomorrow as very different from the classroom of today. By the year 2019, teaching will not be confined to a specific place, specific time, or to a single teacher. Teaching will not be confined to human teachers, paper-based information, memorization or the intellectual elite. Jukes and Dosaj also believe that education will not be confined to childhood or to the ability to control learners, and that 21st century skills should focus on 21st century content and context delivered by 21st century teaching.

The *Partnership for 21st Century Skills* (P21) was initiated to infuse Jukes' type of philosophy into the classroom. This partnership brings together the business community, policymakers and educational leaders to ensure every child's success as an educated citizen and worker (Partnership for 21st Century Skills, 2003).

Ken Kay, President of the Partnership for 21st Century Learning, believes this unique public-private organization can provide a model for learning in this millennium.

Partnering with business and government leaders, the Partnership for 21st Century Learning (P21) has used research based information to design a common vision for educational systems. These partners believe that incorporating 21st century skills into our educational systems will equip our students, workers and citizens with the vital skills necessary to earn a living and prosper. Speaking at the 2008 Democratic and Republican National Conventions, Kay suggested that an economy driven by imagination, creativity and innovation that is facing complex business, political, scientific, technological, health and environmental challenges, needs the ingenuity, agility and skills of the American people, so that the United States can continue being an international leader (Partnership for 21st Century Skills, 2010).

Society is facing challenges from all sides and P21 wants all school systems to graduate students capable of offering solutions to world problems. Twenty-first century students need to be flexible and open to new ideas while possessing communication and language proficient skills. Kay argues that classrooms must contain content objectives that are clearly defined and expanded beyond the minimal mastery requirements of the past. He believes that the learning standards and expectations of today must require our children to have a higher level of knowledge and skills (Partnership for 21st Century Skills, 2008).

Kay urges states to incorporate 21st century skills that are critical for powering job growth in business and industry (Partnership for 21st Century Skills, 2008). Twenty first century elements, which include strong core subjects, teacher quality, purposeful assessment, technology tools, and the ability to learn and apply life skills within a global context, should be a top priority for all children.

A call for educational standards and practices that push schools to better prepare students for 21st century life beyond high school has come from postsecondary institutions and employers alike. Students need to move past basic skills and receive challenging courses that prepare them for future advancement. An educated workforce is vital to the economic future of our country, and all students should be exposed to the elements of 21st century learning. These 21st century skills are needed to help students learn to make life choices, become good citizens and compete in a global economy (Partnership of 21st Century Skills, 2003).

Beyond a rigorous knowledge base, P21 strives to focus schools and classrooms on the need to give equal prominence to the following:

- Global Awareness–helping students work through differing points of view from an international global society.
- Economic Literacy–helping students make more sophisticated financial choices.
- Civic Literacy-helping students analyze their role in government within the global and local community.
- Health Awareness-helping students recognize the value of healthy lifestyles (West Virginia Department of Education, 2007).

To assist students in making meaningful connections to their world, P21 advocates that students should have opportunities to make content relevant to their lives; have classroom experiences that are reflective of the world in which they live and be provided with authentic learning experiences (West Virginia Department of Education, 2007). To that end, students should be engaged and motivated to change their attitudes about learning. P21 encourages all American students to contribute, compete and prosper in the current

environment as well as the global environment of the future. To do this they must be able to think critically, make sound judgments, solve complex problems, collaborate with diverse populations, and make creative use of knowledge and opportunities while taking charge of their financial and civic responsibilities (West Virginia Dept of Education, 2007).

All students entering the workforce upon graduation from high school should be able to use the skills they have acquired to function productively as employees. To become a world leader the United States must provide innovative, creative and adaptable workers who can perform new tasks while exercising sound reasoning and understanding. Our citizens must be competitive within global markets and they should possess the ability to develop and communicate new ideas while analyzing and solving problems (Kay, 2009). This paradigm shift has created a need to reassess and realign expectations and instructional strategies to facilitate change (Achieve Inc., 2008).

Significant advancements in technology and the continuing globalization of business and industry are forcing educators to change the way American students are being educated. The need for change is well documented; a 2004 National survey found that nearly 40% of high school graduates felt inadequately prepared for college or the workplace (Achieve, Inc., 2008). A 2005 survey for the National Association of Manufacturers found that 84 percent of employers believe K-12 schools are not doing a good job of preparing students for the workplace; 55 % of the employers described schools as deficient in preparing students with basic employability skills (such as attendance, timeliness and work ethic); 51 percent cited math and science deficiencies; and 38 percent reported reading and comprehension deficiencies (Skills Gap Report,

2005). In response to these findings, many schools at all levels are implementing initiatives designed to keep students in school, enroll them in more rigorous classes, and challenge them to graduate.

Having the ability to use technology to research, organize and communicate information therefore becomes vital to the 21st century student. Within a digital world, teachers must use digital technologies such as computers, media players and networking tools to appropriately access, manage, integrate and evaluate student understanding. Public and private school students need to use the tools of technology in their everyday lives (Partnership of 21st Century Skills, 2008).

Technology tools and skills continuously evolve. Predicting the essentials of technology in tomorrow's society is impossible. Nevertheless, P21advocates believe that all schools need to use the tools available to them now to design and implement instruction. Such tools include information and communication technologies such as electronic probes, iPods, and electronic white boards. Lessons should be designed to incorporate multimedia and digital tools, as well as contain access to online learning communities. By aligning digital content, software and adequate hardware to the classroom experience, 21st century students will become competent in their understanding of information technologies (West Virginia Department Education, 2007). The end result will be students able to learn, create and communicate in this digital age (Tabscott, 1998).

Christian Schools

To date, most of the educational focus relative to 21st century learning has been placed on the public school sector. But what about Christian Schools? Are they embracing and implementing 21st century learning and educational reforms? Price (2009,

p.1) asked, "To what extent are they utilizing instructional practices appropriate for 21st curriculum and learning?"

The Association of Christian Schools International (ACSI) was established in 1978 to give order and unity to the 5,000 Christian schools they represent globally (ACSI, 2009). The vision of Christian schools in the ACSI organization is to provide students with excellent academic preparation that is grounded on absolute truth (ACSI, 2009). Christian schools should provide students with a solid educational and spiritual foundation that is missing in secular education, "To accomplish this vision, Christian schools must embrace a new paradigm inherent in the reality around us" (Price, 2009, p. 4).

Christian Schools must establish instructional practices that meet or exceed state educational standards. According to Smitherman (2003), teaching 21st century skills in a social, emotional, and spiritual context allows practitioners to become great teachers. Tying their practices to classroom curriculum, desired student outcomes and classroom assessments allows Protestant schools to progress while still holding firm to their values and beliefs.

ACSI schools value students. Their goal is to prepare students for life. This goal, however, cannot be accomplished without the faculty, the dedicated professionals responsible for instructional delivery. Christian teachers are the most important ingredient of a successful Christian school. The Christian teacher who models Christian thinking, attitudes and lifestyle, the Christian teacher who coaches students with encouragement, guidance and support, and the Christian teacher, who facilitates learning and deeper thinking, is the vital element that determines the success of a Christian school

education. Teachers are the key to strong 21st century instructional delivery. By looking ahead, constantly reevaluating, and making students a priority, 21st century teachers in both public and private schools are essential to achieving 21st century learning outcomes (McKinley, 2009).

Statement of the Problem

Change can be challenging as it brings uncertainty. Everyone who wants schools to do a better job of teaching students to function in the 21st century should be concerned with the implementation of 21st century skills, and Christian schools should not be any different. The world is changing and people are changing. Price (2009) suggests that if we do not change our Christian schools to embrace learning that is relevant to our students' lives, then we are ignoring reality. He believes that a refusal to make a 21st century paradigm shift in Christian schools will result in empty classrooms and lifeless institutions.

No data are available on the implementation status of 21st century knowledge and skills in ACSI Christian Schools. This investigation represents an initial attempt to determine the extent to which ACSI Christian Schools in Ohio, West Virginia and Kentucky are using 21st century instructional practices and to investigate the effectiveness of these practices in facilitating student learning as perceived by the school principals. The independent variables for this study are the 60 selected, research-based 21st century instructional practices and the five selected demographic/attribute variables. Secondarily the study will assess the level of effectiveness of these strategies in facilitating student learning as perceived by the school principal.

Research Questions

The following research questions were investigated:

1. What is the level of classroom use, as perceived by principals, of selected research-based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?
2. What are the differences, if any, based on selected demographic/ attribute variables, in the level of classroom use as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?
3. What is the level of effectiveness in facilitating student learning, as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?
4. What are the differences, if any, based on the selected demographic/ attribute variables, in the level of effectiveness in facilitating student learning, as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

Operational Definitions

For the purpose of this study, the following definitions will be used:

1. ***Accreditation:*** a voluntary method of quality assurance used by schools in Kentucky, Ohio and West Virginia to drive student performance and continuous improvement in education. The process is given oversight by national agencies such as ACSI, North Central Association of Teacher Education, Southern

Association of Colleges and Schools, North Central Association of Colleges and Schools and state educational agencies.

2. ***Certification:*** the proper credentials required by a national organization such as Association of Christian Schools and/or a state educational agency in Kentucky, Ohio and West Virginia to be a professional educator or principal.
3. ***Classroom Use of 21st century instructional practices:*** the degree that 21st century instructional practices are being implemented within the classroom, as reported by principals, on a 5 point Likert scale; 1=Never, 2=Seldom, 3=Sometimes, 4=Frequent, 5=Always.
4. ***Effectiveness of 21st century instructional practices in facilitating student learning:*** the degree that 21st century instructional practices are believed to be effective in promoting learning as reported by principals of ACSI schools in Kentucky, Ohio and West Virginia, on a 5 point Likert scale; 1=Not effective, 2=Minimally effective, 3=Effective,4=Moderately effective, 5=Highly effective
5. ***Ohio River Valley Region:*** A three state region of ACSI which includes: Kentucky, Ohio and West Virginia.
6. ***School Size:*** total enrollment for the academic year of 2009-2010 of any ACSI Christian school located in Kentucky, Ohio and West Virginia.
7. ***School Developmental Level:*** school level classification equated to schools in three categories; primary developmental level, middle developmental level and secondary developmental level of students in the school.

Delimitations

The use of only ACSI Christian schools is the first delimitation of this study. Therefore the results may not be able to be generalized to public schools or other private schools. The study was limited to the Ohio River Valley Region of the ACSI which includes the states of Kentucky, Ohio and West Virginia. The use of 21st century instructional practices that are common in the three states, of Kentucky, Ohio and West Virginia, surveyed delimits the study.

Summary

Christian schools must academically prepare students for the rigors of 21st century life. If we do not change our Christian schools to make learning relevant to the student's lives, then we are ignoring reality (Price, 2009). The new era in which we live is constantly changing and this change requires a paradigm shift in all schools, including Christian schools.

This study sought to discover the extent to which ACSI Christian schools in Ohio, West Virginia and Kentucky are using 21st century instructional practices and to investigate the effectiveness of these practices in facilitating student learning as perceived by the school principals. The results will be used to educate and inform ACSI member schools as to their use of 21st century instructional practices and the perceived level of effectiveness these 21st century instructional practices had in facilitating student learning.

CHAPTER TWO: REVIEW OF THE LITERATURE

American education is under pressure from many different groups to reform educational outcomes. Standardized testing, standards based objectives and multiple assessments blend with calls from industry, business and higher education to prepare students for life in the 21st century (Partnership for 21st Century Skills, 2010). These reform initiatives create an environment where conducting experimentation in the classroom can be both costly and full of risk (Diamond, 2007; Schoen & Fusarelli, 2008).

As ACSI Christian Schools develop stronger, more effective and more efficient schools (Keenan, 2009), studies have shown that an information-based economy demands 21st century skills from their graduates (Partnership of 21st Century Skills, 2010). Public schools as well as Christian schools must learn to manage these reform demands. Consequently, the 21st century instructional practices ACSI Christian Schools are using to serve their students becomes of utmost importance. The 21st century instructional practices in planning, delivery and assessment in ACSI classrooms therefore become the focus of this study.

The literature review that follows will explore the historical perspective of Christian schools, followed by sections on the Partnership of 21st Century Skills, education reform, data used by the states of Kentucky, Ohio and West Virginia to meet educational reform expectations, and 21st century instructional practices, including elements on planning, classroom delivery and assessment. The objective of this chapter is to provide a clear understanding of ACSI Christian Schools, school principals as instructional leaders and the need for 21st century

instructional practices to be used by ACSI Christian schools in Kentucky, Ohio and West Virginia.

Historical Perspective of Christian Schools in America

Early church fathers established Christian schools as a strategy to advance the church throughout the cities and towns of the Roman Empire (Kienel, 2005). Dating back 1,900 years, Christian schools were prominent among the early church Christians in Rome. Christian school education was present from the early church, through the Middle Ages, Reformation, and into the time of the Pilgrims and Puritans (Kienel, 1998). The reformers who came to America in the 1600's were Bible-centered and devoted followers of Jesus Christ. Pilgrims and Puritans came to the New World for freedom of religion and to establish missions for educating others.

Catholic, Protestant and Lutheran settlers all believed that they needed to educate their children, not only in academics, but with a belief system as well. Protestant-sponsored schooling was not a new concept to the American educational system. Lutheran, Friends, Moravian, Baptist, German Reformed and Anglican churches all established schools for their children (Cuban, 2001).

In the following prayer, John Eliot, the ordained teacher of the Puritan Church of Roxbury, Massachusetts, reflects the intense desire the settlers had for Christian schooling,

> "Lord, for schools everywhere among us! O! that our schools may flourish! That every member of this assembly may go home and procure a good school to be encouraged in the town where he lives! That before we

> die we may see a good school encouraged in every plantation of the country" (Kienel, 2005, p.26).

The Protestant Reformation beliefs and ideals can be seen as the cornerstone of American education (Wilds, 1936). The scholarly Puritans' main goals for schooling included Bible literacy and Christian living (Kienel, 2005). In 1647, as towns with fifty or more households became more numerous, the use of a daily curriculum of reading, writing, spelling and arithmetic became common place. These disciplines, along with church doctrine, manners and morals, constituted the curriculum for the students who attended these schools.

As the colonies began to emerge, the Pennsylvania Germans and the Dutch made it clear in their policies and practices that they were committed to education, and that the home, church and school should all play a part in the advancement of children. The southern colonies also were committed to Christian education; however, the majority of their schools were founded on the elitist views held by The Church of England (Kienel, 2005).

All community common schools of this era had ties to the churches which founded them. Funding came from local taxes, private contributions and tuition. As Americans moved west, and America's population grew, independent schools and charity (free) schools began to emerge. The Civil War brought some new educational challenges including a decline in Christian academies and the result was a shift from Christian-based schools to free public schools for the poor (Kienel, 2005). The spread of public school education expanded as America grew.

The prestige and popularity of private and denominational academies continued to decline after the Civil War. Public schools rooted in Christian values flourished, while Christian schools floundered. This trend may be attributed to public schools promoting the Christian values, morals, teachings and manners that were once only associated only with a Christian education (Kienel, 2005).

Benjamin Franklin outlined an academy-level curriculum that he believed would be suited to professions beyond the clergy, schoolmasters and civil servants (Kienel, 2005). Because tax monies were only used to support public elementary schools at this time, providing for the growth of secondary schools fell to private academies. As the many different religious views and the denominational differences within religious organizations emerged, common schools discovered they could not please everyone. In the early 1800's Christian schooling once again began to flourish as evangelical parents wanted to maintain academics and Bible-centered education. However, as America moved west and as public schools became more wide-spread and secular with increasing control given to the states, distance and economics often prevented the growth of Christian schools.

The evolution of Christian schools has been characterized as having taken place in three general movements. The first Christian school movement was established by the early church Christians during the time of the Roman Empire (Kienel, 2005). The second Christian school movement, led by Martin Luther, John Calvin and William Tyndale in the 1600’s sought to spread their beliefs while educating their children. Today we are experiencing the third Christian school movement in America. Bond (1977) has argued that prior to the Supreme

Court decision to remove prayer from the public schools Protestant Christians were mostly indifferent to the public schools. Scholars now estimate that between 8,000 and 12,000 independent Christian schools were founded between the1960's and the early 1990's (Carper, 1983; Cooper & Dondero, 1991).

Association of Christian Schools International (ACSI)

As Evangelical Christian schools continued to grow, several Christian school associations throughout the United States and Canada unified to form The Association of Christian Schools International (ACSI). This organization, established in 1978, functions as a practitioner's organization with locally elected district representatives and boards of directors (ACSI Member Directory, 2009). ACSI's mission is to enable Christian educators and schools worldwide to effectively prepare students for life. This mission is accomplished by providing information, services, and products that are needed by their more than 5,000 member schools in over 100 countries. The combined enrollment of these member schools exceeded 1,000,000 students in 2009.

Association of Christian Schools International serves the evangelical Christian community and includes preschools, elementary and secondary schools as well as postsecondary institutions. Offering a viable and authoritative voice in education and contributing to the public good, ACSI enables Christian school students worldwide to acquire wisdom, knowledge, and a biblical worldview as evidenced by a lifestyle of character, leadership, service, stewardship and worship. Core beliefs include spiritual and academic excellence while their statement of faith shows their commitment to providing assistance to the needs of

Christian educators and schools (Association of Christian Schools International, 2009).

Evangelical Protestant Christian schools are among America's oldest traditions; ACSI continues this long standing tradition with the belief that educating a child requires strong academics as well as Bible training. Academic strength coupled with a biblical worldview in education is not only a solid tradition of America's past, but it is the key to America's future (Kienel, 2005). ACSI promotes the importance of strong schools, and because ACSI Christian schools represent Christ, they value and encourage each school in their membership to continuously pursue excellence (ACSI Accreditation Manual, 2011). ACSI believes that this pursuit is the equivalent of the biblical mandate that calls for "things that are excellent" Philippians, 1:10 Holy Bible [King James Version]. Therefore, ACSI promotes meeting standards of quality and excellence that verify a commitment to continuous improvement and constant accountability.

School Accreditation

Accreditation is a voluntary process of quality assurance designed to set apart schools that meet high educational standards. Based on research, American universities and secondary schools have been evaluating their organizational effectiveness for over 100 years (AdvancEd, 2011). This assessment process yields enhanced student learning and continuous school improvement. The internal self-evaluation has the capacity to expose areas of strengths and weaknesses. The practice of accreditation asks school leaders to evaluate their priorities, instructional strategies, programs and overall school community. By

assessing their existing reality, accreditation allows school leaders to apply improvement measures, monitor progress and evaluate results.

The Association of Christian Schools International (ACSI) offers an accreditation program that encourages continuing school development while continuing the process of assessment (ACSI Accreditation Manual, 2011). The ACSI program not only explores the spiritual aspects of the school but also concentrates on the educational quality and integrity of the organization. Taking a year or more to complete, this three step process requires ACSI schools to fulfill an intensive, institutional-wide self-study, meet external consultation through review from a visiting peer group and give ongoing accountability for improvement from beginning to end. This improvement must also include an annual report which continues after the accreditation process is complete (ACSI Accreditation Manual, 2011). ACSI's internationally recognized accreditation program gives accredited schools the following benefits:

- Approval by the U. S. Department of Education for the student and exchange visitor Program (SEVP), The Student Exchange Visitor Information System (SEVIS), I-20 and I-17 forms,
- Various U. S. state and several national recognitions for credits/ athletics,
- Endorsement to administer College Board / ACT exams on the school site,
- A listing on the world-wide International Registry of Accredited Schools through the Commission on International and Trans-Regional Accreditation (CITA).
- Eligibility for joint accreditation status with the following:

- AdvancEd Accreditation (North Central Association/ Southern Association),
- Northwest Association of Accredited Schools,
- New England Association of Schools and Colleges,
- Western Association of Schools and Colleges,
- Commission on International and Trans-Regional Accreditation (CITA).

ACSI uses accreditation to evaluate itself in light of its unique educational mission (ACSI Accreditation Manual, 2011). ACSI schools must explain their strengths and weaknesses and suggest plans for improvement in each of the following ten component areas of the self-study before they are approved for ACSI accreditation status.

- **Philosophy & Foundations:** Biblically based standards, statement of faith, Christian perspective guidelines, communication and implementation of philosophy.
- **School Organization:** Admissions, school governance and finance.
- **School, Home & Community:** Enrollment numbers, demographic assessment of the school constituency, nondiscrimination statements, assessment of past and present students, length of school day and year rationale.
- **School Personnel:** Character, training, experience, stability and professional development, Administrator qualifications, supervision and evaluation, and volunteers.
- **Instructional Program:** Curriculum, instructional strategies, assessments, instructional materials, policies and procedures.
- **Library, Media Resources & Technology:** Materials collection, technology, personnel, professional development, facilities and budget.
- **Student Services:** Student activities, guidance services and health services.
- **Support Services:** Transportation, food services, safety and crisis planning.
- **School Facilities:** Fire, health, sanitation and safety regulations, suitable and maintained facilities, grounds, classroom size, special facilities, recreation and athletic areas.

- **School Improvement Plan:** develop and annually update school improvement plans that include specific goals, strategies and assessment that promotes student achievement and schoolwide learning goals (School Accreditation Manual, 2008).

"These ten standards are comprehensive declarations of quality procedures and practices that should exist in ACSI schools that are striving to achieve superior performance and strong effectiveness based on educational research and quality practices from a distinctively Christian perspective" (ACSI Accreditation Manual, 2008, p 1).

Certification of ACSI Principals

The administrator of an ACSI Christian school is the person who oversees the day-to-day management of a school. Often holding the title of principal, this person requires the proper credentials and is considered to be a professional educator. Therefore, all certified ACSI principals must hold a bachelors degree. ACSI offers four levels of principal certificates: interim, temporary, standard, professional. Interim certificates are offered to persons who have received a bachelor's degree from a college that is non-accredited. This type of certificate is only valid for two years giving the applicant time to take additional classes from an accredited institution that is approved by the United States Department of Education (Association of Christian Schools International, 2011). Temporary certificates are for the applicant who has a bachelor's degree from an accredited institution but has not completed the biblical studies or the philosophy requirement of ACSI.

A standard certificate is offered to the applicant who has a bachelor's degree from an accredited institution and has a valid provincial or state certification in

the area requested or a transcript showing thirty-three (33) semester hours of education courses that include a minimum of six (6) semester hours of graduate-level educational administration hours, this type of certificate also requires six (6) semester hours of Biblical studies and a Christian philosophy course approved by ACSI. The professional certificate requires a master's degree from an accredited institution, thirty-three (33) semester hours in education with six (6) hours being in graduate level educational administration. This type of certificate also requires ten (10) semester hours of Biblical studies and a Christian philosophy course approved by ACSI (Association of Christian Schools International, 2011).

Certification of ACSI Teachers

Christian school educators must first and foremost be Christians. The heart of the Christian school is the people who serve God by using their gifts and talents to teach others. The educational qualifications for ACSI teachers are vital to the academic integrity of the school. Therefore all certified ACSI teachers must hold a bachelors degree. ACSI offers four levels of teacher certificates: interim, temporary, standard, professional. Interim certificates are offered to persons who have received a bachelor's degree from a college that is non-accredited. This type of certificate is only valid for two years giving the applicant time to take additional classes from an accredited institution that is approved by the United States Department of Education. Temporary certificates are for the applicant who has a bachelor’s degree from an accredited institution but has not completed the biblical studies or the philosophy requirement of ACSI.

A standard certificate is offered to the applicant who has a bachelor's degree from an accredited institution and has twenty-four (24) semester hours of educational studies and a semester of student teaching. These courses must include four (4) elementary methods courses and one (1) secondary methods course. To obtain this certificate the applicant must also have six (6) semester hours of Biblical studies and a Christian philosophy course approved by ACSI. The professional certificate requires a master's degree from an accredited institution, twenty-four (24) semester hours in educational studies and a semester of student teaching. These courses must include four (4) elementary methods courses and one (1) secondary methods course. To obtain this certificate the applicant must also have ten (10) semester hours of Biblical studies and a Christian philosophy course approved by ACSI (ACSI.org, 2011).

The Partnership for 21st Century Skills (P21)

As America's schools look for educational standards and practices that push schools to better prepare students for life in the 21st century, Christian schools must also move students beyond basic skills with challenging and rigorous courses (Price, 2009). Over the past decade, public schools have begun to implement No Child Left Behind requirements and have vowed to move beyond its minimal mandates to establish a deeper understanding of student needs. The Partnership for 21st Century Skills, a national organization which advocates for school reform have established a framework for educators to use as they began adding rigorous skills that all 21st century students need. By focusing on skills that include content knowledge and expertise, the Partnership for 21st

Century skills program includes strong core subjects, purposeful assessment, technology tools and the ability to learn and apply life skills within a 21st century learning environment. P21 believes that all students will benefit from instructional practices that emphasize deep understanding rather than shallow knowledge. They encourage standards that engage students with real world data and allow for multiple measures of mastery (Partnership for 21st Century Skills, 2010).

Twenty first century children in the United States need 21st century skills to thrive as successful citizens, workers and leaders. There is a large gap between the knowledge and skills most students learn in school and the knowledge and skills that are needed to be successful in a global workplace or community (Partnership for 21st Century skills, 2010). To bridge this gap, P21 has partnered with several states to reform education and align classroom environments with contemporary standards.

State Partners from the Ohio River Valley Region

Fifteen states across America have joined P21 in promoting the integration of skills into classroom delivery by implementing P21 reform initiatives to ensure students are ready for college and career choices (Partnership for 21st century Skills, 2010). Kentucky, Ohio and West Virginia and have partnered with P21 and are moving students past basic skills by implementing 21st century learning environments, classroom instruction and assessments that prepare them for future advancement (Partnership for 21st Century Skills, 2008).

No longer can the traditional 50-minute lecture prepare the image-driven, visual learner to mastery of content knowledge. Learning must commence inside and outside the walls of the classroom. Inside the classroom, lessons must be prepared to incorporate state standards while focusing on individual student needs. Classroom delivery must encourage students to use critical thinking skills while engaging students in problem solving tasks. Cumulative portfolios, reflections and standardized testing results must show student progress not only for assessment but also to prospective employers and college admissions officers (Partnership for 21st Century Skills, 2008).

Outside of the classroom, 21st century learning that engages the student in hands-on-experiences should be planned. Community involvement and field experiences deliver instruction by allowing students to engage in problem solving tasks that are relevant to everyday life. On-the-job training includes authentic experiences that drive the curriculum as well as teaching real life conditions to each student (Marzano, Pickering & Pollock, 2001). The classroom of the 21st century should contain elements of life experiences, individuality, unique views and boundless possibilities.

Kentucky Department of Education

The Kentucky Department of Education is working to create an environment of 21st century learning. The Kentucky Department of Education's mission is to prepare all Kentucky students for next-generation learning, work and citizenship by engaging schools, districts, families and communities through

excellent leadership, service and support (Kentucky Department of Education, 2010).

Kentucky's leaders are continually in discussion with educators and national experts on the newest implications about competency standards. The Kentucky Department of Education is committed to implementing 21st century standards by reviewing their current standards as well those of other 21st century partners. This retooling allows the state to ensure that all new standards are successfully implemented.

Teachers in Kentucky create learning environments where students are active participants as individuals and as members of collaborative groups. Teachers are encouraged to motivate students, nurture the students desire to learn in a safe, healthy and supportive environment which in turn develops compassion and mutual respect (Kentucky Department of Education, 2011a). Teachers often display effective and efficient classroom management including classroom routines that promote comfort, order and appropriate student behaviors. Twenty-first century teachers in Kentucky effectively allocate time for students to engage in hands-on experiences, discuss and process content and make meaningful connections to other subjects. Learning can then commence across all disciplines. These teachers orchestrate effective classroom discussions, questioning, and learning tasks that promote higher-order thinking skills, all the while making lessons unite to community, society and current events.

Ohio Department of Education

Because Ohioans are competing in a global economy, the Ohio Department of Education focuses on 21st Century readiness in its schools (Ohio Department of Education, 2010a). By establishing 21st Century learning environments that expand student learning opportunities and measures Ohio students against students of the world, Ohio is dedicated to building a network of educators who are incorporating 21st century skills into their classroom delivery while including an international perspective into their classroom (Ohio Department of Education, 2010b).

The Ohio Department of Education is in the "Race to the Top". The "Race to the Top" is a competition among states for a share of $4 billion dollars in federal stimulus funds. The winners must use the money to turn around low performing schools, invest in professional development of teachers and build data systems that measure how students are doing. Using federal stimulus money to advance education, Ohio ranked fifth in the nation on their educational reform plan (Ohio Department of Education, 2010a).

Ohio's research indicates that the best systems in the world create a high challenge for their children that include high standards and rigorous, equitable assessments. This reform plan will require Ohio to go beyond the strong progress they have made over the last 10 years toward the implementation of 21st century learning. The state of Ohio has already aligned K-12 educational standards with knowledge and skills needed for success in postsecondary education and the global market by benchmarking its standards against those of high-performing

states and nations that compete with the United States (Achieve, 2006). Ohio is working to deliver content knowledge in an organized way that allows students to describe, discuss and ask questions of the material. The Ohio Department of Education expects principals and teachers to be the classroom leaders and to use their knowledge, professional preparation, experience, attitude and work ethic to benefit student outcomes (Ohio Department of Education, 2010a).

West Virginia Department of Education

The West Virginia Department of Education has worked to incorporate research-based 21st Century instructional practices into the curriculum standards as well. Content standards and objectives (CSO's) have been revised to meet national standards (West Virginia Department of Education, 2010a). To ensure every child's success as a citizen and worker in the 21st century, the West Virginia Department of Education and the Board of Education developed West Virginia's 21st Century Learning Plan. The program is a systemic approach to help West Virginia's students compete globally and to thrive. From the classroom to the district office to the state Department of Education, this 21st Century Learning Plan is a bold acknowledgement that is intended to change how West Virginia operates its educational school system. This plan lays out the expectations of 21st Century educational reform and creates a system that prepares students with the skills and understandings that are necessary for success in the 21st century. At its core is the mission to develop self-directed, motivated learners who demonstrate the skills and knowledge that are fundamental to becoming successful adults in the digital world (West Virginia Department of Education, 2010b). As the world

becomes more fiercely competitive, West Virginia is transforming its public school system by focusing on internationally rigorous and relevant curriculum standards, balanced assessments and research-based instructional practices.

In summary, these three states along with fifteen others are committed to educational reform. Setting aggressive agendas, P21 and states in the Ohio River Valley Region have revealed their commitment to helping students compete in a global economy while learning to make life choices, become good citizens and impact the world as the best-prepared generation in history (Partnership for 21st Century Skills, 2010).

21st Century Instructional Practices

Studies over the past three decades concerning intelligence, knowledge and learning, have been used by each state to develop instructional strategies that embrace 21st century learning (Kentucky Department of Education, 2010, Ohio Department of Education, 2010b & West Virginia Department of Education, 2007). Focusing on understanding 21st Century instructional practices emphasizes understanding while engaging students in solving meaningful problems. There are nine instructional practices that are most likely to improve student achievement across all content areas and across all grade levels. These strategies must be introduced into the 21st century classroom. The strategies are: identifying similarities and differences, summarizing and note taking, homework and reinforcing effort, nonlinguistic representations, cooperative learning, setting objectives, providing feedback, generating and testing hypothesis and cues,

questions and advanced organizers. These practices enhance student learning at all grade levels and in all subject areas (Marzano, Pickering & Pollock, 2001).

Similarities and Differences

The first instructional practice of identifying similarities and differences can enhance student achievement. When teachers specifically point out the similarities and differences students tend to focus on the relationships being taught and bridge new ideas together. Student-directed activities encourage variation and broaden understanding. Teacher-directed activities are also effective because the focus is on identifying specific items. Examples of this type of instructional practice are the use of Venn diagrams or charts to compare and classify items or by engaging students in comparing, classifying and creating metaphors and analogies. Research shows that both student-directed and teacher directed ways of identifying similarities and differences increases students' understanding (Marzano, 2007).

Summarizing and Note Taking

Summarizing and note taking have long been used to help students organize information, see patterns and make connections. Being able to delete, substitute and keep important information allows students to comprehend and understand the content being taught. Being able to classify and group objects or ideas and then being able to organize those objects allows learners to compare underlying commonalities and make comparisons often summarizing in their own words. Research shows that taking more notes is better than fewer notes. Teachers should encourage and give time for review and revision of notes which

are often the best study guides. Each step of summarizing and note taking helps the brain process information, recall it, and consider what is important to know. These activities allow the brain to connect current learning to prior knowledge thereby creating new understanding and adding to the learner's knowledge base (Marzano, Pickering, Norford, Paynter & Gaddy, 2001).

Homework and Reinforcing Effort

Another form of retention comes from homework and reinforcing effort. Students who think they can succeed often do, while those with attitudes of failure have given up on learning. Stories about people who have succeeded by not giving up reinforces why the effort to achieve is valuable. Marzano discovered that reinforcement, which includes student recognition of beliefs and attitudes about learning, often leads to deeper levels of effectiveness. These reflective recommendations help refine and extend knowledge which can be an extremely effective instructional practice when used by teachers (Marzano, 2003).

Nonlinguistic Representations

Marzano, Pickering & Pollock (2001) also found that students learn through nonlinguistic methods. The first element the authors found was that when teachers use a variety of nonlinguistic activities, learning is enhanced. Nonlinguistic representations can take many forms including visual imagery, kinesthetic and audio experiences. Drawings, hands-on activities, graphic organizers and technology tools all help students visualize three-dimensional forms and improve learning. When students make idea webs and concept maps they are actively creating a nonlinguistic model of their thinking. Teachers are

wise to use a variety of these learning modes in their classrooms. Explaining their thoughts allows for deeper thinking and better understanding. The second element Marzano, Pickering & Pollock discovered was that knowledge is stored in two forms: linguistic and visual. The more students use both forms of knowledge in the classroom the more opportunity they have to achieve. This instructional practice allows students to generate ideas, experience real life situations and problem solve. The student develops intellect while expanding their personal creativity and academic capabilities.

Cooperative Learning

Cooperative learning is an instructional strategy that allows students to learn with and from each other. Cooperative learning groups teach academics as well as social skills. Students must use appropriate social skills and face-to-face interaction as well as become accountable to the group. Success of the team depends on everyone pulling their weight and working together to complete the tasks. This practice along with goal setting allows students to work in various roles where they are interdependent. Students learn to maintain group harmony while respecting individual views and goals. Effective learning results from students providing feedback and monitoring their own work (Marzano, Pickering, Norford, Paynter & Gaddy, 2001).

Setting Objectives

Setting objectives is another instructional strategy that provides meaningful learning in a 21st century classroom. By setting objectives, students are provided with a direction for their learning. Students should be able to set

their own objectives and goals with the guidance of their instructor. Examples might include using contracts to outline specific goals that students must attain and the grade they will receive if they meet the goals (Marzano, Pickering & Pollock, 2001).

Providing Feedback

Research also shows that feedback generally produces positive results. Teachers can never give too much feedback but they must manage the form of feedback they give. Rubrics are often used to accomplish this task. Knowing their accomplishments in relation to a specific goal, students will often redirect their focus toward mastery of the subject at hand and be encouraged to meet the goals they have set forth (Marzano, Pickering, & Pollock, 2001).

Generating and Testing Hypothesis and Cues

The next set of 21st century instructional practices would include generating and testing hypotheses in the classroom. Inquiry in the classroom turns curiosity into an opportunity to predict and investigate. Science educators have used this instructional practice for years but it is often considered new in more traditional classrooms where lectures and textbook-based instruction have traditionally been used. Students must generate hypotheses, investigate through research or testing, make observations and analyze the results. Through active learning, students deepen their understanding of key concepts. Marzano, Pickering, & Pollock (2001) show that this practice can apply to many different subject areas when students are asked to explain their hypotheses and conclusions.

Questioning and Advance Organizers

Questioning is the most used instructional practice. Cues, questions and advance organizers are often used to set the stage for learning. Using these tools to create a framework, students can use what they already know about a topic to enhance further or deeper learning. Research shows that the practice of questioning will be most effective when teachers help students focus on what they are about to learn. Teachers and students engage in discussions, dialog and problems each day in the classroom. Eighty percent of student-teacher interactions involve cues and questions (Marzano, et.al. 2001). Effective questioning focuses on what is important more than what is unusual in the content (Alexander, Kulikowich, &Schulze, 1994). By using questioning strategies, teachers can guide students to deeper levels of learning.

21st Century Planning

Effective teachers have always implemented planning skills and objectives into their classrooms, but 21st century teachers must plan deliberately. Planning is crucial and requires focus and time. Planning must not only incorporate what will be taught but how it will be delivered. Planning takes a coordinated effort on the part of teachers to ensure students' interests, aptitudes and characteristics are met (West Virginia Board of Education Policy 5202, 2002).

Planning for 21st century learning environments enable students to learn in relevant, real world 21st century contexts (e.g., through project-based or other applied work). Planning these learning environments allows equitable access to quality learning tools, technologies and resources. These learning environments

also provide support through expanded community and international involvement both face-to-face and online (Partnership for 21st Century Skills, 2010). When teachers create learning environments that support the teaching and learning of 21st century outcomes these learning environments will not be bound by buildings, lack of teachers, paper or even time.

Incorporating learning environment planning ideas into every school requires alignment of academic standards to delivery of content emphasizing 21st content and learning skills. Marzano (2003) believes that looking for interactions, themes, and patterns from assessment data can strengthen gaps and help when planning lessons. Student learning outcomes and data contain important information for this planning. Informing and adjusting practice by emphasizing core knowledge and learning skills can now be enhanced with information and communication technologies. Professional teachers who work to ensure student learning and diminish student failure use planning to focus class time toward success (National Academy Press, 2000).

Aligning the curriculum to state standards is vital in meeting 21st century learning practices. Twenty-first century objectives provide teachers with procedural frameworks so they can systematically use instruction and instructional practices to accomplish 21st century classroom goals (Partnership for 21st Century Skills, 2010). Focusing on how the lesson /activity /assignment address the competencies that are required is of utmost importance (National Board for Professional Teaching Standards, 2005). Aligning curriculum requires

looking at national and state standards, as well as examining standards that integrate technology into the planning.

Students come into the classroom with preconceived ideas. Twenty-first century teachers use students' prior knowledge to build new understanding and help students grasp new concepts that focus on individual needs and experiences. Planning provides an atmosphere conducive to learning. By using 21st century planning to organize information, develop programs and model the use of technology, teachers can make things easier for themselves and for their students (National Board for Professional Teaching Standards, 2005). By intentionally incorporating successful strategies into their planning, teachers can introduce both procedural (repetition) and declarative (organization of facts) knowledge into the classroom (Pollock, 2007).

Helping students make vital connections to skills and content is more important than ever. Effective teaching incorporates research- based practices into planning and correlates the needs and interests of students. Various contemporary strategies such as effective questioning, differentiated instruction, technology and problem-based learning allow the 21st century learner to succeed in the educational process by shifting the focus from the textbook into a more relevant hands-on-environment (Pollock, 2007).

Creating a learning environment, which includes bringing the world into the classroom as well as taking the students out of the classroom, provides opportunities for student interaction and authentic learning experiences while expanding the classroom and extending the depth of learning. Deliberate

planning about how students are learning helps teachers create a balanced learning environment that includes a balanced education (Partnership for 21st Century Skills, 2003). Pollock (2007) suggests that we can no longer stand back and hope for good results, we must plan for them.

21st Century Classroom Delivery

Classroom delivery of 21st century curriculum and instruction focuses on providing opportunities for applying 21st century core content for a competency-based approach to learning. The 21st century requires more than a compendium of reading and writing skills. Our future requires innovative learning methods that integrate the use of technologies, inquiry and problem-based approaches and higher order thinking skills to accomplish state goals and objectives (Partnership for 21st Century Skills, 2010). Twenty-first century classroom delivery encourages the integration of community resources beyond the school walls and focuses on applying content across the curriculum.

Instructional classroom delivery can be described as the action or practice of teaching, the classroom art of promoting study; generative learning activities that promote higher-order thinking or the processes which help students develop rich and complex knowledge structures (Grabinger & Dunlap, 1994). In 1956, Bloom's taxonomy was developed by a committee to classify educational objectives that would enable teachers to plan instruction. This process of classifying educational objectives allowed discussion of learning in a technical and logical way (Bloom, 1956). Their goal was to classify the intended behavior of students in the way they were to act, think, or feel as a result of being involved

in a unit of instruction. This taxonomy was not a precise set of knowledge or skills; instead it served as a framework for educators to communicate about thinking and learning.

Twenty first century instructional practices are very different. They are designed to meet state standards and benchmarks and allow teachers to adjust their instruction to track student progress and performance. According to Marzano (2007), teachers should use practices that promote physical movement, challenge students thinking and requires their focus to be on hands-on tasks. Instructional strategies, according to the Partnership for 21st Century Skills (2009) make students the focus of improvement.

Using instructional strategies that will help students remember the content and be able to apply the information and skills is the key to 21st century delivery. The nine instructional strategies defined by Marzano, Pickering and Pollock (2001) are purposefully inserted into the classroom learning as well as in the teacher's knowledge and practice (Pollock, 2007).

Studies have shown that 21st century teachers must include a metacognitive approach to instruction. This approach promotes a classroom environment where students are taught to think about how they are learning as well as helping them control and measure their learning. This approach can help students monitor their progress and improve achievement (National Research Council, 2005). Having the ability to acquire the information they will need, and knowing what strategies they need to understand, allows students to build bridges from their preconceptions to new knowledge (National Research Council, 2000).

Twenty-first century instruction encourages student engagement in new concepts, exploring material, communicating experiences, understanding information and assessing their own progress while building on their existing skills and knowledge (National Board for Professional Teaching Standards, 2005). Deliberate thinking about how they are learning can help students take control of their progress and improve their achievement (National Academy Press, 2000).

The Partnership for 21st Century Skills framework calls for classroom delivery to include core subjects, thinking and learning skills, information and communication technology literacy, and life skills in a 21st century learner-centered school. Focusing on student improvement does not lead to student learning (Pollock, 2007). Classroom proficiencies require a lot of work. Twenty-first century classroom delivery requires teachers who are willing to use multiple instructional strategies. Classroom delivery requires teachers who will model lessons /activities /assignments to reinforce learning and promote personal skills. Classroom proficiencies require teachers who will coach students with encouragement, guidance and support, and teachers who are willing to facilitate lessons for self-directed students. In other words, the Partnership for 21st Century Skills require teachers who will use classroom delivery to utilize best practices, wisdom, experience, and previous knowledge to guide students in their care.

21st Century Assessment

In the 20th century, assessments were sufficient if teachers knew how to give tests that matched their learning objectives (National Commission on Teaching and America's Future, 1996). Twenty-first century teaching requires

assessments to improve instruction as well as inform student thinking as they progress through the lesson/activity/ assignment.

Assessment of 21st century skills emphasizes useful feedback on student performance that is rooted in everyday learning. Evaluation not only shows student progress and comprehension of material, but allows the student to apply the knowledge in a useful, real-life manner. A twenty-first century skill uses standardized testing and measurements but also incorporates a variety and balance of assessments to provide a measure of student mastery.

By the time students are ready to leave high school, all students should be well prepared for citizenship and work or postsecondary education. However, many students currently fare poorly on national assessments and international academic comparisons. The Program of International Student Assessment (PISA), the National Assessment of Educational Progress (NAEP), and the Trends in International Mathematics and Science Study (TIMSS) all show that American students struggle to thrive in an interdependent and competitive global economy (Partnership for 21st Century Skills, 2009).

Assessments allow teachers to shape curriculum goals in ways that will work for the students they teach (National Board for Professional Teaching Standards, 2005). The use of 21st century assessments and accountability evaluations includes a variety of measures. Assessment, however, is not a one-time event. Test scores, examples of student work, teacher observations, demonstrations, oral presentations, projects, portfolios, journals and teacher-made tests and quizzes should all be included in student assessment. Having multiple

types of assessment not only determines what students have learned but if they are able to apply their knowledge to real-world situations. These assessments are used to provide immediate feedback to teachers and students on performance and retention.

Research shows that classroom assessments have improved student achievement (Marzano, Pickering, and Pollock, 2001) and ensue over time. Assessments and the data that are derived can be another source of learning. The information these assessments provide allows teachers and administrators to construct assessment tools which can provide useful information on how the students are learning. Assessment is no longer a linear process where each assessment is looked on as distinct; but is interactive cyclical process which can be a source of constructive feedback that guides planning and delivery (National Board for Professional Teaching Standards, 2005).

Diagnostic Assessments

Diagnostic assessments are often used to identify individual student needs. Being able to meet the varying needs of learners allows responsive teaching to all students in the classroom (North Central Regional Educational Laboratory, 2007b). Individualized education plans for students must be supported by the classroom teacher. New assessment systems are being introduced in several states that provide appropriate accommodations for students with disabilities as well as assessments for students in 2nd through 8th grade (U. S Department of Education, 2010).

Having the ability to bring learners with different learning styles, aptitudes and experiences into an information rich classroom and adapt instruction to their individual needs requires 21st century teaching skills of observation, record keeping, communication, and documentation (North Central Regional Educational Laboratory, 2007a). Using assessments to examine student tasks, facilitate problem solving, and guide decision making and investigation, allows students to inspect their own thinking regarding the knowledge they are gaining.

National Standardized Achievement Tests

National standardized achievement tests are also used to assess student learning. These tests are more reliable for broad comparisons across classrooms or schools. These tests are used in national, state and district-level assessments and different tests measure different items. Many states work with testing companies to develop assessments that incorporate and measure acquisition of 21st century skills while other states have created their own standardized assessments. All states need high quality tests that not only measure student performance on the elements of 21st century education and have the ability to improve instruction but also have the ability to inform parents about the student's progress. High-stakes tests can also provide harmful effects and must be interpreted with extreme caution. They should never be the only sources of assessment and cannot stand alone because they cannot measure all of the 21st century skills needed by learners for our society (North Central Regional Educational Laboratory, 2010a).

Teacher Designed Assessments

Using assessments to drive instruction, the 21st century teacher must develop and use assessments that measure learning outcomes and use the results to plan lessons to meet individual student needs. Assessments must also be used to observe children and identify individual needs. Being able to evaluate students through various methods allows teachers to understand learning challenges and revise instructional delivery (National Research Council, 2005). Being able to manage, integrate and evaluate student learning are the signs of a 21st century teacher. Public and private schools and teachers must use 21st century planning, 21st century classroom delivery and 21st century assessments to ensure 21st century readiness for every student in every school (Partnership for 21st Century Skills, 2010).

21st Century Learning in Christian Schools

The Association of Christian Schools International uses a phrase to describe Christian schools in its membership, "teaching to transform" (ACSI, 2009). The phrase "teaching to transform" refers to helping students build a strong foundation of biblical values that emulate Christ's teachings. Christian Schools want to be the best at whatever they are doing, because Christ was the best and He is who they represent. Christian education is more than a job or the right thing to do; it is a mission that holds eternal value. To be the best, Christian schools must be competitive. Academically their students must be strong. Learning in Christian Schools must result in students having the knowledge, skills and abilities to engage with competence, respect and wonder within the world

where God has placed them (Wallace, 2009). In the 21st century, Christian schools try like everyone else; to keep up with the fast paced reforms that are happening around them. In other words, Christian schools are full of students who need to be able to meet the demands of the 21st century.

Principals as Instructional Leaders

The United States has approximately 118,000 school principals; 90,000 in public schools and 28,000 in private schools (National Center for Educational Statistics, 2008). In recent years the spotlight has shown this workforce to be a vital part of the school community. This section will examine the history of the principalship, the nature of the position and the principal as an instructional leader.

In the early nineteenth century, city schools began to grow in student enrollment. With this growth came the need to classify students into grade levels and move teachers into roles of lead teacher, head teacher and principal (Campbell, Cunningham, Nystrand & Usdan, 1990). These supervisors often conducted inspections of schools and supervision of learning while making recommendations for improvement (Glickman, Gordon & Ross-Gordon, 2004). To develop this new role of principal teacher, the National Association of Secondary School Principals (NASSP) was organized in 1916, followed by the National Association of Elementary School Principals (NAESP) five years later. NAESP and NASSP were established to provide training opportunities for principals and to promote excellence in school leadership.

Responsibilities of these early supervisors included doing reports and keeping records and other such clerical duties as well as wide-ranging administrative tasks such as, evaluating teachers, facilitating student learning and promoting community involvement (Glickman, Gordon & Ross-Gordon, 2004). When school attendance became mandatory for all students, for all students, the role of principal became much more critical and expanded to include curriculum development, teacher training and supervision, school finances, facilities management and student discipline.

As principals began their supervisory roles in individual schools they were frequently conventional in their worldview, trying to control teachers' instructional behaviors. Supervision committees made up of lay people were also used to oversee learning, facilities, and teachers. These lay committees where then replaced by professional supervisors during the late nineteenth century, which eventually evolved into state, district, and/or county superintendents and central offices. The principal then became the superintendent's representative in each individual school. This conventional type of leadership led to a bureaucratic style of management. As a supervisor, the principal demonstrated from the top down how subjects were to be taught as well as how teachers were to instruct students (Glickman, Gordon & Ross-Gordon, 2004).

The role of the principal became more congenial in the mid- 20th century as emphasis moved from the control of teachers to improving interpersonal relationships and meeting the personal needs of the teachers. This psychological authority style of supervision led to an expansion of the principal's role in the

improvement of instruction (Brandt, 1992; Campbell, et.al., 1990; Glickman, Gordon & Ross-Gordon, 2004). The principal had to be sensitive to the interconnected needs of several groups of people in order to optimize student leaning: the superintendent; the teachers in the building; the students under his/her care and the parents and other members of the community. Each of these groups had expectations and demands that required a mediator as well as a responsible leader at the helm of each school.

A shift to a more collegial role of supervision occurred in the 1960's. The relationship between principals and teachers began to move from a hierarchical organization to a horizontal model, where the principal was working with the teachers instead of ruling over them. This style of leadership focused on teacher growth and collaboration with the overall goal of improving instruction. A holistic inclination to care for others and the community emphasized uncompetitive and respectful cooperation (Freedman, 2010). This type of cohesive atmosphere created an environment where sharing, cooperation and collaboration between both the principal and the teachers was valued (Phillips, 2004).

As the need for educational supervision became imperative, the position of principal became more specialized. Supervision needed to include nurturing. Areas such as human relations, staff development, basic administration, management of change and curriculum development all became the basis of educational supervision. This educational supervisory component is frequently defined by the competencies that the individual brings to the role of principal.

Efforts to develop educational supervisory training programs and practices rapidly evolved as changes in society led to more responsibilities in administration. As the profession became more specialized the emphasis moved from what administrators do to how they communicate and relate to parents and staff (Sergiovanni, 1982). Educational supervisors set the tone for working in the school and providing an educational environment conducive to teaching and learning. When focusing on how educational programs are organized and how they operate, the nature of the principal's role reflects the purpose of schooling (Wiles & Bondi, 1993).

When Arthur Blumberg and William Greenfield (1980) began studying what makes some principals more effective than others, they learned that the demographic characteristics of principals such as race, age, sex, level of education and years of experience were unreliable predictors of a leader's effectiveness (Hord, Rutherford Huling-Austin & Hall, 1987). Blumberg and Greenfield observed principals during their study and found that they often had many of the same characteristics:

- A set of clear goals,
- Self-confidence,
- A acceptance for uncertainty,
- A tendency to test the limits of interpersonal and organizational systems,
- A sensitivity to dynamics of power,
- An investigative perspective,
- An ability to be in charge of their jobs (Blumberg &Greenfield, 1980).

These researchers also saw the principal's position as more than just a list of skills that needed to be carried out. The principal as a person is often defined by a leadership style and a capacity for personal interaction (De Bevoise, 1984).

However, Sergiovanni (1982) believes the tactical requirements of leadership must include good organization and planning skills, instructional observation skills, skills in research and evaluation, and task-specific goals. The principal could learn the attitudes and skills necessary to lead a group of people to function as a team, but how they improved instruction, promoted student learning and created collegial relationships among staff members defined an effective principal (De Bevoise, 1984). Instructional leadership was not only about skills and characteristics, but about collaboration (Reitzug, West, & Angel, 2008). This quality made the principal more than a middle manager; he was an instructional leader.

There has been a great deal of discussion on principals' different leadership styles and the ability to bring about improved student performance (e-Lead, n. d.). An instructional leader is different from a school administrator or manager. The instructional leader's role is to set clear goals, find resources for instruction, manage curriculum, monitor lesson plans and evaluate teachers (Phillips, 2004). Instructional leadership is the action a principal takes that promotes growth in student learning (Flath, 1989).

Promoting quality learning is important to the instructional leader. This type of leader is an innovator who is constantly seeking ways to effect school improvement (De Bevoise, 1984). Often an instructional leader is referred to as a leader of learning communities (National Association of Elementary School Principals, 2001). In the National Association of Elementary School Principal's view, an instructional leader uses six roles when leading learning communities on

a daily basis: making student learning a priority; setting high expectations for student performance; creating a culture of lifelong learning for students and teachers; aligning content standards to instruction; using a variety of assessments; and activating the community's support for school success. Sergiovanni (1982) agrees, and defines these learning communities as collaborative cultures that deliberately come together as one. Not only does the learning community make learning a priority, but it creates a culture of learning which includes both students and adults. Instructional leadership includes making suggestions, modeling effective instruction, giving feedback, expressing opinions and providing professional development opportunities for everyone involved in the learning community (Blase & Blase, 2000).

The instructional leader has knowledge of everything that revolves around the enrichment of learning. The credible instructional leader should be a practicing teacher (Phillips, 2004). The advantage to this style of leadership is that the principal knows what is going on in the classroom and can deal with instructional issues from the teacher's vantage point. Knowing how a human learns helps the instructional leader have the knowledge to implement the curriculum, the delivery of instruction and the assessment of students.

When introducing a learning community, such as a school to new initiatives and reforms, the instructional leader should know how changing concepts of curriculum philosophies and beliefs affect teacher planning. Curriculum development must have someone who monitors and implements these new initiatives. They should know that the deliberate planning of lessons which

include problem-based learning, relative problem-solving and reflective thinking, produce learning environments that enable students to learn and grow (Partnership for 21st Century Skills, 2010).

When developing instruction, the instructional leader needs to know the different models of teaching and the theories underlying a technology-based learning environment. Principals should nurture and emphasize student learning while working as curriculum leaders. Zemelman, Daniels and Hyde (2005) believe instructional strategies make a difference in American school outcomes. The school leader who supervises teachers and classroom instruction becomes vital to the implementation of 21st century reform initiatives (Lambert, 2002). Principals can participate in the development of curriculum as well as monitor its contents to assure alignment to 21st century state and national standards.

Principals, as instructional leaders, must have knowledge of the fundamentals of student assessment, assessment procedures and alternative assessment methods to promote quality student learning (Phillips, 2004). Principals therefore become an essential ingredient for improving student learning. Ruebling, Stow, Kayona, & Clarke (2004) agree that the critical ingredient for achieving learning results is an effective leader.

The role of the instructional leader is multifaceted. Gone are the days where the principal is an authoritarian who controls all aspects of learning (e-Lead, n.d). Twenty-first century instructional leaders observe and lead reform, and create a leaning environment where learning is not confined to the classroom but taken to the community, where clear direction is given to the school and

where priority is focused on learning things that really matter. Twenty-first century principals must be able to understand 21st century reform and judge the teaching they see in their schools. These leaders must know what is happening in their schools and be able to continue improvement and growth. If instructional improvement is the goal of schooling, then instructional leadership is essential in the oversight of 21st century instructional practices. The instructional leader communicates the importance of these reforms to the teachers who plan, deliver, and assess student learning (Ruebling, Stow, Kayona & Clarke, 2004).

Summary

The overarching theme of this literature review is 21st century educational reform. The review began with a historical perspective of Christian Schools in America to set the context for this study. Based on traditional constructivist theories, the 21st century demands schools to help students not only build on prior knowledge, but teach students how to apply this knowledge to real world situations (Wallis & Steptoe, 2006). Infusing 21st century instructional practices into the curriculum and expectations of school reform, prepares students for the rigors of the 21st century. Expectations from the Partnership for 21st Century Skills Organization can be included into state reform initiatives that can enhance student learning and prepare productive graduates who are ready to meet the challenges of our global community (Partnership for 21st Skills, 2008).

Practices for 21st century learning include: a) purposeful planning, that consists of communication of learning goals and tracking student progress; b)teachers who deliver content knowledge using 21st century instructional

practices that allow students to describe, discuss and ask questions of the material in a 21st century learning environment, including reflective thought and are used in cooperative group settings with differentiated instruction and problem-based learning situations; c) leaders who participate in the development of curriculum, communicate the importance of educational reform, monitor and implement 21st century initiatives and understand the importance of student learning; and d) assessments that allow students to receive feedback and additional practice if needed to meet 21st century state standards. Accomplished 21st century teaching includes purposeful planning, meeting systematic objectives, being able to deliver instruction with multiple practices and using a variety of assessments to produce a 21st century student who is ready to meet the expectations of a 21st century world. Along with effective leadership, planning, classroom delivery and purposeful assessments, 21st century learning environments can contribute to an educated workforce which is vital to the future of our country (Partnership for 21st century skills, 2008).

CHAPTER THREE: METHODS

The purpose of this chapter was to describe the research methods used in this descriptive, quantitative study. This cross-sectional descriptive study investigated the level of classroom use of 21st century instructional practices in ACSI Christian schools in Kentucky, Ohio, and West Virginia. Secondarily the study assessed the level of effectiveness of these strategies had in facilitating student learning as perceived by the school principal. This chapter identifies the population, instrumentation, data collection procedure and data analyses.

Research Design

Descriptive research involves collecting data in order to answer questions concerning the current status of the subjects of the study. Descriptive research determines and reports the way things are (Ouyoang, 2010). According to Fink (2003), a cross-sectional design provides a portrait of a group during a specific point in time. This descriptive quantitative design is non- experimental and will systematically investigate the extent to which ACSI Christian Schools in Kentucky, Ohio, and West Virginia are using 21st century instructional practices and will assess the level of effectiveness of these practices in facilitating student learning as perceived by the school principal. Descriptive research examines a situation as it is (Pearson Education, 2010). The study will not involve changing or modifying the situation under investigation, nor is it intended to detect cause–effect relationships.

This cross-sectional design was used to portray participating ACSI schools and provides baseline information on survey participants. Surveys are used to collect data from and about people to "describe, compare, or explain their knowledge, attitudes and

behavior" (Fink, 2003, p.1), and can be used to collect data on different subjects from many different areas.

This survey design was chosen for this study because it allowed the researcher to collect data from a large group of Christian school principals in the Ohio River Valley Region and measured the researcher's objectives while being representative of the larger target population (Fink, 2003).

Population

The population for this study included all (N= 246) principals from ACSI Christian Schools in Kentucky, Ohio, and West Virginia. These three states constitute the ACSI Ohio River Valley Region. The number of current ACSI member Christian schools in each state is as follows: Kentucky, 66; Ohio, 157; West Virginia, 23; (ACSI, 2010). Members of this population were identified as principals of the member schools in the member directory. Kentucky, Ohio, and West Virginia are members of the 21st century partnership program as of April 2010 (Partnership for 21st Century, 2010).

Instrumentation

The websites of the State Educational Agencies in Kentucky, Ohio, and West Virginia who are responsible for public education were examined as a source of information on the use of 21st century instructional practices in schools. The state's policies and practices were examined and analyzed for recommended 21st century instructional practices (Kentucky Department of Education, 2010a Ohio Department of Education, 2010a, West Virginia Department of Education, 2010a).

The most frequently recommended 21st century instructional practices were then categorized into three areas: 21st century planning, 21st century instructional delivery and

21st century assessment. These were selected because they were the common practices listed in all three states. These instructional practices were then synthesized into a *State Comparison Matrix* (Appendix A). This *State Comparison Matrix* formed the foundation for the research instrument that was used to survey school principals on the level of use of 21st century instructional practices and on their perceived level of effectiveness in facilitating student learning.

Although the common instructional practices on the *State Comparison Matrix* (Appendix A) reflect each state's policy on 21st century instructional practices, they may not be all inclusive. They correspond to each of the most frequently recommended instructional practices that are listed by the state departments of education for Kentucky, Ohio, and West Virginia. The *21st Century Instructional Practices Survey* (Appendix B) was developed using *The State Comparison Matrix* which identified common instructional practices that are being used in each state's reform initiatives. The *21st Century Instructional Practices Survey*, a 30-item Likert scale, is divided into three areas: planning, instructional delivery, and assessment. The closed ended statements ask principals to rate 21st century instructional practices in terms of their level of use in their school, as well as the perceived effect of each practice in facilitating student learning. Attribute and demographic variables of school size, developmental levels, teacher's certification, school accreditation status, the principal's certification and the state location of the school are also included.

Part one of the survey asked principals to rate the level to which the selected instructional practices are being used by teachers in the classrooms of their respective schools. Response categories include: 1=Never, 2=Seldom, 3=Sometimes, 4=Frequent

and 5=Always. Part two the study will assess the level of effectiveness of these strategies in facilitating student learning as perceived by the school principal. They will use a different five-point Likert scale which includes the following; 1= Not Effective, 2= Minimally Effective, 3 = Effective, 4= Moderately Effective and 5= Highly Effective.

Validation of the Survey

The survey instrument was piloted in two doctoral level survey design classes at Marshall University, West Virginia. The students were asked to review the survey instrument for clarity and ease of use. Both classes approved of the content but thought the layout of the instrument was cumbersome and difficult to follow. The instrument was redesigned to include three sections instead of two columns. Each section included a 30-item Likert scale that is divided into three areas: planning, instructional delivery, and assessment. The first section included closed ended statements that ask principals to rate 21st century instructional practices in terms of their level of use in their schools. The second section asked principals to assess the level of effectiveness these strategies had in facilitating student learning as perceived by the school principal.

Fink (2003) believes that reliability is obtained when two or more individuals agree in their ratings. According to Berger (2008) experts are not just persons with outstanding and rare capabilities. An expert is "more skilled, proficient, and knowledgeable at a particular task than the average person" (Berger, 2008, p. 569). Therefore, the researcher confirmed validity of the *21st Century Instructional Practice Survey* (Appendix B) to establish face and content validity by rating the expert's level of agreement to each 21st century instructional practices listed. These educational experts are considered experts because they are actively involved in the 21st century instructional

practices either by the use of 21st century instructional practices in the classroom or because they have been instrumental in 21st century policy implementation.

According to Bailey (2007), a panel of experts is an important research technique for enhancing validity. The researcher asked a panel of educational experts to establish face and content validity to see if the survey was actually measuring what it was intended to measure (Appendix C). This validated the 30 closed-ended response statements that focused on 21st century instructional practices and their effectiveness in facilitating student learning used on the survey instrument. The panel was asked to answer yes or no to each statement for content validity as they inspected the survey. Dillman (2007) provided 13 content validity questions that the researcher gave to the panel to use as a guide when they inspected the survey instrument (Appendix D).

Data Collection Procedures

The primary tool used in collecting data for this study was the *21st Century Instructional Practices Survey* that was developed by the researcher. Dillman (2007) suggests that a respondent-friendly questionnaire with an easy-to-use format is likely to yield a high response rate. The researcher used an electronic, web-based data collection procedure. According to Fink (2003), it is the researcher's responsibility to design an easy-to-use survey, establish passwords, ensure programming help and seek advice from computer authorities to guarantee security.

Because multiple contacts are important to receive responses from on-line surveys (Fink, 2003), the first contact with the survey participants will be a researcher initiated email notification message with a link to the survey. This initial notification included a cover letter from the researcher (Appendix E) which provided: (a) an explanation of the

study and proposed intent, indicating the nature of the research, and the promise of anonymity; (b) a website address for *The 21st Century Instructional Practices Survey*; (c) a letter granting permission to administer the survey from the ACSI Ohio River Valley Regional Director, Randall Ross (Appendix F), and the Marshall University Institutional Review Board approval letter (Appendix, G).

The instrument was distributed through the on-line electronic program, Survey Monkey. A "hot link" will be provided in the email to access to the survey. Participants were assured of confidentiality and that only aggregate data was reported in the study's findings. Respondents needing additional information about the study were given the researcher's contact information.

Second email notification letters were sent out approximately three weeks after the first request. When the survey time frame ended, the survey results were collected and the data were downloaded to an IBM SPSS 19 data file.

Data Analysis Procedures

The goal of this study was to investigate the use of 21st century instructional practices and their effectiveness in ACSI Christian schools in the Ohio, West Virginia and Kentucky. Quantitative data related to each research question were analyzed using the IBM Statistical Package for the Social Sciences (SPSS) 19.0 for each of the research questions using descriptive statistics. Research questions 1 and 3 used Chi Square to determine the level of implantation and effectiveness. Research questions 2 and 4 used the Kruskal Wallis test to determine whether differences were significant in participant responses based on the principals' self-reported perceived levels of selected demographic/attribute variables.

Limitations

This study relied on self-reported data, of principals' perceptions which presented limitations such as differing educational linguistics, and outside factors that may affect principals' knowledge of 21st century instructional practices. There is always a chance of respondents' bias in self reporting. Additionally, the cross sectional design serves as a snapshot of 21st century instructional practices over a very limited period of time.

Summary

The purpose of this chapter was to describe the research methods used in designing this study. Three subsections were used: population and sample, instrumentation development and procedures of the study. In addition, the data analysis section described the procedures that were used for approaching the data collected. The goal of this chapter is provide a clear and complete description of the specific steps that was followed to test the research questions.

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF THE DATA

The primary purpose of this study was to investigate the level of classroom use of 21st century instructional practices as perceived by principals in ACSI Christian schools in Kentucky, Ohio and West Virginia. Another purpose of this study was to assess the level of effectiveness of these instructional strategies in facilitating student learning as perceived by the school principal. The third purpose of this study was to investigate the perceived differences in the level of classroom use and the perceived level of effectiveness in facilitating student learning based on selected demographic/ attribute variables. This chapter is divided into the following sections: (a) data collection procedures (b) characteristics of respondents (c) major findings for each of the four research questions addressed by this study; and (d) summaries.

Data Collection Procedures

Online surveys were sent to all ACSI principals (N=246) in the Ohio River Valley Region during the third week of April 2011. Principals were identified using data from the ACSI membership directory for 2010-2011. A cover letter was included, instructing principals on how to use the embedded link to open the online survey (See Appendix D). One hundred and eighteen surveys were returned for a 52% return rate.

Characteristics of the Respondents

The 21st Century Instructional Practices Survey requested that principals answer five questions pertaining to demographic/attribute data. The data requested included the following: school size, school developmental levels, state, school accreditation status, and the organization that certified the principal. The data are included in Table 1.

Principals were asked to report the size of their school based on the number of students enrolled for the 2010-2011 school year. Categorical options were as follows: (a) less than 50 students, (b) 51-100 students, (c) 101-250 students, (d) 251- 500 students and (e) 500+ students. Because there were 20 or less responses in the less than 50 students and the 51-100 students categories, these two categories were combined for purposes of analysis. Because there were 20 or less responses in the 251-500 students and the more than 500 students' categories, these two categories were combined for purposes of analysis. The five categories were collapsed into three for the purpose of analysis: (a) 0 - 100 students, (b) 101-250 students and (c) 250+ students. Of the 99 responses in this category, 26 principals reported fewer than 100 students, 39 principals indicated that their school included 101-250 students, and 34 principals reported more than 250 students.

Principals were also asked to indicate the developmental levels in their schools. The categories were (a) elementary school only, (b) middle school only, (c) secondary school only, (d) elementary/middle, (e) middle/secondary, and (f) elementary, middle and secondary. Because there were 20 or less responses in the middle school only category, it was combined with the elementary/middle school category. Because there were 20 or less responses in the secondary school only and the middle/secondary categories, they were combined with the elementary, middle and secondary category. The six categories were collapsed into three for analysis purposes. Of the 101 responses, 23 principals indicated that the developmental level classification of their school would be considered elementary only, 17 reported an elementary/middle school combination, and 61 principals reported that their school included elementary/middle/secondary developmental levels.

Principals were asked to indicate the state in which their school was located. Of the 100 responding principals, 57 schools were located in Ohio, 29 schools were located in Kentucky, and 14 schools were located in West Virginia. Principals were also asked to indicate the accreditation status of their schools. The categories were (a) ACSI, (b) State, (c) Both ACSI and State, (d) Not Accredited. Of the 100 responding principals, 34 indicated that their school accreditation classification was from both ACSI and the State accrediting agencies, 10 reported ACSI only, 24 indicated that they were state accredited and 32 reported that their school was not accredited.

Principals were also asked to indicate from which organization they had received their principal certification. The categories were as follows (a) ACSI certification, (b) state certification, (c) both ACSI and state certification, and (d) not certified. Of the 100 responding principals, 35 indicated that their certification was from the state, 18 reported they had ACSI certification, 28 held both ACSI and state certification, and 19 had no principal certification.

Table 1. *Characteristics of Respondents (n=118)*

Respondent Characteristics	*n*	%
School Size		
0-100	26	26.3
101-250	39	39.4
250+	34	34.3
Developmental Levels		
Elementary only	23	22.9
Elementary/middle	17	16.8
Elem/middle/secondary	61	60.3
State		
Kentucky	29	29.4
Ohio	57	55.9
West Virginia	14	14.7
School Accreditation		
ACSI	10	10.8
State	24	23.5
Both ACSI and State	34	33.3
Not Accredited	32	32.4
Principals Certification		
ACSI	18	18.6
State	35	34.3
Both ACSI and State	28	27.5
No Certification	19	19.6

Major Findings

The following section presents the major findings from this study. These findings are organized around the four research questions investigated.

Research Question One: What is the level of classroom use, as perceived by principals, of selected research-based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

Part one of *The 21st Century Instructional Practices Survey* consisted of three domains: planning, delivery and assessment. Each of these domains included ten 21st century instructional practices. Principals were asked to rate their perception of the level of classroom use of 21st century instructional practices by teachers in their schools using the following Likert scale descriptors: 1=Never, 2=Seldom, 3=Sometimes, 4=Frequently, and 5=Always. Frequencies and percentage responses were calculated for each instructional practice. Chi-square values were derived for the responses to each of the 30 instructional practices and are presented around the three categories of planning, delivery, and assessment. Data related to the perceived level of classroom use are found in Tables 2-4.

Analysis for the Level of Classroom Use when Planning of Instruction

Respondents reported that they perceived the majority of teachers in their schools either always (32.5%) or frequently (51.3%) included a review of content when planning instruction. Chi-square analysis determined that these results were statistically significant, χ^2 (4, n=98) = 108.598, p <0.05. Principals also perceived that teachers in their schools either always (36.8%) or frequently (47.9%), focused on individual student needs when planning instruction. Chi-square analysis determined that these results were statistically significant, χ^2 (4, n=99) = 63.342, p <0.05. The 118 responding principals

perceived that the teachers in their schools either always (25.4%) or frequently (59.3%) considered content reinforcement when planning instruction. Chi-square analysis determined that these results were statistically significant, χ^2 (4, n=100) = 37.695, p <0.05. Principals reported that they perceived teachers in their schools either always (37.3%) or frequently (55.1%) took into account student progress when planning instruction. Chi-square analysis determined that these results were statistically significant, χ^2 (4, n=109) = 40.695, p <0.05. The 117 responding principals perceived teachers in their schools as either always (28.2%) or frequently (47.9%) include school instructional goals when planning instruction. A chi-square analysis determined that these results were statistically significant, χ^2 (4, n=113) = 88.598, p <0.05. Respondents also indicated that they perceived teachers in their schools either always (9.4%) or frequently (66.7%) include activities that engage students in hands on learning when planning instruction. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=106) = 62.205, p<0.05.

Responding principals indicated that they perceived teachers in their schools either frequently (36.4%) or sometimes (25.4%) incorporated state standards and objectives when planning instruction. Chi-square analysis determined that these results were statistically significant, χ^2 (4, n=110) = 57.932, p <0.05. Responding principals indicated that they perceived the teachers in their schools either frequently (41.5%) or sometimes (41.5%) arranged opportunities for technology integration when planning instruction. Chi-square analysis determined that these results were statistically significant, χ^2 (4, n=98) = 92.593, p <0.05. Responding principals also indicated that they perceived the majority of teachers in their schools either frequently (31.4%) or

sometimes (47.5%) modeled the use of technology when planning instruction. Chi-square analysis determined that these results were statistically significant, χ^2 (4, n=93) = 82.593, $p<0.05$. Responding principals indicated that they perceived teachers in their schools either frequently (31.6%) or sometimes (39.3%) used state and national testing assessment results when planning instruction. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=81) = 55.436, $p<0.05$.

Summary

To identify the level to which these practices were used most often, the percentages of perceived use in the category of always or frequently were combined. The combined domains that exceeded 70% are identified as the most used practices. All ten of the 21st century instructional practices related to classroom use when planning instruction were found to be statistically significant. Principals reported that when planning instruction they perceived teachers in their schools always or frequently used six of the 21st century instructional practices given on the survey. These practices were 1) a review of content, 2) focusing on individual student needs, 3) considering content reinforcement, 4) taking into account student progress, 5) school instructional goals and 6) including activities that engage student in hands on learning. The remaining four practices 1) incorporating state standards and objectives, 2) arranging opportunities for technology integration, 3) modeling the use of technology, and 4) using state or national assessment results were reported as sometimes and frequently used.

Table 2. *Principals Perceived Level of Classroom Use when Planning Instruction*

	Level of Classroom Use when Planning Instruction										
	Never		Seldom		Sometimes		Frequently		Always		
	n	%	n	%	n	%	n	%	n	%	χ^2
21st Century Instructional Practices											
1. Incorporate state standards and objectives	3	2.5	5	4.2	30	25.4	43	36.4	37	31.4	57.932*
2. Include a review of content	1	0.9	3	2.6	15	12.8	60	51.3	38	32.5	108.598*
3. Focus on individual student needs	0	0.0	1	0.9	17	14.5	56	47.9	43	36.8	63.342*
4. Consider content reinforcement	0	0.0	0	0.0	18	15.3	70	59.3	30	25.4	37.695*
5. Take into account student progress	0	0.0	0	0.0	9	7.6	65	55.1	44	37.3	40.695*
6. Arrange opportunities for technology integration	2	1.7	10	8.5	49	41.5	49	41.5	8	6.8	92.593*
7. Plan lessons where they model the use of technology	7	5.9	12	10.2	56	47.5	37	31.4	6	5.1	82.593*
8. Include school instructional goals	1	0.9	3	2.6	24	20.5	56	47.9	33	28.2	88.598*
9. Use state or national assessment results	1	0.9	18	15.4	46	39.3	37	31.6	15	12.8	55.436*
10. Include activities that engage students in hands on learning	0	0.0	0	0.0	28	23.9	78	66.7	11	9.4	62.205*

* $p < 0.05$

Analysis for the Level of Classroom Use when Delivering Instruction

Responding principals perceived that when delivering instruction, the teachers in their school always (21.2%) or frequently (59.3%) expected students to use critical thinking skills. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=118) = 35.915, p <0.05. Responding principals reported that they perceived teachers in their schools always (11%) or frequently (62.7%) engaged students in problem solving tasks when delivering instruction. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=104) = 103.898, p<0.05. Respondents also perceived that when delivering instruction teachers in their schools always (9.3%) or frequently (63.6%) coached students to apply real life situations to their knowledge base. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=107) = 54.119, p<0.05. Principals perceived that when delivering instruction teachers in their schools always (18.6%), or frequently (66.9%) used questions to guide students through content. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=118) = 60.322, p<0.05. Respondents perceived that when delivering instruction teachers in their school always (50%) or frequently (44.1%) modeled desired behaviors and social skills. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=111) = 40.492, p<0.05. In addition 118 principals reported that when delivering instruction they perceived teachers in their schools always (35.6%) or frequently (58.5%) emphasized student understanding. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=111) = 49.136, p <0.05.

Responding principals perceived that the teachers in their schools frequently (48.3%) or sometimes (42.4%) used cooperative learning groups when delivering

instruction. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=107) = 128.017, p<0.05. One hundred and eighteen responding principals perceived that teachers in their school, frequently (55.9%) or sometimes (33.1%) facilitated student investigation and problem solving when delivering instruction. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=105) = 85.458, p<0.05. Respondents perceived that when delivering instruction teachers frequently (39.0%) or sometimes (50.8%) allowed authentic experiences to drive the curriculum. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=105) = 126.831, p<0.05. Principals also perceived that teachers in their schools frequently (50%) or sometimes (43.2%) allowed learners to make decisions. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=107) = 128.017, p <0.05.

Summary

The percentages of perceived use in the category of always or frequently were combined to identify the level to which these practices were used most often. The domains which when combined exceeded 70% are identified as the most used practices. All 10 of the 21st century instructional practices related to classroom use when delivering instruction were found to be statistically significant. Responding principals reported that when delivering instruction they perceived that teachers in their schools always or frequently used six of the 21st century instructional practices given on the survey. These practices were 1) expecting students to use critical thinking skills, 2) engaging students in problem solving tasks, 3) coaching students to apply real life situations to their knowledge base, 4) using questions to guide student through content, 5) modeling desired

behavior and social skills and 6) emphasizing student understanding. The remaining four practices 1) using cooperative learning groups, 2) facilitating student investigation and problem solving, 3) allowing authentic experiences to drive the curriculum and 4) allowing learners to make decisions were reported as sometimes or frequently used.

Table 3. *Principals Perceived Level of Classroom Use when Delivering Instruction*

Level of Classroom Use when Delivering Instruction											
	Never		Seldom		Sometimes		Frequently		Always		
	n	%	n	%	n	%	n	%	n	%	χ^2
21st Century Instructional Practices											
1. Use cooperative learning groups	2	1.7	7	5.9	50	42.4	57	48.3	2	1.7	128.017*
2. Expect students to use critical thinking skills	0	0.0	0	0	23	19.5	70	59.3	25	21.2	35.915*
3. Engage students in problem solving skills	0	0.0	1	0.8	30	25.4	74	62.7	13	11.0	103.89*
4. Coach students to apply real life situations to their knowledge base	0	0.0	0	0	32	27.1	75	63.6	11	9.3	54.119*
5. Facilitate student investigation and problem solving	0	0.0	2	1.7	39	33.1	66	55.9	11	9.3	85.458*
6. Use questions to guide students through content	0	0.0	0	0.0	17	14.4	79	66.9	22	18.6	60.322*
7. Allow authentic experiences to drive the curriculum	1	0.8	5	4.2	60	50.8	46	39.0	6	5.1	126.831*
8. Allow learners to make decisions	0	0.0	5	4.2	51	43.2	59	50.0	3	2.5	89.322*
9. Model behaviors and social skills	0	0.0	0	0.0	7	5.9	52	44.1	59	50.0	40.492*
10. Emphasize student understanding	0	0.0	0	0.0	7	5.9	69	58.5	42	35.6	49.136*

*$p < 0.05$

Analysis for the Level of Classroom Use when Assessing Student Learning

Responding principals perceived that teachers in their schools always (9.3%) or frequently (66.1%), used teacher designed exams and quizzes to assess student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=99) = 165.305, p<0.05. Respondents also perceived that teachers in their schools always (61.9%) or frequently (61.9%), used classroom discussions to access student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=100) = 145.898, p<0.05. Responding principals perceived that teachers in their schools always (24.6%) or frequently (50%), used grade-level tests to assess student learning. Chi-square analysis revealed that these results were statistically significant, χ2 (4, n=108) = 84.542, p <0.05.

Responding principals perceived that teachers in their schools frequently (31.4%) or sometimes (44.1%), used technology to assess student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=109) = 73.271, p <0.05. Principals perceived that teachers in their schools either frequently (24.6%) or sometimes (65.3%) used student journals to assess student learning. Chi-square analysis revealed that these results were statistically significant, χ2 (4, n=106) = 171.492, p<0.05. Respondents indicated that they perceived teachers in their schools frequently (27.1%) or sometimes (21.2%), used national standardized achievement tests to assess student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=98) = 34.627, p<0.05. Principals also perceived that teachers in their schools frequently (46.6%) or sometimes (33.9%), used teacher designed rubrics when assessing

student learning. Chi-squared analysis revealed that these results were statistically significant, χ^2 (4, n=95) = 85.559, p <0.05.

Responding principals indicated that they perceived teachers in their schools either sometimes (53.8%) or seldom (24.8%) used portfolio projects to assess student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=92) = 101.761, p<0.05. Responding principals perceived teachers in their schools either sometimes (48.3%) or seldom (33.9%) used student self-evaluations to asses student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=97) = 95.983, p<0.05. Principals also perceived that the teachers in their schools seldom (17.9%) or never (29.9%) used state standardized tests to assess student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=87) = 15.265, p <0.05.

Summary

The percentage of perceived classroom use in the category of always or frequently was combined to identify the level to which these practices were used most often. The combined domains that exceeded 70% are identified as the most used practices. All 10 of the 21st century instructional practices related to classroom use when assessing student learning were found to be statistically significant. Responding principals perceived that when assessing student learning teachers in their schools always or frequently use three of the 21st century instructional practices given on the survey. These practices were 1) teacher designed exams and quizzes, 2) classroom discussions, and 3) grade level tests. Three of the practices were perceived to be used frequently or sometimes 1) technology, 2) student journals, and 3) teacher designed rubrics.

Table 4. *Principals Perceived Level of classroom Use to Assess Student Learning*

	Level of Classroom Use to Assess Student Learning										
	Never		Seldom		Sometimes		Frequently		Always		
	n	%	n	%	n	%	n	%	n	%	χ^2
21st Century Instructional Practices											
1. Teacher designed exams and quizzes	2	1.7	6	5.1	21	17.8	78	66.1	11	9.3	165.305*
2. Technology	5	4.2	20	16.7	52	44.1	37	31.4	4	3.4	73.271*
3. Portfolio projects	7	6.0	29	24.8	63	53.8	16	13.7	2	1.7	101.898*
4. Classroom discussions	1	0.8	5	4.2	27	22.9	73	61.9	12	10.2	145.898*
5. Student journals	2	1.7	7	5.9	77	65.3	29	24.6	3	2.5	171.492*
6. Grade-level tests	3	2.5	7	5.9	20	16.9	59	50.0	29	24.6	84.542*
7. State standardized tests	35	29.9	21	17.9	31	26.5	18	15.4	12	10.3	15.265*
8. Student self-evaluations	10	8.5	40	33.9	57	48.3	10	8.5	1	0.8	95.983*
9. National standardized achievement tests	4	3.4	16	13.6	25	21.2	32	27.1	41	34.7	34.627*
10. Teacher designed rubrics	7	5.9	9	7.6	40	33.9	55	46.6	7	5.9	85.559*

*$p < 0.05$

Summary of Findings for Research Question One

In summary, to identify the level to which 21st century instructional practices were used most often, the percentages of perceived use in the category of always or frequently were combined. The combined domains that exceeded 70% were identified as the most used practices. All 30 of the 21st century instructional practices were found to be statistically significant when planning instruction, delivering instruction and assessing student learning. Therefore responding principals perceived that when planning instruction, six of the 21st century instructional practices were used always or frequently in the classroom. These practices were 1) a review of content, 2) focusing on individual student needs, 3) considering content reinforcement, 4) taking into account student progress, 5) school instructional goals and 6) including activities that engage student in hands on learning.

Responding principals perceived that when delivering instruction six 21st century instructional practices were used always or frequently in the classroom. These practices were 1) expecting students to use critical thinking skills, 2) engaging students in problem solving tasks, 3) coaching students to apply real life situations to their knowledge base, 4) using questions to guide student through content, 5) modeling desired behavior and social skills, and 6) emphasizing student understanding.

Principals also reported that when assessing student learning they perceived that three of the 21st century instructional practices were used always or frequently in the classroom. These practices were 1) teacher designed exams and quizzes, 2) classroom discussions, and 3) grade level tests. Use of chi-square analysis determined that participants' responses were statistically significant in relation to all 30 statements listed on *The 21st Century Instructional Practices Survey.*

Research Question 2: What are the differences, if any, based on selected demographic/ attribute variables, in the level of classroom use as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

The differences in the level of classroom use were analyzed based on the ACSI principal's perception's of demographic/attribute variables. Principals were requested to provide information regarding (a) school size for 2010-2011, (b) school developmental levels, (c) state, (d) school accreditation and (e) the organization from which the principal received certification. Kruskal-Wallis testing, using each of the demographic variables as an independent variable, was conducted on each 21st century instructional practice to determine if there were statistically significant differences in the level of classroom use when planning instruction, delivering instruction, and assessing instruction. Results of Kruskal-Wallis analysis are found in Tables 5-19.

Analysis for the Planning of Instruction-School Size

Chi-square values derived from Kruskal-Wallis analysis indicated there were no significant statistical differences between the planning of instruction using ten 21st century instructional practices and school size. Data related to the planning of instruction and school size are included in Table 5.

Analysis for the Planning of Instruction-Developmental Level

Chi-square values derived from Kruskal-Wallis analysis indicated there were no significant statistical differences between the perceived planning of instruction using ten 21st century instructional practices and the developmental levels of the responding schools. Data related to the perceived planning of instruction and the school developmental levels are included in Table 6.

Analysis for the Planning of Instruction-State

Chi-squared values derived from Kruskal-Wallis analysis indicated there were no significant statistical differences between the perceived planning of instruction using ten 21st century instructional practices and the state in which the schools were located. Data related to the perceived planning of instruction and state location are included in Table 7.

Analysis for the Planning of Instruction-School Accreditation

Chi-square values derived from Kruskal-Wallis analysis indicated there were no significant statistical differences between the perceived planning of instruction using 21st century instructional practices and the school's accreditation status. Data related to the perceived planning of instruction and school accreditation are included in Table 8.

Analysis for the Planning of Instruction-Agency of Principal's Certification

Chi-square values derived from Kruskal-Wallis analysis indicated there was a statistically significant difference between the perceived planning of instruction using 21st century instructional practices and the agency from which the principal received certification. Schools with principals that had both ACSI and state certification received the highest mean rank regarding the use of arranging opportunities for technology integration when planning instruction, x^2 (3, n=101) =9.606. Data related to the perceived planning of instruction and the agency from which the principal received certification are included in Table 9.

Table 5. *Principals Perceived Level of Classroom Use of 21st Century Practices when Planning Instruction by School Size*

21st Century Instructional Practices	Less than100		101-250		250+		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Incorporate state standards and objectives	27	47.85	40	50.70	34	53.85	.703
2. Include a review of content	27	47.91	40	47.88	34	55.56	1.871
3. Focus on individual student needs	27	57.59	40	50.58	34	44.78	3.503
4. Consider content reinforcement	27	51.83	40	50.85	34	50.51	.041
5. Take into account student progress	27	52.44	40	51.08	34	49.76	.162
6. Arrange opportunities for technology integration	27	53.24	40	46.56	34	54.44	1.786
7. Plan lessons where they model the use of technology	27	52.61	40	45.21	34	56.53	3.330
8. Include school instructional goals	27	54.74	40	43.71	34	54.93	4.068
9. Use state or national assessment results	27	48.98	40	51.18	34	50.93	.114
10. Include activities that engage students in hands on learning	27	52.87	40	49.76	34	50.97	.250

Table 6. *Principals Perceived Level of Classroom Use of 21st Century Practices when Planning Instruction by Developmental Level*

21st Century Instructional Practices	Elem. Only		Elem./Middle		Elem/Middle/Secondary		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Incorporate state standards and objectives	23	49.58	17	51.29	61	51.22	-.521
2. Include a review of content	23	53.42	17	50.33	61	51.56	.318
3. Focus on individual student needs	23	52.64	17	50.39	61	48.40	.231
4. Consider content reinforcement	23	51.66	17	51.25	61	52.84	-.474
5. Take into account student progress	23	53.51	17	51.64	61	51.42	-1.226
6. Arrange opportunities for technology integration	23	50.83	17	50.28	61	54.30	1.311
7. Plan lessons where they model the use of technology	23	50.13	17	51.35	61	53.04	-.640
8. Include school instructional goals	23	50.29	17	51.20	61	52.33	-.366
9. Use state or national assessment results	23	49.91	17	51.68	61	53.79	-1.209
10. Include activities that engage students in hands on learning	23	50.25	17	52.05	61	50.36	-2.102

Table 7. *Principals Perceived Level of Classroom Use of 21st Century Practices when Planning Instruction by State*

21st Century Instructional Practices	Kentucky		Ohio		West Virginia		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Incorporate state standards and objectives	30	45.98	57	56.40	15	43.90	3.965
2. Include a review of content	30	56.52	57	46.60	15	56.40	3.397
3. Focus on individual student needs	30	50.69	57	50.13	15	54.90	.379
4. Consider content reinforcement	30	54.57	57	49.96	15	51.23	.612
5. Take into account student progress	30	56.62	57	51.07	15	42.90	2.796
6. Arrange opportunities for technology integration	30	55.90	57	49.86	15	48.93	1.102
7. Plan lessons where they model the use of technology	30	49.90	57	52.61	15	50.50	.215
8. Include school instructional goals	30	56.78	57	48.97	15	47.00	1.996
9. Use state or national assessment results	30	53.97	57	50.94	15	45.30	.969
10. Include activities that engage students in hands on learning	30	54.83	57	50.08	15	50.23	.748

Table 8. *Principals Perceived Level of Classroom Use of 21st Century Practices when Planning Instruction by School Accreditation*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Incorporate state standards and objectives	11	39.77	24	58.90	34	55.29	33	46.17	5.375
2. Include a review of content	11	57.95	24	50.33	34	53.12	33	46.97	1.717
3. Focus on individual student needs	11	63.18	24	51.57	34	46.34	33	51.35	3.296
4. Consider content reinforcement	11	53.50	24	49.98	34	51.07	33	52.38	.191
5. Take into account student progress	11	57.09	24	50.69	34	49.49	33	52.30	.762
6. Arrange opportunities for technology integration	11	48.91	24	45.06	34	60.19	33	48.09	5.317
7. Plan lessons where they model the use of technology	11	48.09	24	50.12	34	58.62	33	46.30	3.711
8. Include school instructional goals	11	58.64	24	46.56	34	57.79	33	44.89	5.236
9. Use state or national assessment results	11	50.68	24	55.83	34	48.98	33	49.61	.980
10. Include activities that engage students in hands on learning	11	58.45	24	48.15	34	52.74	33	50.35	1.421

Table 9. *Principals Perceived Level of Classroom Use of 21st Century Practices when Planning Instruction by Agency of Principal's Certification*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Incorporate state standards and objectives	19	40.92	35	55.06	28	56.91	20	47.75	4.620
2. Include a review of content	19	57.74	35	52.26	28	51.05	20	41.87	3.490
3. Focus on individual student needs	19	42.32	35	58.15	28	47.30	20	52.28	4.959
4. Consider content reinforcement	19	52.25	35	51.09	28	47.95	20	56.20	1.200
5. Take into account student progress	19	55.50	35	54.51	28	42.88	20	54.50	4.233
6. Arrange opportunities for technology integration	19	59.05	35	47.36	28	60.64	20	38.78	9.606*
7. Plan lessons where they model the use of technology	19	54.61	35	48.80	28	61.20	20	39.70	7.797
8. Include school instructional goals	19	58.34	35	43.66	28	58.04	20	46.65	6.258
9. Use state or national assessment results	19	51.45	35	55.62	28	50.88	20	42.90	2.632
10. Include activities that engage students in hands on learning	19	54.71	35	47.44	28	54.16	20	51.82	1.539

*p< 0.05

Analysis of Delivery of Instruction-School Size

Chi-square values derived from Kruskal-Wallis analysis indicated that there were statistically significant differences in three of the 10 instructional practices and school size. These were the delivery of instruction that 1) engaged students in problem solving tasks; 2) coached students to apply real life situations to their current knowledge base; and 3) emphasized student understanding. Schools with less than 100 students received the highest mean rank in regard to planning lessons where teachers engage students in problem solving tasks, x^2 (2, n=101)= 6.300, p< 0.05. Schools with less than 100 students received the highest mean rank in regard to planning lessons where the teachers coach students to apply real life situations to their current knowledge base, x^2 (2, n=101) =11.722, p < 0.05. Schools with less than 100 students received the highest mean rank in regard to planning lessons where teachers emphasize student understanding, x^2 (2,N=101)= 6.509, p<0.05. Data related to the perceived delivery of instruction and school size are included in Table 10.

Analysis of Delivery of Instruction-Developmental Levels

Chi-squared values derived from Kruskal-Wallis analysis indicated there were no significant statistical difference between the perceived levels of classroom use for the 10 delivery practices based on the developmental levels of the responding schools. Data related to the perceived delivery of instruction and the schools developmental levels are included in Table 11.

Analysis of Delivery of Instruction-State

Chi-square values derived from Kruskal-Wallis analysis also indicated there was no significant statistical difference between the perceived levels of classroom use for the

10 delivery practices based on the state location of the school. Data related to the perceived delivery of instruction and the state locations are included in Table 12.

Analysis of Delivery of Instruction-School Accreditation

Chi-square values derived from Kruskal-Wallis analysis also indicated there was no significant difference between the perceived levels of classroom use for the 10 delivery practices based on the school's accreditation status. Data related to the perceived delivery of instruction and school accreditation are included in Table 13.

Analysis of Delivery of Instruction- Agency of Principal's Certification

Chi-square values derived from Kruskal-Wallis analysis indicated there was statistically significant difference between the perceived levels of classroom use for the 10 delivery practices based on the agency from which the principal has certification. Schools with principals who have ACSI certification received the highest mean rank regarding the use of cooperative learning groups when delivering instruction, x^2 (3, n=101) =8.505. Data related to the perceived delivery of instruction and agency of the Principal's certification are included in Table 14.

Table 10. *Principals Perceived Level of Classroom Use of 21st Century Practices when Delivering Instruction by School Size*

21st Century Instructional Practices	Less than 100		101-250		250+		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Use cooperative learning groups	27	50.87	40	50.51	34	51.68	.037
2. Expect students to use critical thinking skills	27	59.50	40	47.98	34	47.81	3.923
3. Engaging students in problem solving	27	59.81	40	51.22	34	43.74	6.300*
4. Coaching students to apply real life situations to their current knowledge base	27	62.96	40	51.22	34	41.24	11.722*
5. Facilitate student investigation and problem solving	27	56.00	40	49.42	34	48.88	1.360
6. Use questions to guide students through content	27	52.33	40	49.82	34	51.32	.175
7. Allow authentic experiences to drive the curriculum	27	55.59	40	47.42	34	51.56	1.559
8. Allow learners to make decisions	27	57.94	40	50.59	34	45.97	3.218
9. Model behaviors and social skills	27	58.22	40	46.52	34	50.53	3.299
10. Emphasizing student understanding	27	61.61	40	45.66	34	48.85	6.509*

*$p < 0.05$

Table 11. *Principals Perceived Level of Classroom Use of 21st Century Practices when Delivering Instruction by Developmental Level*

21st Century Instructional Practices	Elem. Only		Elem./Middle		Elem/Middle/Secondary		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Use cooperative learning groups	23	51.24	17	50.78	61	49.47	.407
2. Expect students to use critical thinking skills	23	50.32	17	50.63	61	51.79	.705
3. Engaging students in problem solving	23	50.55	17	50.79	61	51.04	.407
4. Coaching students to apply real life situations to their current knowledge base	23	50.75	17	50.80	61	48.75	.404
5. Facilitate student investigation and problem solving	23	51.40	17	51.38	61	51.58	-.721
6. Use questions to guide students through content	23	52.48	17	51.52	61	48.91	-1.044
7. Allow authentic experiences to drive the curriculum	23	52.01	17	51.40	61	50.11	-.743
8. Allow learners to make decisions	23	50.79	17	51.82	61	47.07	-1.559
9. Model behaviors and social skills	23	52.03	17	50.48	61	53.05	.985
10. Emphasizing student understanding	23	52.56	17	51.18	61	54.28	.738

Table 12. *Principals Perceived Level of Classroom Use of 21st Century Practices when Delivering Instruction by State*

21st Century Instructional Practices	Kentucky		Ohio		West Virginia		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Use cooperative learning groups	30	57.28	57	48.46	15	51.50	2.173
2. Expect students to use critical thinking skills	30	56.60	57	49.89	15	47.43	1.689
3. Engaging students in problem solving tasks	30	51.87	57	51.47	15	50.87	.016
4. Coaching students to apply real life situations to their current knowledge base	30	55.62	57	49.45	15	51.07	1.222
5. Facilitate student investigation and problem solving	30	55.20	57	49.71	15	50.90	.858
6. Use questions to guide students through content	30	56.33	57	49.44	15	49.67	1.607
7. Allow authentic experiences to drive the curriculum	30	52.33	57	52.81	15	44.87	1.092
8. Allow learners to make decisions	30	48.95	57	52.71	15	52.00	.410
9. Model behaviors and social skills	30	57.05	57	49.66	15	47.40	2.002
10. Emphasizing student understanding	30	55.57	57	50.79	15	46.07	.492

Table 13. *Principals Perceived Level of Classroom Use of 21st Century Practices when Delivering Instruction by School Accreditation*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Use cooperative learning groups	11	58.09	24	53.81	34	55.16	33	43.85	4.248
2. Expect students to use critical thinking skills	11	57.14	24	53.08	34	51.12	33	48.86	.924
3. Engaging students in problem solving tasks	11	49.91	24	51.44	34	48.49	33	55.18	1.233
4. Coaching students to apply real life situations to their current knowledge base	11	57.41	24	49.60	34	48.25	33	54.26	1.757
5. Facilitate student investigation and problem solving	11	56.32	24	48.00	34	54.44	33	49.41	1.416
6. Use questions to guide students through content	11	41.55	24	53.04	34	56.75	33	48.29	3.923
7. Allow authentic experiences to drive the curriculum	11	48.50	24	53.90	34	56.26	33	45.85	2.894
8. Allow learners to make decisions	11	55.23	24	51.12	34	50.22	33	51.85	.313
9. Model behaviors and social skills	11	63.27	24	56.29	34	45.76	33	50.00	4.776
10. Emphasizing student understanding	11	52.77	24	55.29	34	49.96	33	49.91	.774

Table 14. *Principals Perceived Level of Classroom Use of 21st Century Practices when Delivering Instruction by Agency of Principal's Certification*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Use cooperative learning groups	19	57.87	35	55.80	28	52.57	20	36.42	8.505*
2. Expect students to use critical thinking skills	19	51.97	35	57.99	28	51.32	20	39.95	5.951
3. Engaging students in problem solving tasks	19	50.97	35	54.26	28	50.79	20	48.18	.797
4. Coaching students to apply real life situations to their current knowledge base	19	52.87	35	51.50	28	49.41	20	53.12	.343
5. Facilitate student investigation and problem solving	19	53.45	35	51.99	28	56.79	20	41.40	4.162
6. Use questions to guide students through content	19	55.87	35	54.26	28	49.54	20	45.28	2.446
7. Allow authentic experiences to drive the curriculum	19	55.47	35	56.00	28	52.91	20	37.88	6.703
8. Allow learners to make decisions	19	46.32	35	54.01	28	55.54	20	46.38	2.488
9. Model behaviors and social skills	19	52.21	35	51.51	28	43.54	20	61.95	5.801
10. Emphasizing student understanding	19	51.34	35	54.51	28	46.82	20	52.92	1.426

*$p < 0.05$

Analysis of Assessment of Student Learning- School Size

Chi-square values derived from Kruskal-Wallis analysis indicated two of the 10 instructional practices were statistically significant regarding the perceived assessment of student learning and school size. These were 1) the use of grade level tests; and 2) teacher designed rubrics. Schools with less than 100 students received the highest mean rank in regard to using grade level tests, x^2 (2, n=101) = 7.425, p <0.05. Schools with 250+ students received the highest mean rank in regard to assessing lessons where teachers used teacher designed rubrics, x^2 (2, n=101) =6.308, p < 0.05. Data related to the perceived assessment of student learning and school size are included in Table 15.

Analysis of Assessment of Student Learning- Developmental Levels

Chi-squared values derived from Kruskal-Wallis analysis indicated one of 10 instructional practices was statistically significant regarding the perceived assessment of student learning and the developmental levels of the responding schools. Schools that had elementary and middle developmental levels, received the highest mean rank regarding the use of national standardized tests when assessing student learning, x^2 (3, N=101) =-2.908, p<0.05 level. Data related to the perceived assessment of instruction and the schools developmental levels are included in Table 16.

Analysis of Assessment of Student Learning-State

Chi-squared values derived from Kruskal-Wallis analysis indicated one of 10 instructional practices were statistically significant regarding the in the perceived assessment of student learning and the state. ACSI schools that were located in Kentucky received the highest mean rank for assessing instruction by using student self-evaluations,

x^2 (2, N= 102) = 7.977, $p<0.05$. Data related to the perceived assessment of student learning and the state locations are included in Table 17.

Analysis of Assessment of Student Learning-School Accreditation

Chi-squared values derived from Kruskal-Wallis analysis indicated that there were no instructional practices that were statistically significant regarding the perceived assessment of student learning and the school's accreditation status. Data related to the perceived assessment of student learning and the schools accreditation status are included in Table 18.

Analysis of Assessment of Student Learning-Agency of the Principal's Certification

Chi-square values derived from Kruskal-Wallis analysis indicated three of 10 instructional practices were statistically significant regarding the perceived assessment of student learning and the agency from which the principal obtained certification. Schools that had principals with ACSI certification received the highest mean rank regarding the perceived use of technology, x^2 (3, n=101) =11.339, $p<0.05$, and regarding the use of teacher designed rubrics when assessing student learning, x^2 (3, n=101) = 11.534, $p<0.05$. Schools with principals that had no certification received the highest mean rank regarding the use of national standardized tests when assessing student learning, x^2 (3, n=101) =8.915, $p<0.05$. Data related to the perceived assessment of student learning and agencies of the principal's certification are included in Table 19.

Table 15. *Principals Perceived Level of Classroom use of 21st Century Practices when Assessing Student Learning by School Size*

21st Century Instructional Practices	Less than 100		101-250		250+		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Teacher designed exams and quizzes	27	48.85	40	49.86	34	54.04	.846
2. Technology	27	44.80	40	50.94	34	56.00	2.499
3. Portfolio projects	27	56.44	40	46.24	34	50.66	2.404
4. Classroom discussions	27	48.72	40	50.72	34	53.13	.447
5. Student journals	27	55.57	40	49.19	34	49.50	1.254
6. Grade-level tests	27	58.39	40	54.59	34	40.91	7.425*
7. State standardized tests	27	43.98	40	55.01	34	50.36	2.475
8. Student self-evaluations	27	48.89	40	48.22	34	55.94	1.726
9. National standardized tests	27	52.22	40	54.18	34	46.29	1.524
10. Teacher designed rubrics	27	40.93	40	51.54	34	58.37	6.308*

*$p < 0.05$

Table 16. *Principals Perceived Level of Classroom Use of 21st Century Practices when Assessing Student Learning by Developmental Level*

21st Century Instructional Practices	Elem. Only		Elem./Middle		Elem/Middle/Secondary		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Teacher designed exams and quizzes	23	51.81	17	51.31	61	51.94	.514
2. Technology	23	50.30	17	51.07	61	53.31	.896
3. Portfolio projects	23	50.54	17	50.85	61	51.43	.513
4. Classroom discussions	23	50.21	17	51.61	61	49.38	.236
5. Student journals	23	51.85	17	50.87	61	48.58	.788
6. Grade-level tests	23	48.81	17	51.03	61	46.88	.955
7. State standardized tests	23	50.36	17	50.93	61	53.57	.452
8. Student self-evaluations	23	50.49	17	51.66	61	53.01	.222
9. National standardized tests	23	49.74	17	52.64	61	49.34	-2.908*
10. Teacher designed rubrics	23	49.70	17	50.92	61	48.83	.151

*$p < 0.05$

Table 17. *Principals Perceived Level of Classroom use of 21st Century Practices when Assessing Student Learning by State*

21st Century Instructional Practices	Kentucky		Ohio		West Virginia		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Teacher designed exams and quizzes	30	50.87	57	50.18	15	57.80	1.202
2. Technology	30	51.10	57	51.41	15	52.63	.032
3. Portfolio projects	30	50.02	57	49.35	15	59.13	1.673
4. Classroom discussions	30	55.13	57	49.69	15	51.10	.865
5. Student journals	30	51.38	57	52.60	15	47.57	.481
6. Grade-level tests	30	51.32	57	48.58	15	62.97	3.298
7. State standardized tests	30	45.86	57	54.40	15	48.00	1.933
8. Student self-evaluations	30	63.22	57	45.99	15	49.00	7.977*
9. National standardized tests	30	55.82	57	49.39	15	50.87	1.021
10. Teacher designed rubrics	30	56.10	57	50.45	15	46.30	1.482

*$p < 0.05$

Table 18. *Principal's Perceived Level of Classroom Use of 21st Century Practices when Assessing Student Learning by School Accreditation*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Accreditation		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Teacher designed exams and quizzes	11	44.45	24	50.31	34	52.62	33	53.33	1.265
2. Technology	11	45.91	24	52.33	34	56.66	33	47.44	2.346
3. Portfolio projects	11	55.77	24	48.04	34	53.16	33	49.24	1.015
4. Classroom discussions	11	53.27	24	55.17	34	53.56	33	46.12	2.155
5. Student journals	11	53.91	24	55.96	34	53.47	33	45.42	3.024
6. Grade-level tests	11	46.86	24	56.69	34	44.34	33	56.65	4.696
7. State standardized tests	11	47.27	24	62.88	34	49.12	33	45.48	5.767
8. Student self-evaluations	11	59.14	24	44.88	34	55.19	33	49.97	3.001
9. National standardized tests	11	52.55	24	52.48	34	44.87	33	57.27	3.284
10. Teacher designed rubrics	11	51.55	24	52.62	34	55.84	33	46.20	2.146

Table 19. *Principals Perceived Level of Classroom Use of 21st Century Practices when Assessing Student Learning by Agency of Principal's Certification*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Teacher designed exams and quizzes	19	53.42	35	48.20	28	54.55	20	51.18	1.214
2. Technology	19	61.37	35	47.26	28	60.32	20	37.20	11.339*
3. Portfolio projects	19	50.58	35	48.83	28	55.95	20	48.13	1.439
4. Classroom discussions	19	56.18	35	51.96	28	54.48	20	42.08	3.626
5. Student journals	19	58.26	35	49.64	28	49.68	20	50.88	1.744
6. Grade-level tests	19	49.76	35	54.76	28	43.77	20	58.28	4.050
7. State standardized tests	19	46.74	35	53.80	28	55.67	20	43.85	2.761
8. Student self-evaluations	19	62.92	35	48.16	28	52.05	20	45.72	4.760
9. National standardized tests	19	54.37	35	46.30	28	44.95	20	67.05	8.915*
10. Teacher designed rubrics	19	63.37	35	47.59	28	58.46	20	37.32	11.534*

*$p < 0.05$

Summary of Findings for Research Question Two

When broken down individually, statistically significant differences were found between the perceived level of classroom use and school size when planning instruction that arranged opportunities for technology integration. Statistically significant differences were also found between three of the 21st century instructional practices perceived level of classroom use and school size when delivering instruction by: 1) engaging students in problem solving tasks, 2) coaching students to apply real life situations to their knowledge base and 3) emphasizing student understanding. Statistically significant differences were also found between two of the 21st century instructional practices perceived level of classroom use and school size and the assessment of student learning by: 1) using grade level tests and 2) using teacher designed rubrics.

Statistically significant differences were not found between the 21st century instructional practices perceived reported level of classroom use and the schools developmental levels when planning or delivering instruction. However, statistically significant differences were found regarding one of the 21st century instructional practices, using national standardized testing, and perceived level of classroom use and the assessment of student learning. Statistically significant differences were not found regarding the 21st century instructional practices reported level of classroom use and the state where the school was located when planning or delivering instruction. However, statistically significant differences were found regarding student self-evaluations and the perceived level of classroom use and the assessment of student learning. Statistically significant differences were not found between the 21st century instructional practices

perceived level of classroom use and the schools accreditation status when planning instruction, delivering instruction, or assessing student learning. Statistically significant differences were found between one of the 21st century instructional practices perceived level of classroom use and the agency granting principal's certification when planning instruction by arranging opportunities for technology integration.

Statistically significant differences were found between one of the 21st century instructional practices perceived level of classroom use and the agency of principal's certification when delivering instruction by: 1) using cooperative learning groups. Statistically significant relationships were also found between three of the 21st century instructional practices perceived level of classroom use and the agency of principal's certification when assessing student learning by: 1) using technology, 2) using national standardized testing and 3) using teacher designed rubrics. In summary, although statistical significance was found on individual instructional practices as perceived by principals in levels of classroom use there was not enough significance to show a difference based on the demographic/attribute variables. So therefore, no statistically significant differences were found.

Research Question 3: What is the level of effectiveness in facilitating student learning, as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

Part two of *The 21st Century Instructional Practices Survey* consisted of 30 instructional practices which were divided into three 10 statement domains. Principals were asked to rate their perceived level of effectiveness in facilitating student learning by using the following Likert scale descriptors: 1= Not Effective, 2= Minimally Effective, 3= Effective, 4= Moderately Effective; and 5= Highly Effective. Frequencies and

percentage responses were calculated for each instructional practice. Chi-square values were calculated for each of the 30 statements. Data related to these statements are identified in Tables 20-22.

Analysis for the Level of Effectiveness in Facilitating Student Learning-Planning Domain

Respondents perceived five of the 21st century instructional practices to be highly effective or moderately effective in facilitating student learning. Principals perceived that including a review of content was considered highly effective (35.7%) or moderately effective (41.1%) in facilitating student learning. Chi-square analysis revealed that these results were not statistically significant, χ^2 (4, n=112) = 5.643, $p < 0.05$. Responding principals perceived that focusing on individual student needs are considered highly effective (46.4%) or moderately effective (41.1%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=98) = 22.357, $p < 0.05$. Principals perceived content reinforcement as highly effective (27.7%) or moderately effective (49.1%) when facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=111) = 52.714, $p <0.05$. Principals indicated that they perceived meeting school instructional goals to be considered highly effective (26.1%) or moderately effective (45%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=109) = 41.973, $p <0.05$. Responding principals perceived that engaging student in hands on learning is considered highly effective (42.9%) or moderately effective (39.3%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=92) = 52.357, $p<0.05$.

Respondents perceived five of the 21st century instructional practices to be moderately effective or effective in facilitating student learning. Respondents perceived that incorporating state standards and objectives are considered either moderately effective (32.1%) or effective (31.3%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=96) = 34.518, p < 0.05. The respondents also perceived that taking into account the tracking of student progress is considered either moderately effective (42.9%), or effective (29.5%) when facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=110) = 39.357, p < 0.05. Responding principals perceived that arranging opportunities for technology integration is considered either moderately effective (38.4%) or effective (33.9%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=81) = 54.518, p <0.05. Responding principals also perceived that planning lessons where they modeling the use of technology is considered either moderately effective (33.3%) or effective (38.7%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=80) = 53.279, p <0.05. Responding principals perceived that using state or national standardized assessment results are considered either moderately effective (33%) or effective (40.2%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=82) = 57.554, p <0.05.

Summary

The percentages of highly effective and moderately effective were combined to identify the perceived level of effectiveness to which the 21st century instructional

practices were facilitating student learning. The combined domains that exceeded 70% were identified as the most effective practices. Statistical significance was found in nine of the10 instructional practices related to the level of effectiveness in facilitating student learning in the planning domain. Principals perceived that when rating the level of effectiveness in facilitating student learning they perceived five of the 21st century instructional practices in the planning domain as highly effective or moderately effective. These practices include 1) a review of content, 2) focusing on individual student needs, 3) content reinforcement, 4) meeting school instructional goals, and 5) engaging student in hands on learning. The remaining five practices 1) incorporating state standards and objectives, 2) tracking student progress, 3) technology integration, 4) planning lessons where they model the use of technology, and 5) using state or national standardized assessment results, were perceived as effective and moderately effective in facilitating student learning.

Table 20. *Principals Perceived Level of Effectiveness of 21st Century Practices in Facilitating Student Learning- Planning Domain*

21st Century Instructional Practices	Level of Effectiveness in Facilitating Student Learning										
	Not Effective		Minimally Effective		Effective		Mod. Effective		Highly Effective		χ^2
	n	%	n	%	n	%	n	%	n	%	
1. Incorporating state standards and objectives	6	5.4	25	22.3	35	31.3	36	32.1	10	8.9	34.518*
2. Including a review of content	0	0.0	0	0.0	26	23.2	46	41.1	40	35.7	5.643
3. Focusing on individual student needs	0	0.0	0	0.0	14	12.5	46	41.1	52	46.4	22.357*
4. Considering content reinforcement	0	0.0	1	0.9	25	22.3	55	49.1	31	27.7	52.714*
5. Taking into account the tracking of student progress	0	0.0	2	1.8	33	29.5	48	42.9	29	25.9	39.357*
6. Arranging opportunities for technology integration	2	1.8	12	10.7	38	33.9	43	38.4	17	15.2	54.518*
7. Planning lessons where they are modeling the use of technology	2	0.0	16	14.4	43	38.7	37	33.3	13	11.7	53.279*
8. Meeting school instructional goals	0	3.6	2	1.8	30	27.0	50	45.0	29	26.1	41.973*
9. Using state or national standardized assessment results	4	0.0	18	16.1	45	40.2	37	33.0	8	7.1	57.554*
10. Include engaging student in hands on learning	0	0.9	1	0.9	19	17.0	44	39.3	48	42.9	52.357*

*p< 0.05

Analysis for the Level of Effectiveness in Facilitating Student Learning-Delivery Domain

Respondents perceived seven of the 21st century instructional practices to be highly effective or moderately effective in facilitating student learning. Responding principals perceived that expecting students to use critical thinking skills were considered highly effective (43.8%) or moderately effective (31.3%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=111) = 43.571, p <0.05. Principals also perceived that engaging students in problem solving tasks was considered highly effective (38.4%) or moderately effective (43.8%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 92) = 51.500, p <0.05. The respondents perceived that coaching students on how to apply real life situations to their knowledge base was considered highly effective (33.3%) or moderately effective (46.8%) in facilitating student learning when delivering instruction. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 109) = 50.333, p <0.05. Principals perceived that facilitating student investigation about problem solving was considered highly effective (28.2%), or moderately effective (45.5%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 106) = 39.164, p =0.05. The perceptions of respondents also indicated that using questions to guide students through content was considered highly effective (31.8%), or moderately effective (44.5%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 105) = 75.636, p <0.05. Principals also perceived that modeling desired behaviors and social skills was considered highly effective (51.4%) or moderately effective (37.8%) when facilitating student learning. Chi-square analysis revealed that

these results were statistically significant, χ^2 (4, n= 99) = 28.378, p<0.05. Responding principals perceived that facilitating classroom learning by emphasizing student understanding was considered highly effective (46.4%) or moderately effective (40%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 95) = 19.873, p <0.05.

Respondents perceived three the 21st century instructional practices to be moderately effective or effective in facilitating student learning. Responding principals perceived that using cooperative learning groups was considered moderately effective (45.5%) or effective (23.2%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n=103) = 66.839, p <0.05. Principals perceived that allowing authentic experiences to drive the curriculum was considered moderately effective (43.2%) or effective (30.6%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 104) = 32.892, p <0.05. Respondents perceived that they perceived allowing learners to make decisions was considered moderately effective (45%) or effective (29.7%) in facilitating student learning. Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 83) = 33.613, p < 0.05.

Summary

The percentages of highly effective and moderately effective were combined to identify the level of effectiveness to which the 21st century instructional practices were facilitating student learning. The combined domains that exceeded 70% were identified as the most effective practices. Statistical significance was found in all 10 of the 21st century instructional practices related to the level of effectiveness in facilitating student

learning in the delivery domain. Principals perceived seven of the 21st century instructional practices as highly effective or moderately effective. These practices include 1) expecting student to use critical thinking skills, 2) engaging student in problem solving tasks, 3) coaching student to apply real life situations to their knowledge base, 4) facilitating student investigation about problem solving, 5) using questions to guide student through content, 6) modeling desired behaviors and social skills, and 7) facilitating classroom learning by emphasizing student understanding. The remaining three practices (1) using cooperative learning groups, 2) allowing authentic experiences to drive the curriculum; and 3) allowing learners to make decisions were perceived as effective and moderately effective in facilitating student learning.

Table 21. *Principals Perceived Level of Effectiveness in Facilitating Student Learning-Delivery Domain*

21st Century Instructional Strategies	Level of Effectiveness in facilitating student learning										$\chi^{(4)}$
	Not Effective		Min. Effective		Effective		Mod. Effective		Highly Effective		
	n	%	n	%	n	%	n	%	n	%	
1. Using cooperative learning groups	2	1.8	7	6.3	26	23.2	51	45.5	26	23.2	66.839*
2. Expecting students to use critical thinking skills	0	0.0	1	0.9	27	24.1	35	31.1	49	43.8	43.571*
3. Engaging students in problem solving skills	0	0.0	2	1.8	18	16.1	49	43.8	43	38.4	51.500*
4. Coaching students to apply real life situations to their knowledge base	0	0.0	2	1.8	20	18.0	52	46.8	37	33.3	50.333*
5. Facilitating student investigation and problem solving	0	0.0	4	3.6	25	22.7	50	45.5	31	28.2	39.164*
6. Using questions to guide students through content	1	0.9	4	3.6	21	19.1	49	44.5	35	31.8	75.636*
7. Allowing authentic experiences to drive the curriculum	0	0.0	7	6.3	34	30.6	48	43.2	22	19.8	32.892*
8. Allowing learners to make decisions	0	0.0	10	9.0	33	29.7	50	45.0	18	16.2	33.613*
9. Modeling behaviors and social skills	0	0.0	0	0.0	12	10.8	42	37.8	57	51.4	28.378*
10. Emphasizing student understanding	0	0.0	0	0.0	15	13.6	44	40.0	51	46.4	19.873*

*$p < 0.05$

Analysis for the Level of Effectiveness in Facilitating Student Learning-Assessment Domain

Principals perceived that using teacher designed exams and quizzes to assess student learning was considered, highly effective (27.9%) or moderately effective (48.6%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 108) = 87.694, p <0.05. Respondents perceived eight of the 21st century instructional practices to be moderately effective or effective in facilitating student learning. Principals perceived that incorporating technology to assess student learning was considered moderately effective (30.6%) or effective (41.4%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 80) = 53.550, p<0.05. Responding principals also perceived that portfolio projects to assess student learning was considered moderately effective (36.4%) or effective (30.9%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 74) = 38.455, p<0.05. Respondents perceived that they perceived allowing classroom discussions to assess student learning was considered moderately effective (37.8%) or effective (30.6%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 76) = 46.703, p <0.05. Responding principals also perceived that reviewing student journals to assess student learning was considered moderately effective (27%) or effective (45%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 81) = 60.306, p <0.05. The 111 responding principals perceived that designing grade-level tests to assess student learning was considered moderately effective (36%) or effective (37.8%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 82) = 62.649, p <0.05.

The responding principals also perceived that encouraging student self-evaluation to assess student learning was considered moderately effective (27.9%), or effective (32.4%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 96) = 35.441, p<0.05. Respondents perceived that using national standardized achievement tests to assess student learning was considered moderately effective (36.9%) or effective (33.3%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 78) = 49.315, p<0.05. Responding principals also indicated that producing teacher designed rubrics to assess student learning was considered highly effective (24.3%) or moderately effective (44.1%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 101) = 60.486, p<0.05. Responding principals perceived that taking state designed tests to assess student learning was considered effective (33%) or minimally effective (27.5%). Chi-square analysis revealed that these results were statistically significant, χ^2 (4, n= 66) = 26.000, p <0.05.

Summary

The percentages of highly effective and moderately effective were combined to identify the perceived level of effectiveness to which the 21st century instructional practices were facilitating student learning. The combined domains that exceeded 70% are identified as the most effective practices. Statistical significance was found in all 10 of the 21st century instructional practices related to the level of effectiveness when assessing student learning. Principals perceived that when rating the level of effectiveness in facilitating student learning they found one of the 21st century instructional practices in the assessment domain as highly effective or moderately

effective. This practice was using teacher designed exams and quizzes to assess student learning.

Principals perceived that eight of the 21st century instructional practices were effective and moderately effective in facilitating student learning, these include 1) incorporating technology to assess student learning, 2) portfolio projects to assess student learning, 3) allowing classroom discussions to assess student learning, 4) reviewing student journals to assess student learning, 5) designing grade-level tests to assess student learning, 6) encouraging student self-evaluation to assess student learning, 7) using standardized achievement tests to assess student learning, and 8) producing teacher designed rubrics to assess student learning. The remaining practice of taking state designed tests to assess student learning was rated minimally effective to effective in facilitating student learning.

Table 22. *Principals Perceived Level of Effectiveness in Facilitating Student Learning- Assessment Domain*

21st century instructional strategies	Level of Effectiveness in Facilitating Student Learning										$\chi^{(4)}$
	Not Effective		Minimally Effective		Effective		Moderately Effective		Highly Effective		
	n	%	n	%	n	%	n	%	n	%	
1. Using teacher designed exams and quizzes	1	0.9	2	1.8	23	20.7	54	48.6	31	27.9	87.694*
2. Incorporating technology to assess student learning	4	3.6	13	11.7	34	30.6	46	41.4	14	12.6	53.550*
3. With portfolio projects to assess student learning	5	4.5	17	15.5	34	30.9	40	36.4	14	12.7	38.455*
4. Allowing classroom discussions to assess student learning	1	0.9	18	16.2	34	30.6	42	37.8	16	14.4	46.703*
5. Reviewing student journals to assess student learning	3	2.7	15	13.5	50	45.0	30	27.0	13	11.7	60.306*
6. Designing grade-level tests to assess student learning	1	0.9	7	6.3	42	37.8	40	36.0	21	18.9	62.649*
7. Taking state standardized tests to assess student learning	19	17.4	30	27.5	36	33.0	19	17.4	5	4.6	26.000*
8. Encouraging student self-evaluations to assess student learning	3	2.7	29	26.1	36	32.4	31	27.9	12	10.8	35.441*
9. Using national standardized achievement tests to assess student learning	3	2.7	20	18.0	37	33.3	41	36.9	10	9.0	49.315*
10. Producing teacher designed rubrics to assess student learning	4	3.6	6	5.4	25	22.5	49	44.1	27	24.3	60.486*

*p< 0.05

Summary of Findings for Research Question Three

The percentages of highly effective and moderately effective categories were combined to identify the perceived level of effectiveness to which the 21st century instructional practices were facilitating student learning. The combined domains that exceeded 70% are identified as the most effective practices. Use of chi-square analysis determined principals' perceptions were statistically significant in 29 of the 30 statements listed on *the 21st Century Instructional Practices Survey*.

Principals perceived that when rating the level of effectiveness in facilitating student learning through assessment, thirteen of thirty 21st century instructional practices were perceived as highly effective or moderately effective. These practices include 1) a review of content, 2) focusing on individual student needs, 3) content reinforcement, 4) meeting school instructional goals, 5) engaging student in hands on learning, 6) expecting student to use critical thinking skills, 7) engaging student in problem solving tasks, 8) coaching student to apply real life situations to their knowledge base, 9) facilitating student investigation about problem solving, 10) using questions to guide student through content, 11) modeling desired behaviors and social skills, 12) emphasizing student understanding, and 13) using teacher designed exams and quizzes to assess student learning.

Research Question 4: What are the differences, if any, based on the selected demographic/attribute variables, in the level of effectiveness in facilitating student learning, as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

Demographic questions asked principals to provide information regarding (a) school size for 2010-2011, (b) school developmental levels, (c) state, (d) school

accreditation and (e) the organization from which the principal was granted certification. Kruskal-Wallis testing, using each of the demographic variables as an independent variable was conducted on each 21st century instructional practices to determine if there were significant differences. Kruskal-Wallis mean ranks are identified in Tables 23-28.

Analysis of Effectiveness in Facilitating Student Learning by School Size

Chi-square values derived from Kruskal-Wallis analysis indicated there was a statistically significant difference between the perceived effectiveness in facilitating student learning in regard to using content reinforcement and school size. Schools with 101-250 students received the highest mean rank in regard to considering content reinforcement, x^2 (3, N= 101) =6.915, $p<0.05$ level. Table 23 displays the results of the Kruskal-Wallis test comparing the effectiveness in facilitating student learning and school size.

Table 23. *Principals Perceived Level of Effectiveness of 21st Century Practices in Facilitating Student Learning by School Size*

21st Century Instructional Practices	Less than100		101-250		250+		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Incorporate state standards and objectives	27	45.22	40	55.24	34	50.60	2.040
2. Include a review of content	27	51.57	40	50.88	34	50.69	.017
3. Focus on individual student needs	27	48.65	40	53.71	34	49.68	.701
4. Consider content reinforcement	27	51.28	40	58.54	34	41.91	6.915*
5. Take into account student progress	27	56.28	40	54.61	34	42.56	4.876
6. Arrange opportunities for technology integration	27	43.09	40	52.18	34	55.90	3.327
7. Plan lessons where they model the use of technology	27	40.11	40	55.24	34	53.31	5.370
8. Include school instructional goals	27	46.78	40	50.08	34	54.06	1.095
9. Use state or national assessment results	27	41.54	40	57.94	34	50.35	5.706
10. Include activities that engage students in hands on learning	27	44.69	40	56.15	34	49.96	2.990
11. Using cooperative learning groups	27	50.39	40	54.90	34	46.90	1.582
12. Expecting student to use critical thing skills	27	46.50	40	52.86	34	52.38	1.016
13. Engaging students in problem solving tasks	27	48.52	40	54.65	34	48.68	1.208
14. Coaching students to apply real life situations to their knowledge base	27	50.35	40	54.58	34	45.94	1.921
15. Facilitating student investigation about problem solving	27	51.44	40	52.11	34	46.50	.904
16. Using questions to guide students though content	27	49.74	40	51.67	34	48.34	.284

Table 23. *Principals Perceived Level of Effectiveness of 21st Century Practices in Facilitating Student Learning by School Size (con't)*

21st Century Instructional Practices	Less than100		101-250		250+		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
17. Allowing authentic experiences to drive the curriculum	27	51.37	40	54.97	34	44.68	2.665
18. Allowing learners to make decisions	27	46.81	40	58.04	34	44.78	5.081
19. Modeling desired behaviors and social skills	27	48.43	40	53.86	34	48.29	1.079
20. Facilitating classroom learning by emphasizing student understanding	27	44.33	40	52.18	34	52.06	1.735
21. Using teacher designed exams and quizzes to assess student learning	27	51.67	40	51.77	34	48.12	.406
22. Incorporating technology to assess student learning	27	41.48	40	55.08	34	52.41	4.164
23. With portfolio projects to assess student learning	27	48.41	40	55.15	34	46.82	1.865
24. Allowing classroom discussions to assess student learning	27	55.74	40	51.69	34	44.97	2.396
25. Reviewing student journals to assess student learning	27	48.33	40	55.40	34	46.60	2.133
26. Designing grade-level tests to assess student learning	27	53.74	40	52.50	34	45.63	1.654
27. Taking state designed tests to assess student learning	27	48.00	40	53.54	34	46.08	1.411
28. Encouraging student self-evaluation to assess student learning	27	44.69	40	55.37	34	49.53	2.400
29. Using standardized achievement tests to assess student learning	27	47.80	40	50.86	34	52.24	.398
30. Producing teacher designed rubrics to assess student learning	27	40.17	40	51.38	34	57.69	6.324

*p< 0.05

Analysis of Effectiveness in Facilitating Student Learning by Developmental Level of the School

Chi-square values derived from Kruskal-Wallis analysis indicated there was statistically significant differences between the perceived effectiveness in 1) facilitating student learning in regard to using state and national assessment results to assess student learning, 2) allowing learners to make decisions and 3) designing grade-level tests to assess learning, allowing learners to make decisions and designing grade level tests to assess learning. Schools that have elementary/middle school developmental levels received the highest mean rank regarding the use of state or national assessment results, x^2 (3, N=101) = -2.274, $p<0.05$ and designing grade-level tests to assess student learning, x^2 (3, N=101) = -2.302, $p<0.05$. Schools that have elementary developmental levels only received the highest mean rank regarding allowing learners to make decisions, x^2 (3, N=101) = -1.807, $p<0.05$. Table 24 displays the results of the Kruskal-Wallis test comparing the perceived effectiveness in facilitating student learning and the developmental level of the school.

Table 24. *Principals Perceived Level of Effectiveness of 21st Century Instructional Practices by Developmental Level*

21st Century Instructional Practices	Elem. Only		Elem./Middle		Elem/Middle/Secondary		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Incorporate state standards and objectives	23	50.78	17	51.65	61	48.94	-1.140
2. Include a review of content	23	52.42	17	51.13	61	52.22	-.242
3. Focus on individual student needs	23	53.10	17	51.77	61	50.83	-1.418
4. Consider content reinforcement	23	51.09	17	51.57	61	48.73	-1.047
5. Take into account student progress	23	49.25	17	51.10	61	49.30	-.176
6. Arrange opportunities for technology integration	23	50.90	17	51.33	61	51.84	-.589
7. Plan lessons where they model the use of technology	23	48.92	17	51.64	61	50.69	-2.020
8. Include school instructional goals	23	51.46	17	50.99	61	50.30	-.890
9. Use state or national assessment results	23	49.03	17	52.27	61	49.61	-2.274*
10. Include activities that engage students in hands on learning	23	52.39	17	52.01	61	49.46	-1.844
11. Using Cooperative Learning groups	23	52.50	17	51.82	61	50.19	-1.479
12. Expecting student to use critical thing skills	23	51.32	17	51.64	61	49.17	-1.163
13. Engaging students in problem solving tasks	23	51.99	17	52.09	61	48.90	-2.000
14. Coaching students to apply real life situations to their knowledge base	23	51.40	17	51.18	61	48.54	-1.261
15. Facilitating student investigation about problem solving	23	49.91	17	50.06	61	50.15	-.115

Table 24. *Principals Perceived Level of Effectiveness of 21st century Instructional practices by Developmental Level (con't)*

21st Century Instructional Practices	*Elem. Only*		Elem./Middle		Elem/Middle/Secondary		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
16. Using questions to guide students though content	23	50.62	17	50.21	61	47.01	-.382
17. Allowing authentic experiences to drive the curriculum	23	49.97	17	50.15	61	47.92	.639
18. Allowing learners to make decisions	23	52.87	17	51.49	61	44.82	-1.807*
19. Modeling desired behaviors and social skills	23	51.03	17	50.03	61	52.00	.891
20. Facilitating classroom learning by emphasizing student understanding	23	51.83	17	50.24	61	52.22	-.448
21. Using teacher designed exams and quizzes to assess student learning	23	50.50	17	50.30	61	51.69	.371
22. Incorporating technology to assess student learning	23	52.38	17	49.85	61	54.25	1.156
23. With portfolio projects to assess student learning	23	51.96	17	50.85	61	50.19	-1.514
24. Allowing classroom discussions to assess student learning	23	52.33	17	51.52	61	50.38	-1.806
25. Reviewing student journals to assess student learning	23	52.31	17	50.79	61	49.20	-.517
26. Designing grade-level tests to assess student learning	23	51.25	17	51.79	61	47.33	-2.302*
27. Taking state designed tests to assess student learning	23	54.20	17	49.68	61	50.34	-.316
28. Encouraging student self-evaluation to assess student learning	23	49.40	17	50.76	61	51.35	.647
29. Using standardized achievement tests to assess student learning	23	50.86	17	51.23	61	51.58	-1.303
30. Producing teacher designed rubrics to assess student learning	23	51.37	17	50.57	61	53.80	-.122

*p< 0.05

Analysis of Effectiveness in Facilitating Student Learning by State

Chi-squared values derived from Kruskal-Wallis analysis indicated there was one 21st century instructional practice that indicated statistically significant differences between the perceived effectiveness in facilitating student learning in regard to standardized achievement tests to assess learning and the state. Schools that are located in Kentucky received the highest mean rank for using standardized achievement tests to assess student learning, x^2 (3, N=102) = 7.558, $p<0.05$. Table 25 displays the results of the Kruskal -Wallis test comparing the perceived effectiveness in facilitating student learning and the state location.

Table 25. *Principals Perceived Level of Effectiveness of 21st Century Instructional Practices by State*

21st Century Instructional Practices	Kentucky		Ohio		West Virginia		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Incorporate state standards and objectives	30	45.47	57	56.49	15	44.60	3.973
2. Include a review of content	30	54.30	57	48.92	15	55.70	1.144
3. Focus on individual student needs	30	51.37	57	51.64	15	51.23	.004
4. Consider content reinforcement	30	56.57	57	50.24	15	46.17	1.723
5. Take into account student progress	30	49.95	57	51.95	15	52.90	.143
6. Arrange opportunities for technology integration	30	56.58	57	50.82	15	43.90	2.130
7. Plan lessons where they model the use of technology	30	52.72	57	49.03	15	55.17	.735
8. Include school instructional goals	30	54.90	57	51.03	15	43.10	1.875
9. Use state or national assessment results	30	55.53	57	50.33	15	47.87	.981
10. Include activities that engage students in hands on learning	30	51.47	57	49.67	15	58.53	1.260
11. Using Cooperative Learning groups	30	53.35	57	50.58	15	51.30	.198
12. Expecting student to use critical thing skills	30	56.78	57	49.55	15	48.33	1.593
13. Engaging students in problem solving tasks	30	51.30	57	52.33	15	48.73	.209
14. Coaching students to apply real life situations to their knowledge base	30	50.37	57	50.31	15	54.83	.361
15. Facilitating student investigation about problem solving	30	51.83	57	50.07	15	49.36	.113
16. Using questions to guide students though content	30	51.10	57	48.71	15	56.03	.895
17. Allowing authentic experiences to drive the curriculum	30	48.93	57	50.64	15	56.47	.779
18. Allowing learners to make decisions	30	51.88	57	50.88	15	49.67	.069

Table 25. *Principals Perceived Level of Effectiveness of 21st Century Instructional practices by State (cont)*

21st Century Instructional Practices	Kentucky		Ohio		West Virginia		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
19. Modeling desired behaviors and social skills	30	55.02	57	47.97	15	54.27	1.701
20. Facilitating classroom learning by emphasizing student understanding	30	53.95	57	49.35	15	47.80	.769
21. Using teacher designed exams and quizzes to assess student learning	30	56.72	57	47.52	15	52.57	2.305
22. Incorporating technology to assess student learning	30	56.47	57	48.45	15	49.60	1.684
23. Portfolio projects to assess student learning	30	43.19	57	50.87	15	63.27	5.248
24. Allowing classroom discussions to assess student learning	30	52.05	57	49.16	15	55.77	.720
25. Reviewing student journals to assess student learning	30	51.33	57	51.29	15	49.27	.070
26. Designing grade-level tests to assess student learning	30	50.72	57	48.42	15	61.20	2.523
27. Taking state designed tests to assess student learning	30	53.05	57	48.55	15	49.14	.524
28. Encouraging student self-evaluation to assess student learning	30	54.70	57	51.08	15	43.30	1.637
29. Using standardized achievement tests to assess student learning	30	62.65	57	46.71	15	43.70	7.558*
30. Producing teacher designed rubrics to assess student learning	30	53.42	57	50.67	15	47.40	.498

*$p < 0.05$

Analysis of Effectiveness in Facilitating Student Learning by School Accreditation

Chi-squared values derived from Kruskal-Wallis analysis indicated there were statistically significant differences between the perceived effectiveness in facilitating student learning in regard to 1) arranging opportunities for technology integration, 2) planning lessons where they model the use of technology and 3) incorporating technology to assess student learning and the school accreditation. Schools with both an ACSI and State accreditation status received the highest mean rank when arranging opportunities for technology integration, x^2 (4, N=102) = 9.495, $p<0.05$, when planning lessons where they model the use of technology, x^2 (4, N=102) = 8.255, $p<0.05$, and when incorporating technology to assess student learning, x^2 (4, N=102)= 8.286, $p<0.05$. Table 26 displays the results of the Kruskal-Wallis test comparing the perceived effectiveness in facilitating student learning and the schools accreditation status.

Table 26. *Principals Perceived Level of Effectiveness of 21st Century Practices in Facilitating Student Learning by School Accreditation*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Accreditation		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
1. Incorporate state standards and objectives	11	50.05	24	53.31	34	54.87	33	47.20	1.353
2. Include a review of content	11	40.68	24	52.67	34	54.79	33	50.86	2.215
3. Focus on individual student needs	11	43.86	24	52.17	34	57.15	33	47.74	3.009
4. Consider content reinforcement	11	48.73	24	58.54	34	48.94	33	49.94	2.111
5. Take into account student progress	11	49.59	24	58.54	34	48.19	33	55.64	1.266
6. Arrange opportunities for technology integration	11	43.23	24	51.65	34	62.56	33	42.76	9.495*
7. Plan lessons where they model the use of technology	11	38.50	24	45.60	34	61.56	33	47.83	8.255*
8. Include school instructional goals	11	44.64	24	44.83	34	59.85	33	48.30	5.692
9. Use state or national assessment results	11	42.14	24	59.06	34	52.19	33	48.41	3.427
10. Include activities that engage students in hands on learning	11	38.55	24	50.25	34	56.41	33	51.67	3.651

Table 26. *Principals Perceived Level of Effectiveness of 21st Century Practice in Facilitating Student Learning by School Accreditation (con't)*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Accreditation		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
11. Use cooperative learning groups	11	53.41	24	52.88	34	55.46	33	45.79	2.214
12. Expect students to use critical thinking skills	11	50.32	24	48.29	34	55.63	33	49.97	1.218
13. Engaging students in problem solving tasks	11	47.14	24	52.62	34	51.76	33	51.86	.331
14. Coaching students to apply real life situations to their current knowledge base	11	41.00	24	45.67	34	52.40	33	56.95	4.157
15. Facilitate student investigation and problem solving	11	46.27	24	48.17	34	52.24	33	51.90	.676
16. Use questions to guide students through content	11	37.82	24	45.31	34	55.82	33	53.18	4.957
17. Allow authentic experiences to drive the curriculum	11	45.18	24	47.81	34	51.88	33	54.45	1.367
18. Allow learners to make decisions	11	45.14	24	46.21	34	53.51	33	53.94	1.920
19. Model behaviors and social skills	11	53.27	24	50.27	34	50.56	33	51.23	.115

Table 26. *Principals Perceived Level of Effectiveness of 21st Century Practice in Facilitating Student Learning by School Accreditation (con't)*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Accreditation		$\chi^{(2)}$
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	
20. Emphasizing student understanding	11	38.50	24	51.25	34	55.77	33	48.62	3.754
21. Using teacher designed exams and quizzes to assess student learning	11	41.09	24	51.04	34	54.35	33	50.81	1.989
22. Incorporating technology to assess student learning	11	33.32	24	56.52	34	57.44	33	46.09	8.286*
23. Portfolio projects to assess student learning	11	41.14	24	46.79	34	54.32	33	52.56	2.507
24. Allowing classroom discussions to assess student learning	11	51.00	24	50.98	34	48.41	33	53.77	.604
25. Reviewing student journals to assess student learning	11	46.05	24	51.17	34	54.59	33	48.77	1.149
26. Designing grade-level tests to assess student learning	11	41.27	24	49.90	34	47.19	33	59.22	4.854
27. Taking state designed tests to assess student learning	11	47.77	24	63.33	34	45.89	33	45.42	6.952
28. Encouraging student self-evaluation to assess student learning	11	44.41	24	51.52	34	53.21	33	50.53	.827
29. Using standardized achievement tests to assess student learning	11	47.09	24	51.50	34	54.31	33	48.45	.966
30. Producing teacher designed rubrics to assess student learning	11	36.55	24	47.65	34	59.78	33	49.16	7.017

*$p < 0.05$

Analysis of Effectiveness in Facilitating Student learning by the Agency of the Principal's Certification

Chi-squared values derived from Kruskal-Wallis analysis indicated there were no statistically significant differences between the perceived effectiveness in facilitating student learning and the agency of the principal's certification. Table 27 displays the results of the Kruskal-Wallis test comparing the perceived effectiveness in facilitating student learning and the principal's certification.

Table 27. *Principals Perceived Level of Effectiveness of 21st Century Practices in Facilitating Student Learning by Agency of Principal's Certification*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
1. Incorporate state standards and objectives	19	41.66	35	57.57	28	55.75	20	44.28	5.764
2. Include a review of content	19	54.08	35	54.20	28	46.25	20	51.68	1.502
3. Focus on individual student needs	19	48.76	35	57.10	28	47.21	20	50.30	2.436
4. Consider content reinforcement	19	46.76	35	57.61	28	46.18	20	52.75	3.424
5. Take into account student progress	19	44.53	35	54.44	28	49.02	20	56.45	2.449
6. Arrange opportunities for technology integration	19	58.66	35	51.64	28	55.59	20	38.72	6.011
7. Plan lessons where they model the use of technology	19	50.14	35	51.91	28	59.59	20	38.15	6.998
8. Include school instructional goals	19	49.26	35	49.41	28	56.54	20	47.60	1.659
9. Use state or national assessment results	19	50.50	35	54.09	28	48.20	20	52.55	.746
10. Include activities that engage students in hands on learning	19	54.42	35	51.91	28	48.82	20	51.75	.500

Table 27. *Principals Perceived Level of Effectiveness of 21st Century Practice in Facilitating Student Learning by Agency of Principals Certification (con't)*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
11. Use Cooperative Learning groups	19	51.39	35	53.27	28	54.20	20	44.72	1.609
12. Expect students to use critical thinking skills	19	54.89	35	50.53	28	55.75	20	44.02	2.482
13. Engaging students in problem solving tasks	19	46.03	35	53.86	28	54.95	20	47.75	1.851
14. Coaching students to apply real life situations to their current knowledge base	19	42.53	35	52.36	28	49.98	20	58.05	3.415
15. Facilitate student investigation and problem solving	19	43.21	35	51.79	28	53.81	20	50.71	1.881
16. Use questions to guide students through content	19	45.84	35	51.29	28	50.39	20	53.72	.884
17. allow authentic experiences to drive the curriculum	19	45.97	35	53.80	28	53.93	20	46.92	1.759
18. Allow learners to make decisions	19	45.61	35	55.34	28	52.85	20	46.02	2.435
19. Model behaviors and social skills	19	51.21	35	53.83	28	50.39	20	46.68	.978

Table 27. *Principals Perceived Level of Effectiveness of 21st Century Practice in Facilitating Student Learning by Agency of Principals Certification (con't)*

21st Century Instructional Practices	ACSI		State		ACSI & State		No Certification		
	n	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	*n*	Mean Rank	$\chi^{(2)}$
20. Emphasizing student understanding	19	51.76	35	55.77	28	48.25	20	43.00	3.228
21. Using teacher designed exams and quizzes to assess student learning	19	56.08	35	46.40	28	53.52	20	50.82	1.906
22. Incorporating technology to assess student learning	19	54.74	35	54.23	28	53.81	20	38.00	5.511
23. Portfolio projects to assess student learning	19	46.11	35	51.79	28	50.02	20	52.85	.684
24. Allowing classroom discussions to assess student learning	19	49.24	35	50.34	28	51.44	20	53.22	.228
25. Reviewing student journals to assess student learning	19	55.63	35	53.83	28	46.50	20	47.72	1.917
26. Designing grade-level tests to assess student learning	19	42.32	35	52.33	28	50.24	20	57.95	3.227
27. Taking state designed tests to assess student learning	19	42.44	35	55.68	28	46.43	20	51.98	3.299
28. Encouraging student self-evaluation to assess student learning	19	50.63	35	54.09	28	53.48	20	42.60	2.409
29. Using standardized achievement tests to assess student learning	19	53.71	35	47.63	28	50.50	20	55.00	1.107
30. Producing teacher designed rubrics to assess student learning	19	54.24	35	44.63	28	60.87	20	45.75	6.360

Summary of Findings for Research Question Four

When broken down individually, statistically significant differences were found between the perceived level of effectiveness in facilitating student learning using one of the 21st century instructional practices and school size by considering content reinforcement. Statistically significant differences were also found between the perceived level of effectiveness in facilitating student learning using three of the 21st century instructional practices and developmental level by: 1) using state and national assessment results, 2) allowing learners to make decisions and 3) designing grade level tests to assess learning. Statistically significant differences were found between the perceived level of effectiveness in facilitating student learning using one of the 21st century instructional practices and the state in which the school was located by using standardized achievement tests to assess learning. Statistically significant differences were found between the perceived level of effectiveness in facilitating student learning using three of the 21st century instructional practices and the schools' accreditation status by: 1) arranging opportunities for technology integration, 2) planning lessons that model the use of technology, and 3) incorporating technology. Statistically significant differences were not found between the perceived level of effectiveness in facilitating student learning using the 21st century instructional practices and the agency of the principal's certification. In summary, although statistical significance was found on individual instructional practices as perceived by principals regarding the effectiveness these practices had on facilitating student learning, there was not enough significance to show a difference based on the demographic/attribute variables. Overall, a statistical difference was not established.

CHAPTER FIVE: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Introduction

This chapter reviews the purpose of the study, methods, and the summary of findings. This chapter also includes a presentation of study conclusions, discussions, implications, concluding remarks and recommendations for further research.

Purpose of the Study

This study investigated the level of classroom use of 21st century instructional practices as perceived by principals in ACSI Christian schools in Kentucky, Ohio, and West Virginia. It also assessed the perceived level of effectiveness of these instructional strategies in facilitating student learning. This study investigated the differences in the perceived level of classroom use and the perceived level of effectiveness based on selected demographic/attribute variables. The following research questions were addressed in the study.

RQ1: What is the level of classroom use, as perceived by principals, of selected research-based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

RQ2: What are the differences, if any, based on selected demographic/ attribute variables, in the level of classroom use as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

RQ3: What is the level of effectiveness in facilitating student learning, as perceivedd by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

RQ4: What are the differences, if any, based on the selected demographic/ attribute variables, in the level of effectiveness in facilitating student learning, as perceivedd by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

Methods

This was a cross-sectional descriptive study that investigated the extent to which ACSI Christian Schools in Kentucky, Ohio and West Virginia were perceived as using 21st century instructional practices. It also investigated the level of effectiveness of those practices in facilitating student learning as perceived by the school principal, the differences in the perceived level of classroom use and the perceived level of effectiveness based on selected demographic/attribute variables. This study used a researcher designed survey instrument to collect information from ACSI Christian school principals.

The population for this study was ACSI principals from Kentucky, Ohio and West Virginia. All other private school principals from other states and other organizations were excluded from the study. According to the National Center for Educational Statistics (2008) 1,732 private schools operate in Ohio, Kentucky and West Virginia. Ohio reported a total of 1189 private schools during the 2007/2008 school year; Kentucky reported a total of 404 private schools during the 2007/2008 school year and West Virginia reported a total of 139 private schools during the 2007/2008 school year.

Data for this study were collected via a researcher designed survey instrument, *The 21st Century Instructional Practices Survey* (Appendix B). This instrument was based on the available literature and the websites of the state educational agencies of Kentucky, Ohio and West Virginia which are responsible for public education. *The 21st Century Instructional Practices Survey* was validated for content and format by an expert panel consisting of college professors from each of the representative states.

Summary of Findings

Research questions one and two asked principals "what is the perceived level of 21st century instructional practices being used in ACSI Christian schools in Kentucky, Ohio and West Virginia and what are the differences in use, if any, based on school size, developmental level of the school, state, school accreditation status and the organization from which the principal received certification?" Thirty such practices were listed on *The 21st Century Instructional Practices Survey* and respondents rated their perceived level of classroom use in their schools with the following descriptors: 1=Never, 2= Seldom, 3= Sometimes, 4= Frequently, and 5 = Always. Data analysis using chi-square revealed that use of all of the thirty 21st century instructional practices were statistically significant.

Findings for the planning of instruction

Responding principals perceived that when planning instruction, teachers in their schools always or frequently used six of the 21st century instructional practices given on the survey. The practices were1) a review of content, 2) focusing on individual student needs, 3) considering content reinforcement, 4) taking into account student progress, 5) including school instructional goals, and 6) including activities that engage students in

hands on learning. Findings from the Kruskal-Wallis test indicated that there were no differences in the level of classroom use based on demographic/attribute variables.

Findings for the delivery of instruction

Responding principals perceived that when delivering instruction, teachers in their schools always or frequently used six of the 21st century instructional practices. The practices were 1) expecting students to use critical thinking skills, 2) engaging students in problem solving skills, 3) coaching students to apply real life situations to their knowledge base, 4) using questions to guide student through content, 5) modeling desired behavior and social skills, and 6) emphasizing student understanding. Findings from the Kruskal-Wallis test indicated that the demographic/attribute variables made no difference in the level of classroom use.

Findings for the assessment of instruction

Principals also perceived that when assessing student learning teachers in their schools uses three of the 21st century instructional practices always or frequently. The practices were 1) teacher designed exams and quizzes, 2) classroom discussions and 3) grade level tests. The Kruskal-Wallis findings for this study indicated that that the demographic/attribute variables made no difference in the level of classroom use.

Findings for the level of effectiveness

Research questions three and four asked principals "what is the perceived level of effectiveness in facilitating student learning in ACSI Christian schools in Kentucky, Ohio and West Virginia and what are the differences, if any, based on school size, developmental level of the school, state, school accreditation status and the organization from which the principal received certification?" Thirty such practices were listed on *The*

21st Century Instructional Practices Survey and respondents rated their perceived level of effectiveness in facilitating student learning in their schools with the following descriptors: 1=Not Effective, 2= Minimally Effective, 3= Effective, 4= Moderately Effective, and 5 = Highly Effective.

Data analysis using chi-square revealed that statistical significance was found in 29 of the thirty 21st instructional practices and therefore ACSI principals perceived them as being effective in facilitating student learning in ACSI Christian schools in Kentucky, Ohio and West Virginia. Only one statement revealed results that were not statistically significant; the level of effectiveness in facilitating student learning that included a review of content.

Responding principals perceived that when rating the level of effectiveness in facilitating student learning they found 13 of 30 of the 21st century instructional practices as highly effective or moderately effective. The practices were 1) a review of content, 2) focusing on individual student needs, 3) content reinforcement, 4) meeting school instructional goals, 5) engaging student in hands on learning, 6) expecting student to use critical thinking skills, 7) engaging student in problem solving tasks, 8) coaching student to apply real life situations to their knowledge base, 9) facilitating student investigation about problem solving, 10) using questions to guide student through content, 11) modeling desired behaviors and social skills, 12) facilitating classroom learning by emphasizing student understanding, and 13) using teacher designed exams and quizzes to assess student learning. The Kruskal-Wallis analysis for this study indicated that the demographic/attribute variables made no difference in the effectiveness of facilitating student learning.

Conclusions

The analysis of the data collected for this study provided sufficient evidence to support the following conclusions.

Research Question One: What is the level of classroom use, as perceived by principals of selected research-based 21st century instructional practices in ACSI Christian schools in Kentucky, Ohio and West Virginia?

The level of classroom use for 21st century instructional practices in ACSI schools in Kentucky, Ohio and West Virginia, as perceived by principals, is considered moderate as 15 of 30 instructional practices were described as frequently or always used by more than 70% of the principals. Six of 10 instructional practices categorized as planning practices were perceived by 70% of ACSI principals to be used by teachers in their schools either frequently or always. Six of 10 instructional practices categorized as delivery practices and three of 10 instructional practices categorized as assessment practices were perceived by 70% of ACSI principals to be used by teachers in their schools either frequently or always.

Research Question Two: What are the differences, if any based on selected demographic/attribute variables in the level of classroom use as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian schools in Kentucky, Ohio and West Virginia?

No statistically significant differences were found in levels of classroom use of 21st century instructional practices as perceived by principals based on school size, developmental level, state, or school accreditation status. However, statistical significance differences were found in schools with principals that had both ACSI and state certification when arranging opportunities for technology integration when planning instruction.

Research Question Three: What is the level of effectiveness in facilitating student learning as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

The level of effectiveness in facilitating student learning for 21st century instructional practices in ACSI schools in Kentucky, Ohio and West Virginia, as perceived by principals, is considered moderate as 13 of 30 instructional practices were described as moderately effective or highly effective used by more than 70% of the principals. Five of 10 instructional practices categorized in the planning domain were perceived by 70% of ACSI principals to be effective in facilitating student learning in their schools either moderately effective or highly effective. Seven of 10 instructional practices categorized in the delivery domain and one of 10 instructional practices categorized in the assessment domain were perceived by 70% of ACSI principals to be effective in facilitating student learning in their schools either moderately effective or highly effective.

Research Question Four: What are the differences, if any, based on the selected demographic/attribute variables, in the level of effectiveness in facilitating student learning, as perceived by principals, of selected research based 21st century instructional practices in ACSI Christian Schools in Kentucky, Ohio and West Virginia?

No statistically significant differences were found in levels of effectiveness in facilitating student learning as perceived by principals, based on school size, developmental level, state, school accreditation status, or agency of principal's certification.

Discussion and Implications

Five of the 21st century instructional practices were statistically significant according to the size of the school; engaging students in problem solving tasks, coaching

students to apply real life situations to their current knowledge base, emphasizing student understanding, using grade level tests and teacher designed rubrics. Although not significant, schools of less than 100 students received the highest mean rank in 15 of 30 categories. Statistical significance was also found in the level of effectiveness in facilitating student learning in one category; considering content reinforcement. Although not statistically significant, schools with 101-250 students received the highest mean rank in 22 of 30 categories. One explanation for these findings may be that principals of smaller schools are more aware of what is happening in each classroom and that when there are fewer students in the school adults have more time for interaction with each student. According to Architects of Achieve (2011), students achieve at higher levels when they are known well by adults at school. Sommers (1997) agrees and believes that smaller schools offer students an environment where intimacy and the chance to participate in academic and non-academic pursuits enhances the level of effectiveness in facilitating student learning. This in turn allows higher achievement scores, less classroom disruptions and greater feelings of safety.

In regard to national standardized testing, statistical significance was found in the level of classroom use in one of the 21st century instructional practices for the developmental level of schools (elementary/middle). Although not statistically significant, schools with all developmental levels (elementary, middle and secondary) received the highest mean rank in 15 of 30 categories. Statistical significance was also found in the level of effectiveness in facilitating student learning in three categories; using state or national assessment results, allowing learners to make decisions and designing grade-level tests to assess student learning. Although not statistically

significant, schools with developmental levels of elementary only received the highest mean ranks in 13 of 30 categories. One explanation for these findings may be that ACSI principals use state and national standardized tests because the standardized student assessment compares their students to public school students and to other ACSI schools nationally. Standards based assessment is often the means that State Departments of Education use to evaluate private schools. These tests are also state requirements for operating a non-public school.

Statistical significance was found in the level of classroom use of one of the 21st century instructional practices in Kentucky ACSI schools. Although not statistically significant, responding ACSI schools in Kentucky received the highest mean rank in 19 of 30 categories. Statistical significance was also reached in the level of effectiveness in facilitating student learning in one category; using standardized achievement tests to assess student learning. Although not statistically significant, responding ACSI schools in Kentucky received the highest mean rank in 17 of 30 categories. One explanation for these findings may be the reform initiative that was implemented in Kentucky in recent years. Kentucky shifted from its traditional regulatory style to a partnership mentality; thus creating school councils, regional centers and leadership academies. Kentucky developed the (KERA) Kentucky Educational Reform Act, (KIRIS) Kentucky Instructional Results Information System, and (CATS) Commonwealth Accountability Testing program to improve student achievement statewide (Keedy & McDonald, 2007). This school revitalization plan includes 21st century instructional goals and benchmarks to ensure student achievement. These goals are encouraged through teacher training,

classroom application and principal associations and may be used by anyone in public or private schools (Kentucky Department of Education, 2011b).

Although not statistically significant, ACSI accreditation received the highest mean rank in 14 of 30 categories. Statistical significance was not reached between the 21st century instructional practices perceived level of classroom use and the schools accreditation status. Statistical significance was found however, in the level of effectiveness in facilitating student learning and the schools accreditation status in three categories; arranging opportunities for technology integration, planning lessons where they model the use of technology and incorporating technology to assess student learning. Although not statistically significant, schools with both ACSI and State accreditation status received the highest mean rank in 19 of 30 categories. One explanation for these findings may be that schools that have gone through the rigors of the accreditation process understand the benefits of identifying areas that need improvement and developing plans for needed changes. Accreditation is not an evaluation but a process whereby the school after self-study, reflectively writes an improvement plan, setting long and short term goals and then works toward achieving these goals (ACSI Accreditation Manual, 2011).

Five of the 21st century instructional practices had statistical significance for the agency of principal's certification; arranging opportunities for technology integration, using cooperative learning groups, using technology, using national standardized testing and using teacher designed rubrics to assess student learning. Although not statistically significant, principals with an ACSI certification received the highest mean ranks in 11 of 30 categories. Statistical significance was not reached in the level of effectiveness in

facilitating student learning and the agency of the principal's certification. Although not statistically significant, principals with state certifications received the highest mean rank in 10 of 30 categories. Nationally the trend for principal certification includes the completion of a leadership program (with specific courses), a master's degree, a passing score on a national examination, and meeting "highly qualified" standards that have been set forth by the NCLB legislation (Roberts, 2009). One explanation for these findings may be that principals with ACSI certification must meet the above mentioned requirements for a principal's certification and thereby understand the benefits of technology integration and importance of the 21st century instructional practices (ACSI, 2011).

Concluding Remarks

This investigation was an attempt to design and validate an instructional practice survey for Christian schools. The survey instrument was designed to assess if study participants were using of 21st century instructional practices, to see if they found the practices to be effective in facilitating student learning and to explore the differences associated with selected demographic/attribute variables.

Historically, Christian schools were the foundation of many modern day educational institutions in America. Christian schools grew in numbers to the place where they could be categorized into three distinct and separate Christian school movements (Kienel, 2005). Reading, writing and arithmetic through educational teaching methods and rote memorization were at one time sufficient to build and sustain a good standard of education for Christian school learners. However, to assure Christian school students receive a quality education that prepares them for a highly competitive

job market, Christian schools must offer 21st century learning that is effective. Having schools where teachers plan instruction, deliver instruction and assess student learning with 21st century quality is essential to the education of the next generation. Teaching learners to use technology, think critically and solve complex problems is vital to embracing the future and discovering ways to improve our communities.

In conclusion, the findings from this study indicate that ACSI Christian schools in Kentucky, Ohio and West Virginia are perceived by ACSI principals to be using 21st century instructional practices in their schools. These practices are moderately effective in facilitating student learning. ACSI Christian schools recognize their responsibility to prepare students with the knowledge, skills and abilities necessary to meet the challenges of an ever-changing global community.

Recommendations for Further Research

This study investigated and provided insight for ASCI Christian Schools in Kentucky, Ohio and West Virginia. Other questions raised by this study may be answered by further research. These are summarized as follows:

1. This study focused solely on ACSI Christian Schools. Additional study could provide insight into other private school organizations, such as Catholic Schools, American Association of Christian Schools, and Montessori Schools etc.

2. This study focused solely on ACSI Christian Schools in Kentucky, Ohio and West Virginia. Additional study could provide insight into other states or regions.

3. Findings from this study indicated that the principals have perceived information on their schools instructional practices. Additional study of 21st century instructional

practices could be ranked by classroom teachers. The two studies could then be compared to each other for validity.

4. The 21st Century Instructional Practices Survey Instrument was developed for this study in an attempt to investigate the classroom use of 21st century skills in Christian Schools. Study findings indicate that the model successfully described these skills; however, further study aimed at validating the model is warranted.

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APPENDICES

Appendix A: State Comparison Matrix

Appendix B: The 21st Century Instructional Practices Survey

Appendix C: Panel of Educational Experts

Appendix D: Content Validity Questions

Appendix E: Cover Letter

Appendix D: Letter from ACSI Regional Director Randall Ross

Appendix G: Internal Review Board

Appendix A: State Comparison Matrix

Common Practices for 21st century planning	Kentucky Practices for 21st century planning	Ohio Practices for 21st century planning	West Virginia Practices for 21st century planning
Deliberate planning to match state standards	Use of new KY core standards to plan lessons	Lessons match Ohio Academic content standards	Development of lessons aligned with content standard objectives for WV
Identifies conceptual benchmarks (declarative and procedural) for lessons	Uses procedure skills and process to retain information	Establishes direction for learning	Learning objectives relate to lesson content and include facts and information related to topic
Plans include various ways to deliver instruction, including hands-on, active learning and engagement	More experiential hands-on learning in teacher designed plans	Active learning and engagement	Teachers manage curriculum through standards-based lesson design
Lessons focus on individual needs of learners	Active learning including collaboration, movement and engagement grouped classes where individual needs are met	Knowing the learners needs	Individual education plans which focus on the individual child
Use assessment data to revise lessons and strengthen gaps, assess progress and verify retention	Data from different sources show how individual needs are met	Data from assessments is used for review, reinforcement and retention	Assessment data used for revision, modification and intervention for student learning
Lessons are designed to promote deep study and higher order thinking skills	Lessons are to promote deep study and reflective thinking skills	Teaching strategies are designed to allow learner to reuse learned knowledge in an accurate and reliable way	Lessons allow students to organize and reorganize information leading to longer retention and deeper thinking

Appendix A: State Comparison Matrix

Common Practices for 21st century delivery	Kentucky Practices for 21st century delivery	Ohio Practices for 21st century delivery	West Virginia Practices for 21st century delivery
Teachers coach students with encouragement, guidance and support	Teachers coach students to develop high standards and ethical behavior	Teachers coach students by encouraging them to apply new knowledge to real life situations	Teachers coach student by giving direction/practice repeatedly until students grasp concept being taught
Teachers facilitate to guide self-directed students to new productive levels	Teachers facilitate to create open-ended learning environments where emphasis is on student understanding	Teachers facilitate by focusing on the learner and allowing the learner to make decisions about what is needed and how to solve any problem that arise	Teachers facilitate student investigation with teacher guidance
Teachers model lessons to reinforce learning and promote personal skills	Teachers model concepts and ideas by promoting personal skills	Teachers model lessons/activities/assignments to reinforce new information	Teachers model desired behaviors and social skills
Teachers use multiple instructional strategies, examples include: authentic experiences, cooperative learning, effective questioning, differentiated instruction, problem-based, inquiry-based, interest-based learning and reflection	Teachers use varying methods of delivery to meet the needs of learners, examples include: authentic learning, collaborative learning activities, constructivist learning and reflection	Use of effective instructional strategies, examples include: authentic experiences, cooperative learning, effective questioning, differentiated instruction, problem-based, inquiry-based and interest-based learning.	Implementation of a variety of effective instructional strategies examples include: questioning, problem-based learning, cooperative learning, authentic experiences, life application and scaffolding
Lessons are matched to state standards which direct instruction and guide assessments and benchmarks	Lessons are based on the KY Core content standards, examples include: on-line learning, gifted programs	Lessons are based on the Ohio academic content standards, examples include: grade level instruction, special services, activities that develop intellect, creativity and capabilities	Lessons are driven by WV content standard objectives, examples include: virtual learning, career and technical programs, college and dual credits, advanced placements

Appendix A: State Comparison Matrix

Common Practices for 21st century assessments	Kentucky Practices for 21st century assessments	Ohio Practices for 21st century assessments	West Virginia Practices for 21st century assessments
Teacher evaluations include: observation, record keeping, documentation, performance, exams, tests, quizzes, oral presentations, rubrics, journals, projects, discussions, portfolio, and reflections	Teacher evaluations include: observation records, conference notes, performance assessment rubrics, samples of student work, teacher designed tests oral presentations, portfolios, journals, and discussions	Teacher evaluations include: self-assessment, observation, selected-response testing, short answer, essay, projects, oral presentations, journals, discussions, reflections	Teacher evaluations include: Ongoing benchmarks, performance, documentation, records, teacher or student designed rubrics, presentations, portfolios, reflections, tests and quizzes
Achievement Tests include: state designed or standardized tests for grade levels	Achievement tests include: state testing and benchmarks	Achievement tests include: grade-level state testing and graduation	Achievement tests include: state testing (WesTest 2), use of benchmark assessments (CAFL)state designed writing assessments and grade-level tests
Diagnostic Assessments include: Psychological, diagnostic, screenings and observation assessments	Diagnostic assessments include: Psychological, observational and diagnostic measures	Diagnostic assessments include: screening, observations and diagnostic measures	Diagnostic assessments include: Individual placement, observations, diagnostic measures

Appendix B: The 21st Century Instructional Practices Survey

Part 1: Level of Classroom Use

Following is a list of 21st century instructional practices. This list of practices was developed from the policies and standards adopted by the educational agency in your state. Using the scale provided, please rate each 21st century instructional practice in terms of the current level of classroom use by teachers in your school.

Level of Classroom Use

A. INSTRUCTIONAL PLANNING PRACTICES

When PLANNING INSTRUCTION Teachers in my school …	Never	Seldom	Sometimes	Frequently	Always
1. incorporate state standards and objectives	1	2	3	4	5
2. include a review of content	1	2	3	4	5
3. focus on individual student needs	1	2	3	4	5
4. consider content reinforcement	1	2	3	4	5
5. take into account student progress	1	2	3	4	5
6. arrange opportunities for technology integration	1	2	3	4	5
7. plan lessons where they model the use of technology	1	2	3	4	5
8. include school instructional goals	1	2	3	4	5
9. use state or national assessment results	1	2	3	4	5
10. include activities that engage students in hands on learning	1	2	3	4	5

B. INSTRUCTIONAL DELIVERY PRACTICES

When DELIVERING INSTRUCTION, Teachers in my school…	Never	Seldom	Sometimes	Frequently	Always
11. use Cooperative Learning groups	1	2	3	4	5
12. prompt students to use critical thinking skills	1	2	3	4	5
13. engage students in problem solving tasks	1	2	3	4	5
14. coach students to apply real life situations to their knowledge base	1	2	3	4	5
15. facilitate student investigation and problem solving	1	2	3	4	5

16. use questions to guide students through content	1	2	3	4	5
17. include authentic learning experiences in delivery of the curriculum	1	2	3	4	5
18. allow learners to make decisions	1	2	3	4	5
19. model desired behaviors and social skills	1	2	3	4	5
20. emphasize student understanding	1	2	3	4	5

C. ASSESSMENT PRACTICES

When <u>ASSESSING STUDENT LEARNING,</u> Teachers in my school use…	**Never**	**Seldom**	**Sometimes**	**Frequent**	**Always**
21. teacher designed exams and quizzes	1	2	3	4	5
22. technology	1	2	3	4	5
23. portfolio projects	1	2	3	4	5
23. classroom discussions	1	2	3	4	5
25. student journals	1	2	3	4	5
26. grade-level tests	1	2	3	4	5
27. state standardized tests	1	2	3	4	5
28. student self-evaluations	1	2	3	4	5
29. national standardized achievement tests	1	2	3	4	5
30. teacher designed rubrics	1	2	3	4	5

Part 2: Level of Effectiveness

Following is the same list of 21st century instructional practices. This list of practices was developed from the policies and standards adopted by the educational agency in your state. Using the scale provided, please rate each 21st century instructional practice in terms of its level of effectiveness in facilitating student learning.

Level of Effectiveness in facilitating student learning in your school

A. INSTRUCTIONAL PLANNING PRACTICES

Rate the level of Effectiveness in Facilitating Student Learning by...	Not effective	Minimally effective	Effective	Moderately effective	Highly effective
1. incorporating state standards and objectives	1	2	3	4	5
2. including review of content	1	2	3	4	5
3. focusing individual student needs	1	2	3	4	5
4. promoting retention of content	1	2	3	4	5
5. taking into account the tracking of student progress	1	2	3	4	5
6. arranging opportunities for technology integration	1	2	3	4	5
7. planning lessons where they are model the use of technology	1	2	3	4	5
8. meeting school instructional goals	1	2	3	4	5
9. using state or national standardized assessment results	1	2	3	4	5
10. engaging students in hands on learning	1	2	3	4	5

B. INSTRUCTIONAL DELIVERY PRACTICES

Rate the Level of Effectiveness in Facilitating Student Learning by...	Not effective	Minimally effective	Effective	Moderately effective	Highly effective
11. using Cooperative learning groups	1	2	3	4	5
12. requiring students to use critical thinking skills	1	2	3	4	5
13. engaging students in problem solving tasks	1	2	3	4	5
14. coaching students to apply real life situations to their knowledge base	1	2	3	4	5
15. facilitating student investigation about problem solving	1	2	3	4	5

16.	using questions to guide students through content	1	2	3	4	5
17.	using authentic experiences to drive the curriculum	1	2	3	4	5
18.	allowing learners to make decisions	1	2	3	4	5
19.	modeling desired behaviors and social skills	1	2	3	4	5
20.	facilitating classroom learning by emphasizing student understanding	1	2	3	4	5

C. ASSESSMENT PRACTICES

	Rate the Level of <u>Effectiveness</u> in Facilitating Student Learning by...	**Not effective**	**Minimally effective**	**Effective**	**Moderately effective**	**Highly effective**
21.	using teacher designed exams and quizzes to assess student learning	1	2	3	4	5
22.	incorporating technology to assess student learning	1	2	3	4	5
23.	with portfolio projects to assess student learning	1	2	3	4	5
23.	allowing classroom discussions to assess student learning	1	2	3	4	5
25.	reviewing student journals to assess student learning	1	2	3	4	5
26.	designing grade -level tests to assess student learning	1	2	3	4	5
27.	taking state designed tests to assess student learning	1	2	3	4	5
28.	encouraging student self-evaluation to assess student learning	1	2	3	4	5
29.	using standardized achievement tests to assess student learning	1	2	3	4	5
30.	producing teacher designed rubrics to assess student learning	1	2	3	4	5

Please provide the following information.

1. School Size for 2010- 2011: (check one)

   ___ Less than 50 ___51- 100 ___ 101 - 250 ___251 - 500 __more than 500

2. Developmental levels at your school: (check all that apply)

   ___ Elementary ___ Middle ____ Secondary

3. My school is in located in: Ohio West Virginia Kentucky

4. My school is ___ Accredited by ACSI ___ Accredited by the State

   _____ Both ACSI and State Certification ___ Not Accredited

   ___ Accredited by another organization _____name of organization

5. The Principals Certification is from which is the following organizations:

   ___ ACSI Certification ___ State Certification ___ Both ACSI and State Certification ___ No Certification___ Other Certification_____

Thank you for participating in this survey. If you have questions, you may contact Melanie White at white252@marshall.edu.

Appendix C: Panel of Educational Experts

The panel of experts who reviewed *The 21st Century Instructional Practices Survey* and the research questions includes:

Cynthia Daniel, Ed.D
Assistant Superintendent
Putnam County Schools
9 Courthouse Dr
Winfield, WV25213
304-586-0500x1110
cldaniel@access.k12.wv.us

Leonard Allen, Ed.D.
Assistant Professor
Department of Leadership Studies
Marshall University Graduate College
100 Angus E. Peyton Dr
S. Charleston, WV
304-746-8935
lalan@marshall.edu

Christa Preston Agiro, PhD.
Assistant Professor
Department of Teacher Education and
Department of English Language & Literatures
Wright State University
330 Allyn Hall
3640 Colonel Glenn Hwy.
Dayton, OH 45435-0001
937-775-3065
christa.agiro@wright.edu

Rebecca Oswald, Ed.D.
Associate Dean of Education
Asbury University
1 Macklem Dr.
Wilmore, KY 40390-1198
(859) 858-3511 x2219
rjoswald@asbury.edu

Appendix D: Content Validity Questions

1. Will the words be uniformly understood?
2. Do the questions contain abbreviations or unconventional phrases?
3. Are the questions too vague?
4. Is the question too precise?
5. Is the question biased?
6. Is the question objectionable?
7. Is the question too demanding?
8. Is it a double question?
9. Does the question have a double negative?
10. Are the answer choices mutually exclusive?
11. Has the researcher assumed too much knowledge?
12. Has too much been assumed about the respondents behavior?
13. Is the question technically accurate?

(Dillman, 2007. pp.32-78)

Appendix E: Cover Letter

April 13, 2011

Dear ACSI Member School,

Thank you for taking the time to read this letter and for your consideration of completing a brief on-line survey about the Christian school that you serve.

My name is Melanie White and I currently serve as Principal at Lighthouse Christian Academy in Hurricane, WV. I have served as Administrator at Lighthouse for the past ten years, and I am currently completing my Doctoral Dissertation through Marshall University. You can obtain more information about Lighthouse Christian Academy and me by accessing our website at www.lbchurricane.org.

My dissertation topic will research the 21st century instructional practices of ACSI Schools in three states. I have been in contact with Dr. Randy Ross, ACSI Ohio River Valley Director, and I have his approval to make contact with you to gather the needed data. I need your help in completing my on-line survey (Less than 30 minutes total time). The survey can be accessed at this link: http://www.surveymonkey.com .

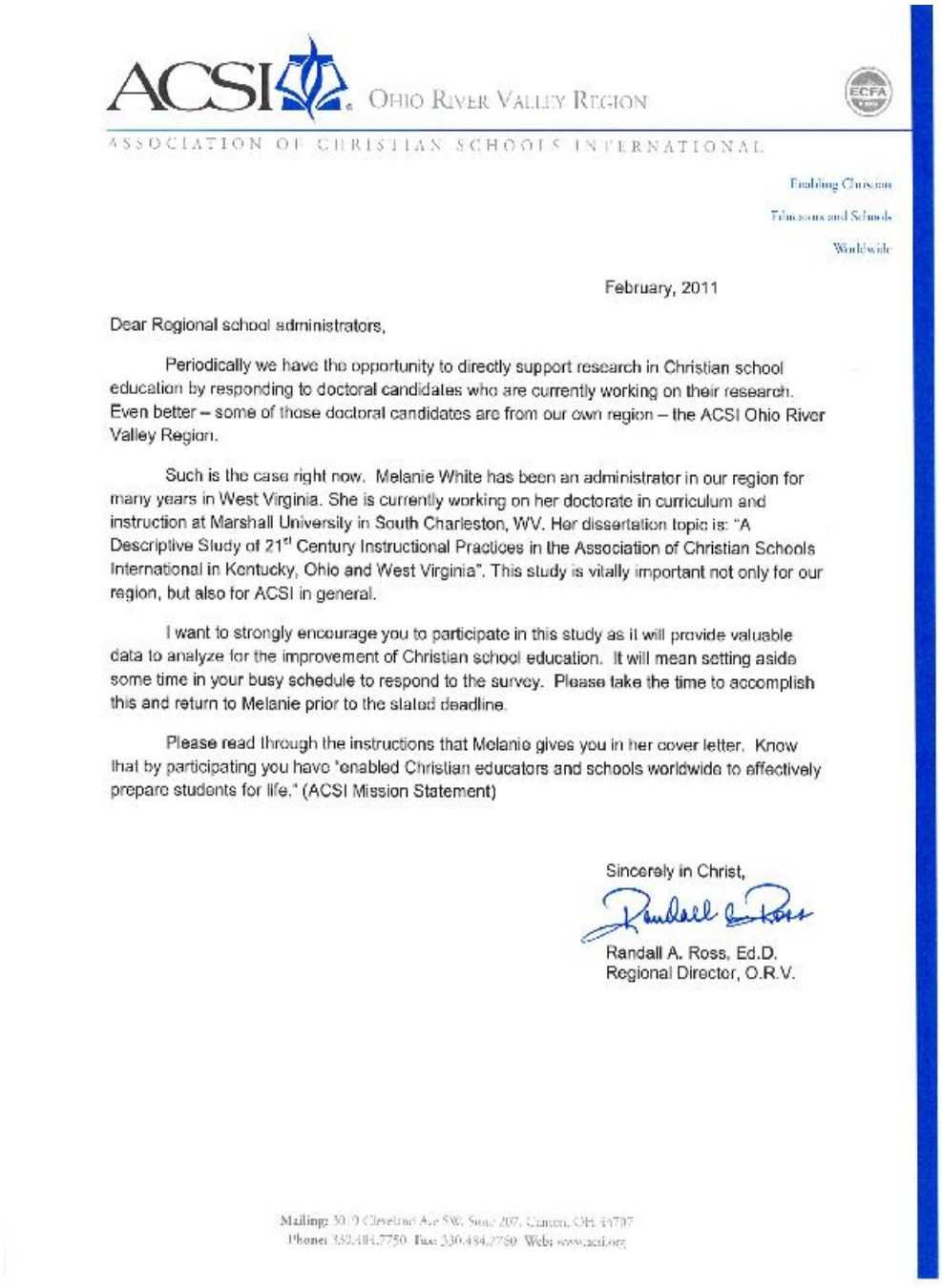
In the first section you will be asked to rate 21st century instructional practices in terms of your current **level of use** by teachers in your school. The second part of the survey will ask you to rate each 21st century instructional practice in terms of its **level of effectiveness** in facilitating student learning. There is also a very brief demographic section about your school.

I believe this research is very important to Christian schooling, and I thank you in advance for your participation. Your completion of the survey by April 30, 2011 is greatly appreciated.

"If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at 304-696-4303." You can email me any questions at white252@marshall.edu.

Thank you!
Sincerely,
Melanie White, Ed.S.
Lighthouse Christian Academy
Marshall University, Doctor of Education Candidate

Appendix F: Cover Letter from ACSI Regional Director Randy Ross



ACSI Ohio River Valley Region

Association of Christian Schools International

Enabling Christian Educators and Schools Worldwide

February, 2011

Dear Regional school administrators,

Periodically we have the opportunity to directly support research in Christian school education by responding to doctoral candidates who are currently working on their research. Even better – some of those doctoral candidates are from our own region – the ACSI Ohio River Valley Region.

Such is the case right now. Melanie White has been an administrator in our region for many years in West Virginia. She is currently working on her doctorate in curriculum and instruction at Marshall University in South Charleston, WV. Her dissertation topic is: "A Descriptive Study of 21st Century Instructional Practices in the Association of Christian Schools International in Kentucky, Ohio and West Virginia". This study is vitally important not only for our region, but also for ACSI in general.

I want to strongly encourage you to participate in this study as it will provide valuable data to analyze for the improvement of Christian school education. It will mean setting aside some time in your busy schedule to respond to the survey. Please take the time to accomplish this and return to Melanie prior to the stated deadline.

Please read through the instructions that Melanie gives you in her cover letter. Know that by participating you have "enabled Christian educators and schools worldwide to effectively prepare students for life." (ACSI Mission Statement)

Sincerely in Christ,

Randall A. Ross, Ed.D.
Regional Director, O.R.V.

Mailing: 3010 Cleveland Ave SW, Suite 207, Canton, OH 44707
Phone: 330.484.7750 Fax: 330.484.7760 Web: www.acsi.org

Appendix G: Institutional Review Board Approval

www.marshall.edu
Office of Research Integrity
Institutional Review Board
401 11th St., Suite 1300
Huntington, WV 25701

FWA 00002704
IRB1 #00002205
IRB2 #00003206

April 12, 2011

Rudy Pauley, Ed.D.
Outreach Continuing Studies, MUGC
RE: IRBNet ID# 225128-1
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Pauley:

Protocol Title: [225128-1] A descriptive study of 21st Century Instructional Practices in the Association of Christian Schools International in Kentucky, Ohio and West Virginia.

Expiration Date: April 12, 2012
Site Location: MUGC
Type of Change: New Project APPROVED
Review Type: Exempt Review

In accordance with 45CFR46.101 (b)(2), the above study and informed consent were granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Chair for the period of 12 months. The approval will expire April 12, 2012. A continuing review request for this study must be submitted no later than 30 days prior to the expiration date.

This study is for student Melanie White.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Bruce Day, CIP at (304) 696-4303 or day50@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Thank you,
The IRBNet Support Team

Curriculum Vita
Melanie Edwards White

Experience

August 2007- Present
Adjunct Instructor, Marshall University

- Teach a variety of masters level classes
- Grade Students Reflective Essays for Masters Degree requirements
- Assist in the development of on-line BLACKBOARD classes

August 2007-2010
Graduate Assistant, Marshall University, Department of Elementary and Secondary Education

- Assist in the functioning of the department
- Aid in research with faculty
- Assist in planning Student/Faculty Seminar each spring and fall
- Maintain data analysis and reporting for NCATE accreditation

2011-Present
High School Teacher, Kanawha County Schools, Charleston, West Virginia

- 9th grade World History
- Magnet school for International Studies- Sissonville High School

2011
Middle School Teacher, Kanawha County Schools, Charleston, West Virginia

- 6th, 7th and 8th grade Health- Elkview Middle School
- Work with outside groups to provide health care information to students

1998-2011
Administrator/ Principal, Lighthouse Christian Academy and Daycare Center, Hurricane, West Virginia

- Supervise twenty-six full time employees
- Manage Business Accounts
- Enroll students
- Maintain all legal documentation for the operation of the school and non-profit center
- Teach students ages 2 through 12
- Mentor teachers and aides
- Train staff
- Work directly with board members

1990-1991
Middle School Teacher, Lynchburg Christian Academy, Lynchburg, Virginia

- 7^{th} and 8^{th} grade History, Social Studies and Geography

- Lead student clubs and activities

1987-1988
Middle School Teacher, Wesleyan Education Center, High Point, NC
- 11th and 12th grade Social Studies, History and Geography
- Lead student clubs and activities

Education

2006-Present
Doctoral Program (Ed.D. in Curriculum and Instruction), Marshall University, South Charleston, West Virginia, Expected Date of Graduation: January 2012

2010
Education Specialist Degree (Ed.S.), Marshall University, South Charleston, West Virginia

2001-2005
Master of Arts (M.A.) in Leadership Studies, Marshall University, South Charleston, West Virginia

1982-1987
Bachelor of Science (B.S.) in Social Science Education, Liberty University, Lynchburg, Virginia

Research

September 2009-Present
Marshall University, South Charleston, WV
A descriptive study of 21ST Century Instructional practices in the Association of Christian Schools International in Kentucky, Ohio and West Virginia
This doctoral dissertation surveys private school principals in the Ohio River Valley to see if Christian Schools are using 21st century instructional practices and if they believe these practices are effective.

April 2008-2010
Marshall University, South Charleston, WV
Action Research
This research project addresses how Action Research can be used by School Administrators to solve problems.

April 2007- 2009
Marshall University, South Charleston, WV
21st Century Learning: How it applies to Christian Schools
This research study addresses how America's schools must be designed, organized and managed with a focus on results that matter in the 21st century.

Instructor

Trends and Issues in Education (EDF 610) E-Course on Blackboard
Marshall University
South Charleston, WV

The Principalship (LS 635) E- Course on Blackboard/ T- Course with Live Class Meetings
Marshall University
South Charleston, WV

The Principal and the Community (LS 6100) E- Course on Blackboard
Marshall University
South Charleston, WV

Middle School Curriculum and Instruction (CI 501) E- Course on Blackboard
Marshall University
South Charleston, WV

Professional Memberships and Licensing

NC Teaching Certificate, **Status:** Current
WV Teaching Certificate, **Status:** Current
WV Administrators Certificate, **Status:** Current
Association of Christian Schools International Teaching Certificate, **Status:** Current
Association of Christian Schools International Administrators Certificate, **Status**: Current
WV S.T.A.R.S. Early Childhood Trainer Certificate, **Status:** Current
WV S.T.A.R.S. Early Childhood Certificate (Level 9), **Status:** Current
I.A.C.E.E International Association of Christian Early Educators, **Status:** Current Member

Community Service

Co-Founder of the Teays Valley Ladies Prayer Teas	1993-present
Lighthouse Baptist Church Praise Team Member	2000-present
S.T.A.R.S. Advisory Board	2011-present

Invited Trainings and Presentations

2011 Huntington Area Early Childhood Education Conference, Huntington, WV: How to Make Friends: A Child's Social Development

2011 Huntington Area Early Childhood Education Conference, Huntington, WV: Parent/ Teacher Conference Jitters

2010 Marshall University Graduate School Doctoral Seminar Committee Chairman: Charleston, WV

2009 Marshall University Graduate School Doctoral Seminars: Charleston, WV

2008 National Association of Principals**,** 2008 Annual Meeting and Convention**,** Nashville, Tennessee

2008 Association of Teacher Educators**,** ATE 2008 Annual Meeting**,** New Orleans, LA

2007 Association of Christian Schools International Teachers Conference**,** Lexington, KY: 21st Century Learning Skills: How they apply to Christian Schools.