IDENTIFICATION OF SITUATIONAL CONSTRAINTS IN MIDDLE SCHOOL BUSINESS INFORMATION TECHNOLOGY PROGRAMS

by

JOHN ERIC PRITCHETT

(Under the Direction of Roger B. Hill)

ABSTRACT

Middle school is a time of great change, struggles, and uncertainty in students. This is also often the case with middle-school business information technology, business education or business and computer science career and technical courses experiencing constraints to full implementation. This study analyzed the middle school research, national expectations of middle schools and middle-school business education programs, and used Situational Constraints Theory to determine whether middle-school business information technology teachers experience barriers in their work and job performance. The situational constraints studied include job-related information, tools and equipment, materials and supplies, budgetary support, required help and support from others, education and training, time, work environment, and administrative. The research question for this study was “Are there differences among urban, suburban, and rural teachers, as measured by the SCQ, on: (a) job-related information; (b) types of tools and equipment; (c) materials and supplies; (d) budgetary support; (e) access to or help from others; (f) education and training opportunities; (g) time; (h) work environment; and (i) administration?” Results of the study suggest that many teachers experience situational

constraints in varying degrees. Based on the results, more research and development of educational policies need to be considered to improve the educational possibilities of middle-school students as they develop their high school plan of study.

INDEX WORDS: Middle School, Business Information Technology, Business Education, Business and Computer Science, Georgia, Career and Technical Education, Career, Technical, and Agricultural Education, Situational Constraints

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DEDICATION

I would like to dedicate this page to my wife and daughter. You have brought me great joy and happiness every day for many years. This process has been a long and sometimes delayed event but has finally arrived. Thank you standing by and giving me the encouragement, motivating moments, and determination to make this a reality. I could not have finished this without your infinite love. I love you both and look forward to spending more time enjoying life and activities with you.

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CHAPTER 1

INTRODUCTION

Despite 40 years of middle school implementation, concern over the appropriate configuration of schooling for young adolescents still exists (Seller, 2004). Indeed while there is mounting evidence that the middle-school concept has academic and social benefits, there is still controversy about exactly where sixth, seventh, and eighth grades should be housed (Jackson & Davis, 2000) and what curricula should be presented during those years. Providing an initial exploration of career and technical curricular choices that meet the secondary needs of all students, middle-school exploratory or connections courses is an important element of the middle-school concept (Juvonen, Constant, Kaganoff, Le, & Augustine, 2004).

Despite the call for such courses and evidence that these courses meet the needs of all adolescents, recent trends in accountability have forced schools to make tough choices with regard to eliminating connections offerings (Andrews, Duncombe, & Yinger, 2002; Jackson, 2006). Possible explanations for educational leaders to narrow the middle-school curriculum offerings may include but are not limited to budget concerns, expensive equipment, time restrictions within the daily academic schedule, ineffective curriculum, the requirement to meet annual academic goals, which may include substituting or adding remedial courses for students in lieu of traditional connections courses, lack of trained teachers to support connections courses, and lack of resources

and materials to support connections courses. These issues may create constraints for implementing all components related to connections courses. One possible reason for this may be that many local school systems, due to the reasons listed above, have created their own connection course offerings related to computers, technology, keyboarding, and computer applications for middle school students instead of using state course numbers and associated curriculum. Another reason may be that they are not able to offer any form of middle-school business information technology course or training. To provide clear guidance for improving middle school programs, a systematic examination of the issues impacting teachers' abilities to implement business information technology offerings in the middle school needs to be undertaken.

Business information technology is one of the most important connections courses offered as a part of the middle-school connections program, according to Greene (2006). This area of business information technology study generally provides students with opportunities to learn about the fundamentals of computer information systems and principles of business practice in addition to building students' keyboarding, word processing, spreadsheet, and presentation skills. Students are able to explore career choices related to business and acquire skills that will be of benefit regardless of their ultimate career selections. Research is needed to find out why this is occurring and to determine or identify the possible situational constraints associated with the work of middle-school business information technology teachers.

Situational constraints theory may be one way to understand the factors that affect the development, offering, and assessment of business information technology connections courses in middle-school programs. Peters, O'Connor, and Eulberg (1985)

operationalized situational constraints as factors that place limits on the extent to which attitudes, personal attributes, and motivation translate into behaviors and performance. Situational constraints have also been defined as job characteristics that are beyond the control of an employee and that limit the employee's job performance. Examples of such constraints in the educational setting include classroom resources, curriculum, job duties, budget, services provided, professional development, cold or noise, inadequate lighting, poor quality tools, equipment and materials, and inadequate support services (Bacharach & Bamberger, 1995; Peters et al., 1985; Peters, O'Connor, Eulberg & Watson, 1988). The constraints are related to other terms in the professional literature such as work values and job performance (Adkins & Naumann, 2001; Kane, 1993).

It appears that overlaying a theoretical frame based on situational constraints with the connections offerings in a middle-school environment may allow the field to understand both the strengths and challenges of connections courses that are a critical component of the middle-school concept. There are several reasons that situational constraints can have great impact on the learning environment for the business information technology curriculum. This curriculum is affected by the timeliness of the curriculum itself, the modern technology used to teach the curriculum, and the need for schools to demonstrate students' proficiencies in computer application skills. Historically, changes to the middle-school business information technology curriculum included elimination of keyboarding as a state-funded Georgia high school course in the late 1990s and the resulting transition of that curricular offering into middle schools (personal communication, C. Greene, December 5, 2003). Greene also noted that there was no change to the funding stream for middle schools to support this curricular move and the

associated new instructional expectations placed on middle-school business information technology teachers. These factors might function as situational constraints and impact the program offerings and job performance of middle-school business information technology teachers.

Recently, another educational code change influenced the offerings of business information technology courses in the middle-school curriculum. The introduction of Georgia code IDAE 160-4-2-.05 (effective August 1, 2004) gave Georgia school systems some flexibility in the choices that schools made concerning program implementation. Specifically, middle schools were allowed to alter the daily schedule, length of class periods, and planning time given to teachers. The change in the education code also provided for more time for remediation, the number of connections classes offered/taught to students, and more local control for connections courses.

Outcomes as a result of IDAE 160-4-2-.05 have included making physical education courses optional, enrolling young adolescents in additional remedial courses for mathematics and reading, and minimizing the number of times that students are required to take Connections courses, including business information technology courses. Given the opportunity to offer more remedial courses, middle-school students were often taken from exploratory or connections courses and placed into these remedial courses to augment their skills in order to meet school accountability and state testing mandates. These changes also introduced potential variations to the course offerings across the state of Georgia as individual school systems adopted their own sequence of courses. In some instances students only completed one or two business information technology courses during their middle school years instead of taking three nine-week courses each year they

were in middle school. Reducing the number of business information technology courses students were required to take, while still following the Business Education Georgia Quality Core Curriculum Guide, diminished the number of opportunities middle-school students had to master important career and technical skills. The passage of federal legislation, No Child Left Behind, also included provisions that students graduating 8th grade be technologically proficient. The opportunity for students to be proficient in using computers and related software may be limited, however, due to the changes described above.

In addition to shifts in the implementation of middle school programs, the population densities of middle schools also has the potential to impact the consistent delivery of business information technology instruction (personal communication, C. Greene, December 5, 2003). Systems with greater local financial resources might have the opportunity to provide for more modern equipment in middle-school business information technology classrooms, where systems with fewer resources on which to draw are presented with limits that impact program support. Available resources might be less for schools located in areas where there is not a sufficient tax base on which to draw local funds. Schools with limited resources can be found throughout the state of Georgia. Some rural and suburban schools encounter funding constraints not only due to limited tax revenues, but also as a result of increasing unfunded mandates brought forth from educational laws. Often the funding formula to support local schools is inequitable to small rural schools whereas larger urban schools benefit from the formula (Dayton, 1998).

A Systematic Review

A missing piece in the assessment of the work of business information technology teachers in Georgia is a systematic review of the possible constraints that teachers may face in their classrooms. Such a study could examine potential constraints indentified by middle-school business information technology teachers to determine whether there are situational constraints common to many schools in Georgia or whether there are regional or demographic differences. Outcomes of such a study could provide a basis for discourse on appropriate action to take to improve school infrastructure, to meet the training needs of teachers, and to adjust the time allotment and the role of business information technology in the overall middle-school program.

When evaluating possible situational constraints for middle-school business information technology teachers, the need to stay current with additional instructional components is important. Given the changing and fast-paced market economy, extreme demands are placed on teachers to stay informed about technology, new advances, and current events as they prepare their students for the working world. In addition, the business information technology curriculum is broad and encompasses a wide range of topics (Kesten & Lambrecht, 2006).

Kesten and Lambrecht (2006) added that coupled with a business information technology curriculum that is dynamic, middle-school education has witnessed many changes during the past few decades and has experienced constraints that may have impeded the progress and overall development of students between the ages of 10 and 14. Beane (1993) expressed general concerns of middle-school administrators that included changes to the middle-school daily schedule, team structures, and overall school climate.

According to Beane, these changes have not always been consistent with middle-school students' developmental needs. School structures centering on the adolescent years are quite historical and have included a variety of configurations of the middle-school, or previously the junior high school, environment.

Though there are likely no two classrooms that have the same resources, how different are the middle-school business information technology classrooms across Georgia? Do Georgia business information technology teachers have all of the resources, supplies, budget, and equipment necessary to properly teach their classes? According to the November 2005 issue of the NBEA *Keying In* newsletter, "business education is feeling the impact of No Child Left Behind's 'back to basics' emphasis on remediation and academics. Schools are expecting all teachers – not just those in English and math – to help students strengthen their basic skills (p.1)." This quote raises concern about the trajectory of all students in public schools. Is the role of the school to prepare just one prototype of student or is it to prepare a diverse group of students who have different sets of skills that prepare them to take on different occupations in a diverse society? The importance of structured middle-school experiences, that are planned by interdisciplinary teams who integrate curriculum across content areas and promote academic achievement, has been a focus of research in middle-school education for years (Flowers, Mertens, & Mulhall, 2003).

Because of the increasing complexity of the workplace, the importance of a sound middle-school business information technology curriculum is more important now than ever before in Georgia. Middle-school business information technology educators have an opportunity to ensure that programs thrive if courses are articulated from elementary

schools to high schools (Yopp, 2003). Such articulation may have a dramatic impact on the development and structure of the middle-school business information technology programs and how they may be modified in the coming years.

The Need for Business Education and Middle School

The need to provide a modern business information technology program for all students is more critical now than ever before with the increased accountability factors written into law on the state and federal legislative levels. Despite the demands placed on these programs, variations in business education programs have existed for more than 150 years (National Assessment of Vocational Education, 1998). While the term business education can be helpful in understanding a historical context for the curriculum, the term business information technology more adeptly described the curriculum in 2007. Business educators teach courses that are designed to prepare students for their multiple roles as citizens, consumers, workers, managers, and owners of their own economic futures (National Business Education Association, 2001).

Statement of the Problem

The proper work and job expectations of middle-school business information technology teachers would result in learning experiences for students exploring careers related to business in preparation for high school, post-secondary opportunities, and the workforce. This proper job performance by middle-school business information technology teachers does not always occur as planned. One possible explanation may be that teachers are limited in what they can provide students. Another possibility could be that teachers are unaware of what is needed to prepare students for high school or other future opportunities. Teacher job performance could be impacted by time restrictions and

work environment in a classroom limiting instructional options. The issues listed about can also be known as situational constraints. Situational constraints are a set of circumstances that affect the behavior of workers in an organization (Peters, O'Connor & Eulberg, 1985).

Middle-school business information technology teachers in some Georgia middle schools have had to deal with these situational constraints. These situational constraints can limit teachers in what they are able to teach and provide for students. Teachers dealing with different categories of potential situational constraints in their middle-school business information technology classes may choose components of the locally developed curriculum guide instead of using state-developed standards. Local curriculum may include the availability of resources that match local needs instead of state standards that are less specific to local issues.

Kesten and Lambrecht (2006) noted the fundamental importance in preparing students for the workforce is recognizing the growing aspects of education in business and preparing students to adapt and be prepared in business. Business information technology teachers need to prepare students to be sound economic citizens, to be wise consumers and entrepreneurs, and to be aware of market changes and trends in businesses. "Business teachers need to be flexible and prepared to develop programs and teach in a variety of settings (Kesten & Lambrecht, p. 44)." To avoid becoming outdated, teachers need to have information shared, attend professional training, continue their education, have access to resources and technical support, and be ready to adapt. Teachers need to be prepared to meet the changing needs of educational technology and innovations in business and industry to prepare students for future opportunities.

The preparation of students for a successful role in our communities aligns with the goals of the middle-school concept. Middle-school philosophy has been constant, yet adaptable, through the years. In 2003, the National Middle School Association (NMSA) updated their position paper, *This We Believe: Successful Schools for Young Adolescents*. To adapt and develop successful middle school programs, NMSA indicated that educators should consider the "spirit" involved in every proposal and ask themselves "what is the ultimate purpose of this program? What are we trying to accomplish? How will this program affect student growth, development, and achievement (NMSA, p.2)?"

Statement of Purpose

Given a context of changing curriculum, increasing accountability, and lack of a clear understanding of what is happening in Georgia middle-school business information technology classes, the purpose of this study was to identify selected situational constraints to the work and job performance of middle-school business information technology teachers from different population densities in Georgia. Data was collected using the Situational Constraints Questionnaire (SCQ) which measures eight different types of situational constraints (Kane, 1997). These constraints consisted of job-related information, tools and equipment, materials and supplies, budgetary support, help from others, education and training, time, and work environment.

Research Question

Are there differences among urban, suburban, and rural middle school business information technology teachers, as measure by the Situational Constraints Questionnaire on:

1. job-related information;

2. types of tools and equipment;

3. materials and supplies;

4. budgetary support;

5. access to or help from others;

6. education and training opportunities;

7. time;

8. work environment; and

9. administration?

Theoretical Framework

The situational constraints theory presented by Peters, O'Connor, and Eulberg (1985) and Kane (1993) provided the theoretical framework for the study. Through their studies, situational constraints were identified as aspects of a job that impede successful outcomes. For this study, situational constraints were aspects of the work situation of middle-school business information technology teachers in Georgia that detracted from their work performance and reduced student learning opportunities.

Situational constraints, defined originally by Peters, O'Connor, Eulberg, and Watson (1988), are a defined set of circumstances that will affect the behavior of workers in an organization or similar groups in a consistent manner. The work setting, job description and daily duties determine the expectations that could be impacted due to constraints, or limits within the employment. Job performance can deteriorate due to lack of access to supervisors, resources, tools, budget, and/or excess job duties. These constraints often occur throughout organizational levels through lack of needed resources

or the misunderstanding of job functions of lower level workers by managers and upper level administrators (Peters, O'Connor, Eulberg, and Watson, 1988).

The situational constraints listed initially by Peters and O'Connor are not exclusive or exhaustive to a given field of work. Constraints identified initially vary in work settings, job functions, and organizations. To adapt this definition of situational constraints to the field of education, a constraint identified in one school system by teachers affecting their ability to teach effectively may not be a constraint in another school system. Each school system's plan and vision for career, technical and agricultural education programs in Georgia is left up to the county to implement based on the yearly budget, students' need, classroom resources, and facilities. As a result, relevant situation constraints could vary across school systems.

Peters, O'Connor, Eulberg, and Watson (1988) targeted four conditions that need to be met for situational constraints to have an impact on the job performance of workers. According to Peters, O'Connor and Eulberg, (1988) constraints would not have an adverse effect on performance outcomes unless:

1. work standards utilize the persons' abilities and motivation,
2. work standards promote effective individual performance to attain work standards,
3. expectations exist that persons be responsible for attaining work standards, and
4. it is difficult for persons to justify failure to attain performance standards.

In organizations where high standards are expected and enforced, performance variance would be more strongly determined by factors theoretically expected to affect performance (e.g. constraints).

The revamping of the middle-school career, technical, and agricultural education programs to align with secondary education in Georgia with the expectation of high standards and solid performance and mastery by students could enhance the impact of situational constraints on middle school teachers.

Peters, O'Connor and Eulberg completed many research studies using situational constraints in military and office settings created in a laboratory. However, Situational constraints theory has also been researched when considering appraised performances of workers' abilities within educational settings. Freeman (1996) found that written appraisals of work often blamed the worker for shortcomings in performance caused by situational constraints. The severity of a performance appraisal was impacted by constraints of materials, tools, information, and training for example.

Freeman added that situational constraints, when aligned with performance appraisals, would have a greater effect on specific job functions of workers. Situational constraints also change over time and impact workers' abilities to perform during given segments of time, thus affecting the performance appraisal and the workers' commitment to quality craftsmanship or work production. Teachers that struggle to complete a portion of the curriculum or a given task within their classroom could be evaluated poorly due to situational constraints limiting their functionality in their jobs.

The research studies and findings of Peters and O'Connor, Freeman, and many other researchers have used similar constraint categories within their research studies. Situational constraints theory used in this study will focus on streamlined job functions, resources, and job-related duties for middle-school business information technology teachers.

Significance of the Study

After a review of the literature, this appears to be the first study to examine the work of middle-school business information technology teachers through a constraints perspective. This study will provide useful information to business information technology professionals who are interested in middle-grades education. The significance of this study centers on the need to identify any constraints that impact the work of middle-school business information technology teachers. The identification of constraints has been found through anecdotal conversations with teachers sharing aspects of their school's programs and what they achieve with students. These conversations also have revealed their wishes for better tools and resources. The main theme noted in these conversations has been the lack of uniformity in what teachers envision as a solid middle-school business information program. Part of this lack of uniformity is found in the middle-school theory and practice that allows for discovery, skill building freedom, and ability to pick and choose components used in schools that meet building and system level needs (Anfara Jr & Brown, 2000).

Another possible explanation for a lack of consistency in Georgia middle-school business information technology programs is related to a solid curriculum that is followed and used state-wide. State mandates or a high expectation for academic teachers to use Georgia Performance Standards (GPS) to prepare students for the yearly competency tests keeps the mastery or performance skills in place for those subject areas throughout Georgia. The establishment of defined standards and an end-of-course-test to assess mastery of specific standards in middle-school business information technology program could result in greater consistency. Mastered skill sets in middle schools may assist

students in completion of CTAE coursework in high school through alignment and articulation and improve workforce or post-secondary preparation in their chosen fields of study.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Overview

Middle school is a time of great change, struggle and uncertainty for students. Students complete the middle grades able to make positive academic gains, experience social successes, and be prepared for transition to high school and their future during three of the most socially, emotionally, and physically changing years of their lives. Teachers struggle to make sure classroom lessons and activities are developmentally appropriate and to meet the learning needs of students during this transitional period.

Research into the stages, changes, and needs of a middle-school learner are covered in this chapter. In addition, an overview of middle-school business information technology research on a national perspective and within Georgia is addressed. Some of the struggles experienced by middle-school business information technology teachers may be due to problems associated with implementing components of their curriculum to support student learning and academic preparation. The introduction of Situational Constraints Theory and how this theory has been used in past research studies is examined. Each situational constraint included in the Situational Constraint Questionnaire is detailed and related to its possible impact on middle-school business information technology teachers' work and job performance. Though Situational Constraint Theory originated in military, office, and human performance research, this

chapter provides information detailing how it can be used in an educational setting. The instrument was used in this study to measure job performance and aspects of teaching that could impede successful instructional outcomes for middle-school business information technology teachers.

Review of Related Literature

Research on the importance of middle-grades education and meeting the needs of young adolescents has gained attention over the last four decades (Jackson & Davis, 2000). Since the late 1950s and early 1960s, the issue of teaching students in the intermediate grade levels has caused great debate as well as numerous changes (Carnegie Council on Adolescent Development, 1989). The needs of middle-grades learners are unique and must be supported to engage the student and promote active learning (Dickinson, 2001). These unique needs, related to motivation, engagement, and achievement (Muir, 2001), of middle-school learners also need to be considered in the work of middle school business information technology teachers.

According to Policy Statement 71 developed by the Policies Commission for Business and Economic Education (2002), “Business education is a vital part of our American educational system and has provided a solid foundation of knowledge and skills for over a century. Business education is education for and about business. Education about business means preparing all learners for the various roles they will play as economically literate citizens.” (p. 18). The policy statement adds that as social, political, individual, and business needs change, the need for business information technology curriculum to adapt and meet the new demands is critical. In a National Business Education Association's Task Force on New Concepts and Strategies for

Business Education report (1983), the association noted that a solid foundation for education and its future has been at the core of business information technology's beginnings.

Policy Statement 71 added that one challenge for business educators is to develop a common view of and appreciation for what business information technology can provide. One way that business information technology provides for society is the application of business-related skills to the core content courses. Business educators need to work with academic educators and students to apply business education objectives to the core academic standards and benchmarks. One approach to this integration may be to make middle-grades business information technology curriculum standards for Georgia include core content objectives that integrate computer applications skills with academic standards. Despite the existence of such standards, variability can still exist in the actual work of middle-school business information technology teachers in the State of Georgia as well as their application of these standards.

The middle-school program is present in many counties and school systems throughout Georgia, but there is little continuity between each local program (personal communication, C. Greene, December 5, 2003). One county system may offer only keyboarding to their middle-school students, without the benefits of networked computers, while another system may provide students the chance to word process and to learn keyboarding techniques. Yet a third school system could provide students with Internet, keyboarding, word processing, spreadsheets, and database skill masteries and the chance to link content-specific curriculum to the business information technology concepts and realistic problem solving simulations.

To achieve greater continuity between schools, a state curriculum guide for middle-school business information technology was prepared in 1999. This guide included 14 standards and subsequent objectives, along with feature lessons and activities for teachers and students. The guide covers the basics of computer applications and keyboarding and connects these concepts to the four core classes (math, language arts, science, and social studies).

One possible explanation for middle-school business information technology teachers not implementing the curriculum guide could be too many standards and objectives to cover adequately in either a six- or nine-week course. Another possible explanation for not adopting state standards is that middle-school business information technology teachers are limited in how they can implement the curriculum due to additional job responsibilities put upon them, time needed to develop lessons and activities, technical support for the business information technology lab, budget to sustain the program, professional development, and a vision for the development and growth of the program.

No matter what the curriculum includes or how it is taught, the needs of middle-grades learners are unique and must be supported to engage the student and promote active learning (Dickinson, 2001). Facilitating an environment for students who are too old for an elementary-sized structure yet not ready for the freedoms of a high school campus is a goal that has gained prominent attention over the last three decades (Jackson & Davis, 2000). The incredible changes and adaptations that occur during adolescence raise interesting challenges for teachers of middle-grades students. One approach to

accommodate the changes and needs of middle-school students is use of exploratory or connections classes.

Exploratory or connections programs/classes in the middle-school daily schedule are important to the physical, emotional, and intellectual development of students aged 11 to 15. According to Swaim (2003) when discussing the need for exploratory classes, effective schools "engage every student in a relevant, challenging, integrative, and exploratory curriculum, in an environment fostering respectful and supportive relationships among students, faculty, families, and the community (p. 44)."

Manning (1999) reported that student-friendly middle schools should provide exploratory programs for students with six weeks to semester-long learning experiences for 40 to 50 minutes per day. "Developmentally responsive exploratory programs address young adolescents shorter attention spans, rapidly changing interests, and fluctuating motivational levels (p. 6)." Manning added that exploratory programs should build upon students' own interests and focus on career opportunities related to business, keyboarding, choir and singing, homemaking and independent living, drama, foreign languages, fine arts, technology, physical education, and other areas of interest to middle-school students.

Sound Exploratory Program Needed

Providing a sound and effective exploratory program that meets the educational and developmental level of middle-school students is essential. Dealing with the educational situational constraints, policies, related pedagogy, and demands outside of the classroom is critical to the continued development of paths helping children realize their talents, nurture their development, and keep them focused on educational goals.

Therefore, such goals may demand an examination of situational constraints that could limit the experiences of middle-school students. The core content areas and relevant adopted standards were developed around the unique developmental needs of specific grade-level learners in the articulation from kindergarten to grade twelve through horizontal and vertical planning. A cohesive approach to the problem would be a statewide business information technology program that meets the developmental needs of students in grades 6 through 8, considers the curricular challenges of students, and prepares them for a smooth articulation to the high school business information technology courses of study and eventually post-secondary and workforce opportunities.

Bridging the gap between middle-school business information technology classrooms and their feeder high school business programs is very difficult at times. One possible explanation for this may be that teachers strive to meet the needs of students in preparation for high school and future careers, but may experience varying degrees of limitations or differences that constrain the amount of alignment, information sharing, and resources. Bridging the apparent gap between schools and state performance standards may also occur in varying degrees of success. One apparent difference between school systems that has been an issue for many is their curriculum guides. According to Brown and Weidmaier (2003), educators should check with state departments of education for business information technology state standards. "Required state standards must be incorporated into course planning. Many states have developed performance-based competencies based upon the *National Standards for Business Education* (NBEA, 2001). Some states have prepared checklists that educators may use to record the proficiency level or achievement of each student in the class (p. 47)."

Proper course planning is critical for all teachers, but more so for business information technology teachers today who must prepare students for certification opportunities and maintain industry certification standards. Brown and Weidmaier added that course planning involves more than picking a textbook, making chapters in the book into units, and giving a test after each unit. One possible approach to improving course planning is to make sure students in these middle schools don't miss out on opportunities to integrate real-world experiences and develop strong mastery of business information technology skills beyond the knowledge level of learning.

Missing sometimes are effective instructional strategies to challenge and meet the learning needs of middle school students. McEwen (2003) said that effective instruction includes many strategies focusing on the learning styles and multiple intelligences of a diverse student body. Using effective instructional strategies better prepares middle-school students for mastery of performance-based standards that follow a rigorous course of study in preparation for high school business information technology.

Effective instruction also includes climate and expectations. "Positive expectations, sometimes called high expectations, should not be confused with high standards. Having positive expectations simply means that the teacher believes in the learner and that the learner can learn. Mastery is the student's demonstration that a concept has been comprehended or a skill can be performed at a level of proficiency determined by the teacher (Wong & Wong, 1998 p. 10-11)." Well-organized classrooms promote efficiency in teaching and learning. Lyle (2001) recommended that the physical environment of a classroom lab should be established to promote learning and limit distractions. This is accomplished by providing adequate tables, desks, chairs, computers,

textbooks and handouts for each class. Class materials should also be available and ready before each instructional class period. Lack of proper furniture, classroom equipment, instructional resources, computers and additional essential technology tools, classroom ergonomics, and curricular materials can impact whether students are able to maximize their learning and mastery of performance-based standards or adopted curriculum in an organized classroom.

Organized core content classrooms usually are set up with the same basic furniture, classroom instructional resources, and textbooks selected as appropriate for the specific course, and a curriculum linked to the state course requirements through the provision of the Georgia Performance Standards curriculum. A middle-school business information technology classroom may have appropriate furniture, computers of varying processor speeds and loaded software, classroom instructional resources, and possibly new textbooks. One reason for this variability may be that school systems have not invested and supported to the same degree a fully functional middle-school business information technology class and computer laboratory as provided for secondary classrooms.

In addition to classroom technology to teach effectively, middle-grades business information technology teachers may also need additional planning time (daily and weekly) to teach their classes. The additional time and defined job duties would allow teachers to adequately prepare instructional materials and planned learning opportunities using computer applications software packages and network skills (Internet, email, etc.).

Middle-school business information technology teachers may also need up-to-date computer systems, budgets for peripheral items, professional development, and

technological support to fully implement the essential aspects of a high-quality middle school business information program.

The slow acceptance of technology by teachers and schools for effective production of projects, innovative use of technology to differentiate instruction and learning experiences, and ultimately mastering essential skills are concerns given the money supporting educational technology (Zhao & Frank, 2003). Teachers and schools overall may rarely apply the full complement of technology to the curriculum, providing rich opportunities for student learning, due to the organizational setup. According to Hodas (1993), Cohen (1987), and Cuban (1986) as cited in Zhao and Frank (2003), the goals of schools as organizations "naturally and necessarily resist changes that will put pressure on existing practices. Schools also are said to have a structure that prevents widespread uses of computers (p. 808)." Some factors affecting the technology integration in classrooms include the bulkiness of computers, lack of time for students to work in the computer lab, teacher resistance and attitude toward computers, the educational value of technology, and their technological expertise (Zhao & Frank, 2003).

A review of the literature follows that summarizes the middle-school concept and the middle-school learner; and business education and middle-grades business information technology.

The Middle-School Concept and the Middle-School Learner

The middle-school concept originated in the mid-1960s when Eichhorn (1966) described students between the ages of 10 and 14. The incredible changes and adaptations that occur during adolescence raise interesting challenges for teachers of middle-grades students. Researchers have identified these curricular challenges and called for the

development of a middle-school concept to be followed as students transition from elementary schools through middle schools to high schools (Alexander; 1964; Curtis, 1967-1968; Toepfer 1967-1968).

The middle-school concept is designed to meet the unique developmental needs of preadolescents through classes designed to engage them in appropriate ways based on physiological and emotional growth considerations (Beane, 1993). Work by Eichhorn (1973) identified three forces motivating educators to redefine the middle-school function. The first of these forces was the uniqueness of the age group being affirmed by new knowledge of the late 1960s and early 1970s. A second force centered on changes in areas of schooling that called for school buildings and organizational patterns to be reexamined. The third force was a focus on practices such as continuous progress, non-grading, and interdisciplinary curriculum that were advanced to help middle-school students succeed.

To describe the middle-school concept, it is helpful to understand the nature of the young adolescent. Eccles and Wigfield (1997) described physical, social, emotional, and cognitive changes in students and how these changes impact the preadolescent's learning.

> Early adolescence is a time of great change, the biological changes associated with puberty, the social/educational changes associated with the transitions from elementary to secondary school, the social and psychological changes associated with the emergence of sexuality to name a few. In fact, very few developmental periods are characterized by as many changes in as many areas. With rapid change comes a heightened potential for both positive and negative

> outcomes. Although most individuals pass through this developmental period without excessively high levels of "storms and stress," a substantial number of individuals experience difficulty (p. 15).

Eccles and Wigfield added that 15 to 30% of middle-school students do not graduate from high school. In addition, more students in this age group have arrest records than those of any other age group. With the need to explore new and sometimes risky behavior, middle-school age students engage in a number of different age-inappropriate behaviors such as drug and alcohol use, public display of affection, and bullying (Jackson & Davis, 2000). These factors and students' forays into these toxic areas of American culture can greatly impact students for the rest of their lives. "It is critical that educators understand what factors influence whether young people stay on a healthy, productive pathway or move on to a problematic, and potentially destructive pathway as they pass through this important developmental period" (Eccles & Wigfield, p.15).

Children undergo as much physical, emotional, and physiological changes in the middle-school years as any other time in their lives. The activation of hormones controlling physical developments such as growth spurt, development of primary and secondary sex characteristics, becoming fertile, and experiencing increased sexual libido during early adolescence are all characteristic developments of young adolescents (Eccles & Wigfield, 1997). Many terms have been linked to the middle-school child: in-betweeners, transescents, pubescents, junior-high kids, middlers, teenagers, emerging adolescents, and early adolescents. It is important to conceptualize these variably-

developing children in terms of a period of several years during which the transition from childhood to full adolescence is accomplished (Stevenson, 2002).

Some of these developmental issues have harmed educators' perception of students (Stevenson, 2002). Some adolescents are considered rebellious and defiant, while others are more grounded and able to understand the difficulties of the preadolescent years based on their ability to communicate and to listen to those people who are trying to help guide them. These different developmental attributes must be addressed and watched carefully because frequently students will start turning from the safety and oversight of parents and adults to peer groups for guidance and advice (Elkind, 1984). This craving for attention, advice, suggestions and support may make or break young adolescents. In schools, teachers need to be prepared to accept, help, and nurture these students to understand and to give them the respect and recognition they need as they search to identify themselves within their surroundings. The middle-school concept offers a means to bridge elementary school and high school and to prepare students for post-secondary education (Jackson & Davis, 2000).

This We Believe Assertions

In 2003, the National Middle School Association published the document entitled *This We Believe* as guiding beliefs and characteristics of schools serving youngsters at the middle level (NMSA, 2003). A summation of the National Middle School Association asserts that "successful schools for young adolescents are characterized by a culture that includes:

1. educators who value working with this age group and are prepared to do so;
2. courageous, collaborative leadership;

3. a shared vision that guides decisions;
4. an inviting, supportive, and safe environment;
5. high expectations for every member of the learning community;
6. students and teachers engaged in active learning;
7. an adult advocate for every student;
8. school-initiated family and community partnerships;

Therefore, successful schools for young adolescents provide:

1. curriculum that is relevant, challenging, integrative, and exploratory;
2. multiple learning and teaching approaches that respond to their diversity;
3. assessment and evaluation programs that promote quality learning;
4. organizational structures that support meaningful relationships and learning;
5. school-wide efforts and policies that foster health, wellness, and safety;
6. multifaceted guidance and support services" (NMSA, p.7).

In addition, NMSA also includes effective middle schools characterized as having comprehensive advising and counseling, assessment and evaluation procedures compatible with young adolescents that promote learning, cooperative planning, and a positive school climate.

To strengthen the need for a unique teaching atmosphere for students in grades 6 through 8, the National Association of Secondary School Principals in 1985 published a document entitled *An Agenda for Excellence at the Middle Level* that added to the message sent by the NMSA's earlier publication. Twelve programmatic and philosophical recommendations made for schools by the NASSP include:

1. core values for individual behavior and institutional policies and practices.

2. culture and climate for the school that support school improvement needs, excellence, and achievement instead of intellectual conformity.
3. student development that focuses on the practice and mastery of attributes and behaviors related to a realistic adjustment to the real world.
4. curriculum that balances skill development and content coverage, intellectual skills and an understanding of humankind that will permit the student to gather information, organize, evaluate, form conclusions, and plan for individual or collective action.
5. learning and instruction by teachers who are caring, enthusiastic, and well versed in pedagogy and subject areas with high expectations for all students.
6. school organization encouraging a smooth operation of the academic programs, clear communication, and maintaining sense of school mission.
7. technology used competently and thoughtfully in the study of specific subjects and problems.
8. teachers who model intellectual growth and excitement for learning, differentiating instruction, classroom management, and home-school communication.
9. transition from elementary school to middle and then preparing them for the transition to high school and post-secondary experiences smoothly.
10. principals who are strong administrative leaders with a clear sense of mission, and capacity to handle problems that interfere with the needs of learning.
11. connections to parents, businesses, and the overall community to keep communications open and free flowing.

12. client-centeredness maintaining the student as the center of learning and keeping the student focused and involved fully in the educational program.

Utilizing the ideals developed by these national organizations, individual middle schools have the capacity to implement these guidelines and build a strong school atmosphere that is student-centered and developmentally appropriate for all students to explore, build, learn, master, integrate, manage, lead, and succeed. A varied middle-school experience is needed to help students explore attributes they personally possess and help them understand their strengths.

A non-threatening environment that allows students to explore and to start the process of abstract thinking while looking beyond what is concretely apparent to them and to delve into areas that are beyond initial imagination characterizes a true middle school. Parents, community members, and local businesses are important to the overall development of middle-school students. Community involvement in middle schools helps students understand the relationship between school and the real world and the need to work to their best abilities to strengthen the educational foundation begun in elementary school and to start building strong ties to their personal ideals and goals for the future.

Beane (1993) discussed the pressures put on middle schools to use a strong curriculum to keep students engaged. With so many pressures placed on the middle schools from state and federal legislative mandates, state board policies, district regulations, and standardized tests, teachers have many forces pulling at them that sometimes may inhibit their ability to teach young adolescents. By keeping students the center of attention, teachers do their best to meet their physiological, social, emotional,

and cognitive needs. These goals hold true for business information technology programs as well.

Student Development and Business Education Skills

Kimball and Lane (1990) noted that students in grades 3 to 6 have attention spans worthy of learning keyboarding techniques, fostering better dexterity, and showing greater maturity for learning to keyboard.

> At the middle/junior high school level, the purpose of learning how to keyboard is not an end but a beginning to using introductory word processing, database, and graphing software programs. Students will use word processing skills for the purpose of written communications with the introduction of proofreading and editing software. Middle/junior high school students will also engage in computer activities which will facilitate the development of the problem solving skills of logic and logical thinking (p. 71).

Pushing students at this time in their development to inquire about problem solving skills and logical thinking processes will help them greatly in their educational development. Jackson and Davis (2000) stated "early adolescence is a time of discovery, when young people have significantly greater capacity for complex thinking. They are more able to be out in the world, to participate in a wider universe of activities. They are better equipped to make important decisions affecting themselves and others" (Jackson & Brown, p. 7). They go on to say that the "main purpose of middle grades education is to promote young adolescents' intellectual development. It is to enable every student to think creatively, to identify and solve meaningful problems, to communicate and work

well with others, and to develop the base of factual knowledge and skills that is the essential foundation for these 'higher order' capacities" (Jackson & Brown, p.10-11). The push for middle-school students to attain higher achievement, greater intellectual development, and better preparation for life beyond middle school is being discussed at length. The idea of figuring out how middle-school students learn best has also been researched.

The middle-school business information technology program is but one of many options for a middle-school student to explore and to learn to connect the many skills and concepts offered in the class to the core curriculum taught in the remaining parts of the school day as well as the real world. Middle-grades business information technology programs can capitalize on an integrated and engaging curriculum. Stevenson (1992) added that purposeful reading, writing, computing and other intellectual activities are a must when motivating middle-school students through genuine interest and purpose.

Business Educator's Role in Preparing Students

In the preface of the NBEA's publication (2001), National Standards for Business Education: *What America's Students Should Know and Be Able to do in Business,* "business educators play a prominent role in preparing students to become responsible citizens, capable of making the astute economic decisions that will benefit their personal and professional lives" (p. vii). In the middle-school curriculum model, students learn to use technology effectively, are introduced to basic business, entrepreneurial, and personal finance concepts, and learn how these areas are integrated into real world situations. Using realistic simulation activities, learners apply the technological skills learned in classes, demonstrate interpersonal skills, and observe how these skills are successfully

integrated in realistic situations. Students are able to build upon course skills and integrate them into the core classes, building upon the opportunities available to them in all aspects of their lives.

Under the Application Software section of the Information Technology NBEA national standards, Achievement Standard, terms such as, evaluate, select, install, use, upgrade, and customize application software, diagnose and solve problems resulting from an application's software's installation and use are established to guide business information technology teachers. The middle-school Level 2 Performance Expectations (NBEA, 2001) expect students to:

1. explore emerging application software;
2. identify the types of application software and explain the purpose or use of each;
3. use online and offline help to learn software;
4. select and apply the appropriate application software to common tasks (e.g., design a simple Web page) (p.84).

Performance expectations of this caliber are developmentally appropriate for middle-school students. Students having access to average computing capabilities would have little difficulty mastering these expectations and building upon prior knowledge to apply mastered skills in other aspects of their lives. This application illustrates one of the many ways that the middle-school concept and the middle-school business information technology program can work effectively together.

With the permeation of computers into all aspects of middle-school students' lives, computer education should be offered in all areas of the educational curriculum, starting with computer awareness, keyboarding, and computer literacy at the middle

school (Fisher, 1989). Computer literacy at the middle school begins with computer awareness in learning how computers are used in all parts of their lives. Major middle-school computer awareness content areas include "a survey of computer languages and equipment, technological terminology, input/output media and devices, computer and computer-related careers, the uses and effects of computers in areas other than business, the disk operating system (DOS), and an introduction to such software programs as word processing, database, graphics, and utility programs" (Fisher, 1989 p. 77).

Though the Fisher article was written in 1989 and reflects a national overview of middle-school content areas covered, many aspects of this list are still offered today in many Georgia middle schools. Though their work as middle-school business information technology teachers is limited to the work within their programs as determined by local boards of education, those local systems with programs may generally follow the curriculum guide provided. The state curriculum guide offers students the opportunity to master 12 curricular standards in the middle-school business information technology guide. The standards call for Business and Information Technology middle-school students in the state of Georgia to understand, apply, or assess:

1. each component of a computer system.
2. the use of the computer in personal or professional applications.
3. proper keyboarding techniques.
4. word processing and presentation applications in the business environment.
5. spreadsheet applications in the business environment.
6. database applications in the business environment.
7. computer applications in conjunction with the math curriculum.

8. computer applications in conjunction with the language arts curriculum.
9. computer applications in conjunction with the science curriculum.
10. computer applications in conjunction with the social studies curriculum.
11. computer careers.
12. computer ethics. (Georgia Curriculum Guide for Middle School Business Information Technology, 1999).

Students Making Connections to Future Potential

Implementation of the middle-school business information technology curriculum standards gives students a chance to make essential connections to the computer literacy areas, develop and master computer skills, and apply those skills to their personal, home, school, and potentially professional opportunities through after-school clubs, organizations, or job-training programs.

As business information technology educators continually strive to teach skills to students allowing them the chance to create, to manage, to edit, to make decisions based on the information given to them, and to further integrate business concepts and practices into their courses and other academic content areas, it is a natural fit at the middle-school level to have in place a progressive business information technology program. Pate (2001) suggested that middle-level schools should provide curricula that meet the needs of students and that is challenging, integrative, and exploratory. Young adolescents display many talents and intellectual abilities and they should be able to express and search for knowledge to develop their talents.

The Policies Commission for Business and Economic Education policy statement 71 (2002) noted that business information technology cannot be viewed apart from

society. “Business education continually assesses how individuals learn and assume new and different roles in a changing global society. As social, political, individual, and business needs emerge, the business education curriculum changes to meet those needs. We believe that to be productive and responsible citizens, all individuals must have the opportunity to learn and apply principles of business to all aspects of their lives” (PCBEE, 2002 p. 20).

The National Middle School Association holds similar values to be evident for educating today’s middle-school student. Taken from their position statement for curriculum integration (via the NMSA Web site, www.nmsa.org, June 23, 2003), “The time has come to push the middle-school concept substantially beyond structural concerns and school climate issues and establish a balance among the academic, physical, and social needs of middle-level students.” To achieve this balance, NMSA emphasizes the crucial need to change the way we currently think about curriculum and to redefine the middle-level curriculum in forms that are:

1. academically challenging and exploratory;
2. relevant to students' concerns;
3. hold high expectations for all students to succeed; and
4. meet the developmental needs of young adolescents.

Utilizing the curriculum integration concept in concert with the middle-school design, including team level/interdisciplinary planning, numerous opportunities are provided for students to learn real world concepts. These concepts are applicable to the essential objectives of core curricula classes and expand upon those concepts in the connection/business information technology classes through various computer

application software projects. The Georgia Middle-School Business Information Technology curriculum guide that features four standards focusing on curriculum integration in math, language arts, science, and social studies is a very good example of a natural fit occurring between business information technology and the middle-school concept of curriculum integration.

The needs of the student, teacher, and community are met through the middle-school business information technology/business education curriculum guide in many possible ways. One example may include students given the chance to explore and utilize current concepts and objectives that will prepare them with practical real world tools so that they may go into the world of work or post-secondary opportunities with proper credentials and be a functional part of the company. The teacher is able to take objective-based lessons and use them in his/her classrooms with practical measured (assessable) outcomes that can build upon prior lessons and hands-on business related activities. The community benefits by having the opportunity to visit and speak to classes about computer ethics, concepts, and real world ideals related to business and industry and better prepare the student for future expectations of all members of the community. Computer ethics and concepts are two additional standards found in the Georgia Middle-School Business Information Technology curriculum guide that can be used to prepare students for real-world issues.

A well-equipped student, ready to work and apply various concepts mastered through coursework and technology, is one of the results of implementing a strong curriculum. The permeation of computers into all facets of education adds to the need to develop curricula that meet the needs of students and prepares them for many computer

literate years of schooling. Fisher (1989) noted that middle-school business information technology programs should include computer literacy skills of identifying parts of the computer, terminology, introduction to user-friendly software such as word processing and other computer applications, and computerized accounting.

Fisher concluded that if the middle-school student becomes more sophisticated, adept and experienced with the computer and essential, real-world software, the secondary and post-secondary schools will be left to teach more specialized courses in computer applications, desktop publishing, telecommunications packages, programming, and even computer repair concepts.

Research also has indicated that if a student has mastered basic skills in reading, writing, listening, computing, speaking, information processing, personal and attitudinal development, economic literacy, and consumerism, the student has developed a broad learning area (Ettinger, 1989). "These are the very skills and knowledge that are valued by business and industry and lead to an upgraded, thinking work force wherein innovation and creativity flourish. Thus an appropriate formula for enhancing students' employability would be basic skills plus core competencies plus vocational aptitude (Ettinger, 1989 p. 107)."

To have a program that integrates such diverse skills into one area, a curriculum foundation must be established and is defined as the support structure that allows for future growth. Ettinger also added that when students understand the basics of the program, they will be able to draw inferences, give new meaning to situations, adjust changing life and work environments, build transfer learning, and continually add to their learning process. However, integrating such skills and change can be difficult. One

possible explanation for this may include some members of the community and students believing that the middle-school connections classes that include business information technology are not required and purely should be considered “exploratory-based” where grades were once not given. Such examples and this changed when legislation in Georgia was signed into law. The A+ Educational Reform Act passed by former Governor Roy Barnes (HB 1187) changed the context of the middle-school exploratory program to make at least one class a semester have a required grade and to count toward the graduation and yearly promotion of each middle-school student. Students not passing a connections class for the year can be held back from being promoted and must repeat a grade level. The academic expectations and rigor of the middle-school business information technology class are on the same level of course mastery as any other middle-school core content class.

The academic, social, physiological, and practical elements of business information technology make a strong connection and tie-in with the current day middle-school concept of taking a child between the ages of 10 and 14 and giving them a safe learning environment that offers them numerous developmentally appropriate opportunities to challenge themselves, take on learning through hands-on and practical real-world concepts, and build upon prior knowledge. These outcomes add to their personal mastery of higher-level objectives and job skills that will better equip them for secondary and post-secondary education and the world of work. The middle-school concept and business information technology for middle-school students are complementary components in the public school educational system.

Situational Constraints Theory

Peters, O'Connor, and Eulberg (1985) developed situational constraints theory as identifying typical sources of constraints in the work setting. Broken down or faulty machinery or needed supplies for completing a given task not readily available are examples of situational factors that limit the amount of quality productivity of workers. This theory is primarily grounded in the business process reengineering model. The term situational constraints, however, has meant many things to different researchers.

To better identify their theory, Peters, O'Connor and Eulberg developed a definition of situation. They determined that situation meant "a set of circumstances that is likely to influence the behavior of at least some individuals, and that is likely to reoccur repeatedly in essentially the same form" (Frederiksen, Jensen, & Beaton, 1972, as quoted in Peters, O'Connor, & Eulberg, p.81). Villanova and Roman (1993) examined human resource managers who manipulated situational constraints with the goal of impacting workers' abilities to improve job performance and dynamics. Peters, O'Connor and Eulberg's definition helped mold the idea that work settings could encompass specific job tasks and be targeted by means of repeated actions taken by a worker. This definition helped these researchers build an approach to gather applicable research about situational constraints of a job or task that has or will interfere with past or present work performance(s).

"Procedurally, one starts with the behavior of interest (inhibited performance) and asks persons to work backward to identify specific situational, as opposed to personal, factors which had an impact on that behavior. While there are some problems with this method … it does provide a starting point for identifying potentially constraining work

factors" (Peters, O'Connor, & Eulberg, p. 81). This organizational behavior theory has been used to identify constraining work factors and situational constraints within managerial and non-managerial positions, such as teachers. This approach also focuses on the event factor that could limit a worker from doing a specific task and not an immediate supervisor or agent of change that impacted work performances. Peters, O'Connor, and Eulberg (1985) completed many different research studies and based on their findings developed or identified up to 11 general constraint categories.

Program Support

Financial support for middle-school business information technology program and other school programs is important. According to the 34th Phi Delta Kappa/Gallup Poll of the public's attitudes toward public schools, Engeln (2003) pointed out that the lack of funding is a critical issue facing local schools administrators as they try to provide strong educational programs to meet academic needs of all students while confronting limited financial resources. Administrators may also need to focus on program resources, equipment, and facilities whether they are in a rural, urban or suburban school. Based on the 2007 Census update, Georgia is a large and diverse state with incredibly large cities and very rural counties. The essential funding and local tax base do not always support rural and urban schools in the same manner as suburban school systems. Dayton (1998) added that rural and urban schools face serious funding challenges compounded by limited educational resources and increased academic requirements. Rural communities possess a smaller tax base, fewer employment opportunities, and a dwindling population, added Dayton. In addition, urban schools sometimes overshadow rural schools by having

easier access to media to tell their story. Dealing with budget issues is a situational constraint that has often been studied (Peters, O'Connor, Eulberg, 1985).

Another possibility for a lack of significant differences in this study could be due to the actual question of the existence of situational constraints on performance. Kane (1997) pointed out correlations between constraints and performances have not always generated clear results. Some researchers, Kane suggested, believed that raters for situational constraints made adjustments based on their own beliefs of the perceived severity of constraints when determining their ratings. Further research identified in Kane (1997) showed that such adjustments by raters for constraints would be minimal.

Situational Constraint Categories Explained

Though not all constraint categories apply to all organizational settings and jobs, "the 11 constraints appear to represent a taxonomic system with sufficient generalizability to be applicable to a wide diversity of such organizations and jobs" (Peters, O'Connor, & Eulberg p.83). The identified 11 constraints include: job-related information, tools and equipment, materials and supplies, budgetary support, required services and help from others, task preparation, time availability, work environment, scheduling of activities, transportation, and job-relevant authority.

Job-related information deals with getting the essential information (curriculum guide, job expectations) to the worker/teacher. Middle-school business information teachers need clear job expectations to guide their work. Clear job-related information could include classroom teacher expectations, daily schedule with class times, teacher supervision responsibilities, and additional duties. Any extra duties in class or outside of

class can impact the degree to which middle-school business information technology teachers are able to implement their instructional programs.

The next category includes tools and equipment needed to complete a given task in a business information technology classroom. Tools and equipment may include an appropriate, modern computer lab with essential peripheral equipment, proper software and server access to meet curricular needs, a telephone for technical support emergencies, appropriate textbook and print resources, and even assistive technology devices to meet special needs students' adaptations.

Materials and supplies is the next category and may include toner, paper, and related items. The support of classroom materials and supplies beyond standard and customary items may impede middle-school business information technology teachers from completing essential projects for their students.

To support the purchase of materials and supplies and to sustain a middle school business information technology curriculum, the next category of budgetary support would be needed. Without an essential budget to support the teacher's work in middle-school business information technology programs, the instructional program would likely be less than optimal.

The constraint of required services and help from others could be two-fold in technical and curriculum support. Middle-school business information technology teachers need technical support to maintain the proper operation and updating of computers and related resources in their lab. They also need curriculum support, both locally and from the state, to help them implement the full curriculum. Task preparation in having annual professional development support and training to keep job skills at a

high level is also a key constraint for teachers. Time availability to complete a given task relates to the daily schedule and curriculum guide in covering the essential information to reach mastery for a given grade level and within the grading period.

The constraint of work environment is essential to the progress made by students and teachers in a business information technology course. Adequate space to work, compute, learn, and store equipment is important. Work environment also includes the environmental factors of temperature, dust, allergens, sound, and other distractions that could impede the delivery of curricular activities for students.

The next constraint, scheduling of activities, often deals with connection time interruptions for school-related duties (yearbook pictures, convocations, special events) that are scheduled during a grade level connection time. This constraint impacts the ability of a teacher to cover the essential curriculum in a thorough manner.

Transportation issues may be a moot point for middle-school business information technology teachers, unless they are traveling between buildings/locations. Most often teachers are given the job-relevant authority to teach and work within their classroom, but when a computer malfunctions, do they have the authority to fix or repair the computer problem?

Peters, O'Connor & Eulberg (1985) introduced 11 situational constraints that they researched. However, for this research study, only eight of their situational constraints that are the most connected to schools, teaching, and teachers were selected for examination.

A ninth constraint, and not one that was developed by Peters and colleagues, administrative duties, was added. Administrative duties included teacher's assigned

duties beyond their classroom and beyond their school, such as serving on system committees, and completing tasks beyond their required teaching duties.

Situational constraints theory has implications for a middle-school business information technology curriculum. It is also possible that many situational constraints are placed on the middle-school business education teacher that impact his/her ability to do a quality task. For example, a teacher may wish to teach a class project, however many computers are not working properly, materials for the project are not available, the teacher wastes most of their planning time trying to get the computers operating properly, and then the temperature in the computer lab changes making it difficult to teach and learn during class. The ability to adapt some of the situational constraints to program operation rather than to a specific job task is useful. A disadvantage to this theory is the limited use of this approach by educational researchers. Despite some of these concerns, this theory can provide a lens for examining overall work of middle-school business information technology teachers.

In summary, helping students work through the social, emotional, and physically challenging years of middle school while also being able to explore various career course offerings, discovering talents and career interests, is an important part of the middle school concept. Helping students learn essential technical skills through the proper functions of a middle-school business information technology program is critical to prepare them for their transition to high school in preparation for opportunities after they graduate. Where possible, helping middle-school business information technology teachers overcome possible constraints to their work is critical to the success and development of every student.

CHAPTER 3

METHODOLOGY & PROCEDURES

Methodology

This chapter provides a description of the procedures used in the current study. The chapter addresses the purpose of the study, the proposed research questions, the proposed research participants, instrumentation, data collection, and data analysis strategies.

Statement of Purpose

Given a context of changing accountability, and lack of description about what is happening in Georgia middle schools, the purpose of this study was to identify selected situational constraints to the work and job performance of middle-school business information technology teachers from different population densities in Georgia.

By measuring nine situational constraints of job-related information, tools and equipment, materials and supplies, budgetary support, help from others, education and training, time, work environment, and administrative constraints, information gleaned from this study will provide information about the current work performance of middle-school business information technology teachers in the State of Georgia.

Research Question

Are there differences in responses among urban, suburban, and rural middle-school business information technology teachers, as measured by the Situational Constraints Questionnaire, on:

1. job-related information;
2. types of tools and equipment;
3. materials and supplies;
4. budgetary support;
5. access to or help from others;
6. education and training opportunities;
7. time;
8. work environment; and
9. administration?

Middle-school business information technology teachers were asked to self-select themselves among the independent variable of rural, suburban, and urban school settings on the Situational Constraints Questionnaire.

Target Population

Participants in this research study were middle-school business information technology teachers in the State of Georgia. There were 460 public middle schools in the State of Georgia. Surveys were sent to the entire population of 460 public middle schools with instructions to the middle school business information technology teacher to provide a response to the survey. The Georgia Department of Education provided the list of the names and addresses of the middle-schools via the Georgia Public Education Directory.

Demographic information on the participants including gender, number of years of teaching in middle-school business information technology courses, and whether the teacher was certified to teach business information technology was collected. Surveys were coded with an identification number so that surveys were tracked to determine non-response patterns of teachers across the state based on their school location. Georgia is divided into 16 Metropolitan Statistical Areas (MSAs). These areas, as determined by the federal government, Office of Management and Budget (OMB) are used to determine population areas of the state with a predetermined given population and high degree of economic and social integration (U.S. Office of Management and Budget, 2007).

The MSAs were used to determine where schools are located in terms of areas of the state population. Codes on the surveys not only indicated the school but also the population region from which the survey was returned from the individual teacher at that middle school. A database was constructed with publicly available demographic information on the given middle schools. These data allowed the researcher to determine whether the responses covered all areas of the state. The MSAs were not used in classification of data for purposes of analysis. Participants self-selected their location with regard to the independent variable of population density.

The identity of all participants was considered confidential because only the school in which the respondent teachers were teaching was identified and participants were not required to provide their names. The responding teachers provided information on their personal demographic characteristics. Institutional human subjects review was sought and approved prior to the data collection and analysis.

Instrument

Survey research has been conducted for years by researchers using formats that included open-ended questions, questionnaires, phone polling, and Internet polls. Most often the data arrives from a specific target group or a random sample of a specific population. Krathwohl (1997) noted that survey research focuses on the commonality of participant responses, how and how much their responses differ and are alike, and the response of participants based on their demographic variables. In addition to demographic information requested, the respondents will be asked to complete the Situational Constraints Questionnaire [SCQ] (O'Connor et al, 1984).

The SCQ consists of 24 items that measure each of the eight situational constraint factors. Participants are instructed to use a 5-point Likert-type scale to indicate how well each statement corresponds to or describes their job setting or situations. The Likert-type scale assesses the accuracy of each statement ranging from 1 (not at all accurate) to 5 (completely accurate). Scores are summed on each of the eight original Situational Constraints Questionnaire subscale factors.

An additional constraint factor was composed to assess administrative constraints that may impede their work as middle-school business information technology teachers. This additional factor will be summed for analysis. This factor was added to try and develop a better educational perspective of possible constraining categories impacting teachers. The addition of administrative duties, responsibilities, and expectations beyond the expected classroom instruction may be a constraint on middle-school business information technology teachers.

The SCQ has been used in a number of empirical studies and has adequate psychometric properties (O'Connor, Peters, Pooyan et al, 1984; Freeman, 1996; Kane, 1997). The Situational Constraints Questionnaire does not refer to the broad potential job functions or specific performance components, but looks at the specific job or work as a whole for the participant being studied (Kane, 1997). Internal consistency reliabilities for the measure are reported to range from .79 to .96, (Freeman, 1996; Kane, 1997).

The first SCQ factor measured job-related information which was operationalized as lack of specific information regarding the duties and parameters of the job. Examples of this constraint included perceptions of inadequate knowledge of:

1. policies and procedures,
2. the communication chain,
3. technical data about the system,
4. the mission of the organization, and
5. the responsibilities of one's position.

Three specific questions comprise this factor on the SCQ were:

1. A person in this job is often provided with the incorrect or inconsistent information;
2. The amount of information given to a person in this job is often inadequate; and
3. Information that anyone in this job needs to accomplish his/her work is frequently hard to obtain or not available at all.

The second SCQ factor assessed tools and equipment needed to perform the job. The operationalization of this factor was the specific job-relevant tools or non-

consumable materials required to carry out the work. Three questions on the SCQ addressed this factor and include:

1. Faulty equipment is often not repaired or replaced when needed;
2. Frequently, a person in this job is not provided with enough tools and/or equipment to do his/her work; and
3. A person in this job is often unable to get equipment when he/she needs it to do the job.

The third SCQ factor was materials and supplies. This factor was operationalized as the consumable materials and supplies that were needed to complete the assigned job duties and was represented by three questions on the SCQ that were:

1. Materials and supplies that a person in this job has to work with are often inappropriate or in poor quality;
2. A person in this job often does not receive enough supplies and materials to perform his/her work; and
3. A person in this job often cannot get necessary supplies and materials when they are needed.

The fourth SCQ factor was related to the monetary resources necessary to complete the job-assigned duties. Budget constraints were operationalized as one's inability to finish a task or another part of his or her duties because the financial means to facilitate the completion has not been allotted. Three questions assessed this construct on the SCQ and included:

1. Rules and procedures prevent anyone in this job from allocating budgetary resources where they are most needed;

2. Insufficient budgetary resources are budgeted to do this job; and

3. Financial resources to do this job are difficult or impossible to acquire.

The fifth SCQ factor was required support and help from others and was operationalized as shortage of help to accomplish a set of tasks, unkept appointments, lack of cooperation from others, lack of support from staff or personnel, and lack of supervisory expertise or specialist knowledge. Three questions comprised the required support and help from others factor on the SCQ and were:

1. People are sometimes hired to work with (or for) the person in this job who cannot provide the help or services required of them;
2. A person in this job often does not receive sufficient help from others to do the job effectively; and
3. Other people who are supposed to provide services or help that a person in this job needs fail to do so.

Education and training was the sixth measured factor on the SCQ and was operationalized as lack of training or lack if continuous training and was represented by three items on the SCQ that were:

1. Inexperienced or untrained people are frequently assigned to work with the person holding this job;
2. A person in this job does not receive enough training of preparation to perform the job at maximum effectiveness; and
3. Advanced training that a person in this job needs to perform effectively is difficult to obtain.

The seventh factor on the SCQ was time. Time was operationalized on this measure as the availability to do the job assigned taking into consideration time limits, interruptions, unnecessary meetings, and non-job-related distractions. Other elements of this constraint included work overload, inadequate response time from supervisors, excessive paperwork, and wading through policies and procedures associated with a duty. Three questions comprise this factor on the SCQ and were:

1. It is hard for anyone in this job to get appropriate, useful periods of time set aside to perform all of his/her job duties;
2. A person in this job often does not have enough time to carry out his/her job duties adequately; and
3. Often, a person in this job does not get the time required to perform his/her duties when they need to be done.

The eighth factor on the SCQ was an assessment of the work environment. This construct was defined as inappropriate workspace, physical working conditions, inefficient work-place design, and extreme noise or disruption. Three questions assessed this factor and were:

1. The way that the work setting is arranged makes it difficult for anyone in this job to get his/her work done;
2. A person in this job doesn't have enough useful work space to perform his/her work; and
3. An appropriate work environment is often hard to arrange or is just not available.

A ninth and final scale focused on administrative constraints. These questions were composed specifically for this study.

1. Building-level administrators have assigned specific duties beyond the given teaching responsibilities to a teacher in this job;
2. School and county level committee assignments are an additional part and expectation of a teacher in this job; and
3. There are teaching responsibilities required for this position that are beyond the scope and expectations of a teacher in this job.

Data Collection Procedures

Data were collected from middle-school business information technology teachers in Georgia. The survey was mailed to the attention of 'Business Education Teacher' at each middle school. Addresses were obtained from the Georgia Department of Education Public School Directory listing. To maximize the number of respondents, a copy of the cover letter and survey were sent via US mail with a self-addressed stamped envelope included to each Georgia middle-school business education teacher. Mailing a copy of the survey was the only data collection method used. A cover letter, the survey instrument, and a stamped, addressed envelope were included to encourage survey response rate. Returned surveys were coded for population density in the state, but this was only done to provide some indication that all areas of the state were represented. Participants self-selected the classification of whether they were working in an urban, suburban, or rural area. Survey data was then entered into SPSS for data analysis.

Data Analysis

Analysis strategies included calculation of frequency counts on the demographic data. These results described the respondents in the study and are detailed in Chapter 4. Response rates were also computed and a Chi-square analysis was performed to ascertain any response/non-response bias in the data. Data were analyzed by computing one-way Analysis of Variance (ANOVA) statistics. The independent variable for these analyses was the coded population density classification [rural, urban, suburban] of the teacher. The dependent variables were the eight situational constraint factors from the SCQ and the extra administrative scale. A separate analysis was performed for each of these dependent variables. The analysis allowed the researcher to examine mean scores and variance on the dependent variables. Because the independent variable consisted of three categories, post-hoc tests were proposed when a main effect was found. The results of these analyses determined what categories of the independent variable contribute to statistically significant differences in the dependent variable of constraints impacting their work as middle-school business information technology teachers.

CHAPTER 4

RESULTS

Findings

This chapter details results from the survey and findings for the study. A description of the participants is provided along with an analysis of response rate. Each of the nine dependent variables and the analyses that accompany associated data are presented. The implications for these analyses are discussed in Chapter 5.

Participants

Data were collected from middle-school business information technology teachers in Georgia. A public database of 460 middle schools was used to identify the number of middle schools in the state. A cover letter and survey was sent to the attention of the business information technology teacher at individual middle schools. These letters were sent generally and not targeted to the teacher by name, but rather to an individual in the school who was teaching business information technology. Not all middle schools in Georgia provided a middle-school business information technology curriculum or reported that they offer middle-school business information technology connection courses.

However, a letter was sent to all middle schools in the state inviting business information technology teachers to participate. The total number of surveys sent to all middle schools was 460 with a response rate of 23.5% (n = 108). According to Langer

(2003), the response rate when mailing surveys to participants is important to identify and track. Encouraging participants to submit their surveys to gain a higher return rate is important to improve the sample quality, but it may have no demonstrated practical effect on the data. A follow-up mailing to non-respondents was completed. One additional survey was returned well after the data analysis was initially performed.

Of the 460 schools, all schools were coded as being included in one of the federal government's classification of Metropolitan Statistical Area (MSA) in the state of Georgia. These statistical areas include 16 distinct areas across the state centered in major metropolitan areas or large cities in Georgia (U.S. Office of Management and Budget, 2007). One MSA encompasses all other areas in Georgia that do not fall near a major metropolitan area. The MSA was used to assure that all population densities of the state were represented in this survey. Data returned by teachers indicated that there is at least one response from a teacher from each MSA and that the lowest percentage of responses from any one area was 11.1%. Chi-square analysis indicated that there were no statistically significant differences in and between metropolitan statistical areas with regard to the number of schools from which data were returned or not returned [$\chi^2(15) = .142$, $p = .86$]. The data suggest that there is no one area either overrepresented or underrepresented in the state. Because response rate differences among data from different MSAs were not found, it appeared that population densities would not be a factor significantly influencing situational constraints responses. Because of the anonymity of respondents, the researcher could not discern whether or not the data are biased by a more or less educated teaching sample or the area of teaching certification.

Participants coded their gender as part of the demographic information on the survey. Of the 108 responses, 80.6% (n = 87) were female and 19.4% were male (n = 21). Of the 108 teachers, 103 indicated their number of years of teaching experience, which ranged from 1 to 37 years with a mean of 7.27 years (SD = 6.56). Twelve teachers indicated that they were first-year teachers. Teachers were asked to supply information on their certification areas. Teachers could select more than one certification area for which they are certified. Certification to teach Business Education (Grades 6-12) was recorded by 80.6% (n = 87) teachers, Middle-School (Grades 4-8) by 35.2% (n = 38) teachers, Technology Education (Grades 6-12) by 9.3% (n = 10), and other certification by 24.1% of teachers (n = 26). Other areas of certification included areas such as Reading, Social Studies, School/Library Media, School Counseling, Mathematics, Marketing Education, and Family and Consumer Sciences Education.

Teachers were also asked to indicate the grade levels that they taught. Middle schools in Georgia typically are comprised of Grades 6-8; however, sometimes schools also include Grades 5 and 9. The distribution of grades taught by the teachers in this sample is presented in Table 1.

Table 1. *Grade Distribution of Middle Schools*

Grade	Number and Percent
5	1 (0.9)
6	100 (92.6)
7	106 (98.1)
8	106 (98.1)
9	3 (2.8)

Data were also collected from the teachers on the type of community where the middle school was located. Participants were asked to identify their schools as located in

rural, suburban, and urban population density areas. Middle-school business information technology teachers made this selection when completing the demographic data on the survey. The distribution of the 108 schools across Georgia from teachers who returned the survey was 42.6% rural (n = 46), 39.8% suburban (n = 43), and 17.6% urban (n = 19).

Situational Constraints Analyses

Eight separate analyses were conducted with data collected on the Situational Constraints Questionnaire (SCQ) and a ninth analysis was added for the Administrative subscale. The eight analyses examined teachers' responses by population density (rural, suburban or urban) on job-related information, tools and equipment, materials and supplies, budgetary support, required help and support from others, education and training, time, and work environment. Respondents indicated a Likert-type rating from 1 (not at all accurate); 2 (somewhat accurate); 3 (fairly accurate); 4 (very accurate); to 5 (completely accurate) on each item. The 24-item Situational Constraints Questionnaire used was developed from items initially created by O'Connor, Peters, Pooyan, et al. (1984).Three additional questions were asked of teachers that focused on administrative issues as a constraint. These questions were composed by the author and not part of the SCQ. Mean scores for each of the three items were calculated for these administrative items. A one-way analysis of variance was conducted with post-hoc Scheffe tests, as needed, for subscales of the SCQ. Mean scores for each of the teachers groups based on population density as well as a mean for the 108 teachers is also provided.

Job Related Information

Teachers responded to three questions which comprised the Job-Related Information scale on the SCQ. The alpha coefficient for the subscale with this sample

was .77. Teachers in all three population densities noted that this was a situational constraint to their work as middle-school business information technology teachers (M_{total} = 3.99, *SD* = .99). In reflecting on the types of information needed to adequately teach business information technology, there was no statistically significant difference found among the three groups of teachers [$F(2, 105) = .47$, $p = .63$] suggesting that this was not a situational constraint for all teachers across Georgia.

Tools and Equipment

Three questions formed the Tools and Equipment scale of the SCQ. The alpha coefficient for the subscale with this sample was .87. No statistically significant difference was found among the three groups of teachers [$F(2, 105) = .47$, $p = .63$], with all teachers noting a situational constraint to their work as a middle school business information technology teacher because of the tools and equipment needed (M_{total} = 3.82, *SD* = 1.19). The mean scores for the three groups were rural = 3.95 (*SD* = 1.05), suburban = 3.72 (*SD* = 1.29), and urban = 3.73 (*SD* = 1.27).

Materials and Supplies

Teachers' responded to three questions which comprised the Materials and Supplies scale on the SCQ. Teachers indicated that the perceived lack of appropriate materials and supplies to also be a situational constraint to their work as business information technology teachers in middle schools (M_{total} = 3.83, *SD* = 1.24). No statistically significant difference was found among the three groups of teachers [$F(2, 105) = 1.82$, $p = .17$]. The mean scores for the three groups were rural = 4.08 (*SD* = 1.06), suburban = 3.69 (*SD* = 1.39), and urban = 3.51 (*SD* = 1.28). The alpha coefficient for the subscale with this sample was .91.

Budgetary Support

No statistically significant differences were found among the three groups of teachers on the situational constraint of budgetary support [$F(2, 105) = .99$, $p = .37$]. The alpha coefficient for the subscale with this sample was .87.On issues of funds needed to support their work in middle-school business information technology programs, teachers across the state identified lack of funds to be a constraint ($M_{total} = 3.73$, $SD = 1.22$). The mean scores for the three groups of teachers were rural = 3.91 ($SD = 1.17$), suburban = 3.55 ($SD = 1.29$), and urban = 3.70 ($SD = 1.14$).

Required Help and Support from Others

This scale of the SCQ polled teachers' perceptions of support services from others whose assistance aides in the instructional support and work of middle-school business information technology teachers. Teachers across Georgia coded this situational constraint as 'very accurate' of their experiences ($M_{total} = 4.13$, $SD = .82$). While the three groups of teachers found this to be a constraint, no statistically significant difference was found based on setting [$F(2, 105) = .90$, $p = .41$]. The mean scores for the three groups of teachers were rural = 4.25 ($SD = .69$), suburban = 4.06 ($SD = .93$), and urban = 4.00 ($SD = .87$). The alpha coefficient for the subscale with this sample was .66.

Education and Training

Teachers responded to three items on the Education and Training subscale of the SCQ concerning their own professional development and the professional development of those assigned to help in the classroom such as teaching assistants. No statistically significant difference was found among the three groups of teachers [$F(2, 105) = .85$, $p = .43$]. The alpha coefficient for the subscale with this sample was .68. In general, teachers

perceived this as a very accurate rating on the Likert scale as a situational constraint to their work in middle-school business information technology programs (M_{total} = 4.11, *SD* = .88). The mean scores for the three groups of teachers were rural = 4.22 (*SD* = .73), suburban = 4.08 (*SD* = .91), and urban = 3.91 (*SD* = 1.13).

Time

Three questions comprised the Time subscale on the SCQ measuring teachers' concerns about the amount of time they had on finding appropriate time to perform all job duties and actual time to teach what they needed to teach (M_{total} = 3.86, *SD* = 1.18). No statistically significant difference was found among the three groups of teachers [$F(2, 105) = 1.06$, $p = .35$]. The mean scores for the three groups of teachers were rural = 4.01 (*SD* = 1.02), suburban = 3.66 (*SD* = 1.35), and urban = 3.96 (*SD* = 1.09). The alpha coefficient for the subscale with this sample was .94.

Work Environment

Teachers responded to three questions on the work environment and its impact on their work as middle-school business information technology teachers. Three questions focused on the arrangement of the classroom, work space available to teachers, and an appropriate teaching environment. Teachers across the state identified this as a very accurate rating on the Likert scale as a situational constraint to their work as middle school business information technology teachers (M_{total} = 4.33, *SD* = .91), although not a statistically significant difference [$F(2, 105) = 1.54$, $p = .22$]. The mean scores for the three groups of teachers were rural = 4.51 (*SD* = .72), suburban = 4.20 (*SD* = .96), and urban = 4.19 (*SD* = 1.15). The alpha coefficient for the subscale with this sample was .74.

Administrative

On the first item, teachers indicated the degree to which building-level administrators assigned specific duties beyond the given teaching responsibilities. Teachers across all population densities rated this item as somewhat accurate to fairly accurate (M_{total} = 3.05, *SD* = 1.67). No statistically significant difference was found among the three groups of teachers [$F(2, 105) = .41$, $p = .67$]. The mean scores for the three groups of teachers were rural = 3.09 (*SD* = 1.72), suburban = 3.14 (*SD* = 1.64), and urban = 2.74 (*SD* = 1.63).

On the second item, teachers were asked whether school and county level committee assignments were an additional part and expectation of the job. Teachers across all population densities rated this item as nearly fairly accurate (M_{total} = 2.88, *SD* = 1.42). No statistically significant difference was found among the three groups of teachers [$F(2, 105) = 1.33$, $p = .27$]. The mean scores for the three groups of teachers were rural = 2.70 (*SD* = 1.52), suburban = 3.16 (*SD* = 1.56), and urban = 2.68 (*SD* = 1.06).

On the third item, teachers were asked the extent to which the teaching responsibilities required for their teaching position were beyond the scope and expectations of a middle-school business information technology teacher. All groups of teachers indicated responses that placed this constraint close to the very accurate anchor of the survey scale. No statistically significant difference was found among the three groups [$F(2, 105) = .22$, $p = .98$; M_{total} = 3.90, *SD* = 1.36]. The mean scores for the three groups of teachers were rural = 3.87 (*SD* = 1.41), suburban = 3.93 (*SD* = 1.35), and urban =3.89 (*SD* = 1.33).

While not a formal part of the Situational Constraints Questionnaire, across all three administrative items teachers indicated that there may have been some additional administrative responsibilities that strained their work efforts as middle-school business information technology teachers. Telling are the items that suggest that business information technology teachers are being assigned duties above and beyond typical teaching responsibilities and are being assigned teaching responsibilities above their typical course instruction in middle-school business information technology.

Summary

When the Situational Constraints Questionnaire measure was analyzed using the subscale data, there were no significant differences found among teachers based on the demographic density of the area where the school was located in Georgia. The data do suggest that teachers have a number of constraints that influence their work as middle-school business information technology teachers in Georgia.

Through this study, teachers identified job-related information, required help and support from others, education and training, and work environment as constraints to their works as middle-school business information technology teachers. The lowest mean score of a subscale was administration scored by teachers to be fairly accurate, but this may still considered to be a constraint to their work as middle school business information technology teachers and classroom instruction. The possible abundance of situational constraints found within Georgia middle-school business information technology classrooms may lead or manifest itself in ways that reduce the amount of effort, morale, or attitudes by employees as discussed in Steel and Mento (1989). These researchers added that considerable precedent suggests reduced employee job

performance precedes a reduction of employee's attachment or loyalty to the organization. One possible explanation may be the more situational constraints that impact employees (middle-school business information technology teachers), the greater the likelihood this teacher will become disconnected to the job, curriculum, students, and their commitment to the current teaching assignment.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Discussion and Conclusions

Situational constraints impact performance and outcomes. In this research study, the purpose was to identify selected situational constraints to the work and job performance of middle-school business information technology teachers from different population densities in Georgia. These identified situational constraints were closely aligned to teachers' responsibilities and job performance. The results suggested that teachers were not able to do their primary assigned jobs without some form of situational constraint impacting their performance. While analysis indicated that there were no differences by population density, mean scores on constraint subscales suggested that constraints were large enough to have a possible impact on teachers as they performed their assigned tasks. A discussion of these constraints and implications for practice and research follows.

Reviewing the statistical analyses from each of the subscales for the Situational Constraints Questionnaire, one result was clear. No statistically significant differences were found between teachers of middle-school business information technology courses in rural, suburban or urban schools. This result demonstrated that funding, resources, equipment, and facilities were not dramatically different from rural schools to urban schools. Based on the 2000 Census update, Georgia is a large and diverse state with

incredibly large cities and very rural counties. It was thought that the essential funding and local tax base did not always support rural and urban schools in the same manner as some suburban school systems. Results of this study, while not addressing the tax base or specific levels of school funding, showed that resources were available in various ways to middle-school business information technology teachers.

Dayton (1998) stated that rural and urban schools face serious funding challenges compounded by limited educational resources and increased academic requirements. Rural communities possess smaller tax base, employment opportunities, and a dwindling population. Dealing with budget issues has always been a situational constraint studied (Peters, O'Connor, Eulberg, 1985). However, these hypothesized differences between population densities in Georgia were not significantly different in this study.

Subscales with Greatest Results

The subscales from this study yielded results that could show middle-school business information technology teachers believed situational constraints impacted their instructional work and job performances. These subscales included Work Environment, Required Help and Support from Others, and Education and Training. These three areas are important to discuss because of their impact on middle-school business information technology teachers' abilities to carry out effective instructional programs for students in their classrooms. In addition, these categories may be seen as more concrete, definable, and perhaps easier to resolve.

A noisy classroom with sounds of highway traffic, noisy heating, ventilation, and air-conditioning (HVAC), and high ceilings with concrete walls all impact the distractibility and noise generated in classrooms (Nelson, Kohnert, Sabur & Shaw, 2005).

Poor acoustics often impact students' ability to hear, interpret speech intelligibly, carry out verbal instructions from a teacher, or participate in a discussion. When classrooms sound like an echo chamber, students often miss or misunderstand parts of the teacher's lessons (Johnson, 2001). Sound, lighting, and temperature can impact the conditions for learning and job performance for teachers (Fosnaric & Planinsec, 2008).

The components found within the work environment for middle-school business information technology teachers have a tremendous impact on their work. Kane (1993) termed the work environment as including extremes or excesses in heat, cold, noise, lighting, ventilation, odors, or other related features that impact the worker as he or she conducts normal work performance. Teachers are often confronted with classroom interruptions, temperature changes, lighting, noises, odors, and other environmental elements that limit their abilities to carry out the work of middle-school business information technology teachers. Teachers may also have to deal with outdated buildings that cannot support the electrical needs of a classroom (middle-school business information technology classroom), or that provide inadequate classroom square footage (Nelson, Kohnert, Sabur & Shaw, 2005).

According to the Situational Constraints Questionnaire subscale results for work environment, middle-school business information technology teachers in Georgia responded with a mean score rating of 4.33 out of 5.00 for the Work Environment subscale, indicating that it was a situational constraint to performance. The subscale's three questions focused on arrangement of the classroom, useful work space provided to perform their work, and appropriate teaching environments being hard to arrange or not available.

The current facilities provided for a middle-school business information technology classroom in some schools may have less modern facilities or classrooms as pointed out in the Nelson, Kohnert, Sabur & Shaw (2005) research, or may result in a reduced ability to complete tasks due to space limitations. Most schools were built for classrooms of 780 to 900 square feet, (Tanner, 2001). The current specification for a new middle-school business education classroom includes a minimum of 1100 square feet, or 26 x 42 feet.

Some school systems may be using outdated buildings and classrooms that are too small to accommodate some performance activities and standards in the middle-school business information technology curriculum. The lack of adequate and appropriate functional classroom space may limit teachers in what they can provide and thus their work environment becomes a situational constraint to work as middle-school business information technology teachers. As Fosnaric and Planinsec (2008) added, the work environment of climate, light, and noise affects the work performance of students and teachers and can interfere with learning.

Another situational constraint subscale that many middle-school business information technology teachers' responses indicated could be viewed as a constraint is Required Help and Support from Others. Required help from others, or technical assistance, often refers to experts in given areas of study not associated with a school helping those who work daily in a school to do their work better (Garcia & Donmoyer, 2005). This constraint could be two-fold because it would include both technical and instructional support. Kane (1993) stated that this situational constraint limits workers from performing their assigned duties without adequate help from others dedicated to

providing classroom or instructional service. This situational constraint may limit services offered, thus causing failure and reduced productivity. Middle-school business information technology teachers may see the need for technical support being given by a local instructional technology support specialist and the lack thereof as a highly constraining element.

Teachers also may see the lack of support and help for implementing new curriculum standards from curriculum or local career and technical directors as a limiting factor. “Since supporting effective instruction is the school reform that matters most for student achievement, districts placing a high priority on direct observations of classroom practice appear to be on the right track” (Sweetland, 2008). The lack of support or appearance of little support from areas beyond the classroom provides a negative reaction to initiatives and proposed changes. For this subscale in the Situational Constraints Questionnaire, help and support services from others, the mean score for respondents was 4.13 out of a possible 5.00.

Without help or support from others, whether they are located at the local school front office, central board of education office, or even the state department of education, teachers will see the lack of support and help from others as a significant situational constraint limiting their abilities to work as middle-school business information technology teachers. The development of detailed policy to organize help and support from others for middle-school business information technology teachers is critical.

Another subscale on the Situational Constraints Questionnaire that teachers responded to as an apparent situational constraint dealt with education and training. Education and training are important to the process of providing change and direction to

new initiatives, yet may also be known as a situational constraint. Many local school systems may be able to offer opportunities for professional learning including time for on-site school walk-throughs, and principals who are able to take plans and implement them into action (Seaton, Emmett, Welsh & Petrossian, 2008).

Teachers responded to three subscale questions that dealt with professional development or professional learning for themselves and professional development/learning for those assigned to help in the classroom, such as paraprofessionals or classroom assistants. Middle-school business information technology teachers (workers) and those that will be in the classroom (work site) helping students master business education standards need to complete training activities, and have the appropriate training and preparation to accomplish their job duties, according to Kane (1993).

Failure to provide training and educational opportunities may result in this becoming a situational constraint and an obstacle to overall job performance. Overall, middle-school business information technology teachers did believe education and training was a constraint with a mean score of 4.11 out of 5.00. Seaton, Emmett, Welsh and Petrossian (2008) suggested that administrators and teachers need to provide equal focus to the "how" to improve teaching and learning, as well as the "what" that needs to be accomplished. By giving equal amounts of effort to professional development and ongoing efforts to improve how instruction is delivered to and received by students, the overall results should be improved. These researchers added that effective and well-implemented professional learning involves collaboration teams working together,

identifying, learning and using effective evidence-based practices to meet students' needs and this will lead to measurable student learning gains and reduced achievement gaps.

The impact of this situational constraint on Georgia middle-school business information technology teachers could include failure to implement new standards, and situations where teachers continue to offer what has been provided or taught for years, even though the information is outdated and not meeting the educational or motivational needs of middle-school students.

Results with Some Possibilities

From the data analysis on each Situational Constraints Questionnaire subscale, several items indicate the potential existence of constraints on middle-school business information technology teachers. Responses showed that teachers were likely experiencing constraints pertaining to Job-Related Information. Job-related information deals with getting the essential information (curriculum guide, job expectations) to the job assigned worker/teacher.

According to Kane (1993), workers need information to perform job duties as expected, and a break in this information-sharing impacts the worker's performance. The data from the Situational Constraints Questionnaire subscale pertaining to Job-Related Information indicated that teachers believe the lack of communication and information related to middle-school business education is a constraint. The mean score for this subscale was 3.99, which was labeled close to "very accurate" on the Likert scale for the Situational Constraints Questionnaire describing teachers' job situation. Situational constraints, such as lack of information supplied, a disregard for sharing job-related

curriculum materials with teachers from the local system level or state level can result in an inability to carry out their classroom educational duties.

The sharing of job-related information is important for middle-school business education teachers. Machin and Fogarty (1997) believed the sharing of job-related information and knowledge given to teachers impacted their ability to improve job performance and tangible performance outcomes of students. Muir (2001) pointed out that a real problem facing educators was helping all students achieve optimal learning. Optimal learning includes conceptual understanding and the ability to apply knowledge to new problems, learning, and creations.

Another situational constraint identified in this study by teachers that may limit their ability to do their work is Tools and Equipment. Peters, O'Connor, and Eulberg (1985) and Kane, (1993) identified tools and equipment as the specific tools, machinery, and devices needed by the employee to perform their jobs. If certain tools and equipment essential to the job were unavailable or inadequate, the ability of the worker/employee to complete the task would be impeded.

Results from the tools and equipment subscale in the Situational Constraints Questionnaire indicated that teachers rated the lack of tools and equipment in the middle-school business information technology program as a very accurate indicator, 3.82 on a 5.00 scale.

Tools and equipment needed to complete a given task for these respondents would typically include a modern computer lab with essential equipment. Introduction of new technology moves at rapid rate of speed in regard to continual hardware and software updates, new devices to complete a task, and new Web tools to introduce to students, so

keeping up with this technology may be daunting. As Muir (2001) pointed out, engaging middle-school students in meaningful learning and using teaching techniques that match what we know and how kids learn is important. The requirement to have all of the tools and equipment required to teach students modern technical skills is as urgent as teaching students how to think, motivating students to learn, and making sure that what they are studying is relevant and applied to many possible activities and classes. Research for this constraint should be continued with a focus on teachers' understanding of tools and equipment essential for the middle-school business information technology classroom.

Another moderately identified situational constraint that may be seen as limiting teachers' ability to do their work was Materials and Supplies. Kane (1993) categorized materials and supplies as the scope of inadequate quality, quantity, and availability of materials and supplies that adversely affect the job performance of workers/employees. Materials and supplies can be explained as simply as chalk, dry erase markers, and printer paper, or include items such as classroom posters, overhead projector replacement bulbs, toner cartridges, and recordable compact disks.

The subscale mean score of 3.83 out of 5.00 identified materials and supplies as a potential situational constraint. One possible explanation for this would be deficiencies in funding for materials and supplies. For example, materials and supplies for a middle school business information technology computer lab are needed on a yearly basis and would need appropriate yearly funding through budgetary support to provide for instruction and other required activities. However, if funds from local or state funding sources were limited, middle-school business information technology teachers would

have to become creative in completing the activities and assignments necessary for their program.

Another situational constraint that is an essential part of every teacher's daily resource allocation is their time. Kane (1993) explained time from a situational constraint perspective as workers lacking sufficient time to produce the required quantity or quality of work and less able to perform effectively. Time is an important resource for any teacher but it is often turned into a situational constraint for the middle-school business information technology teachers that participated in this study. "Other duties as assigned" may preclude teachers from having a normal daily schedule and business information technology teachers are no exception. Three subscale questions on the Situational Constraints Questionnaire probed whether teachers had appropriate time to perform all job duties, enough time to carry out all of their job duties adequately, and actual time required to perform duties when they need to be done. The mean score for teacher ratings of time as a constraint was 3.86 out of 5.00. Middle-school business information technology teachers may see time as a situational constraint to completing their normal daily duties.

What Does This All Mean?

What does all this mean? When considering possible situational constraints for middle-school business information technology teachers as they impact job-related information, time, tools and equipment, and materials and supplies, some teachers felt these issues were more of a constraint than other teachers. This discrepancy was revealed by the large standard deviation for each of these subscales. Some teachers may believe that these categories are constraints to their job performance.

Another possible reason for a wide variance in the scores may be the result of local system leadership and vision. Bray (2008) suggested building strong local leadership, which could produce louder discussions for educational reform. Change in career and technical education also occurred with a focus on what is taught, how it is taught, and where it is taught. She added that strong local guidance and support are needed qualities in leaders to support their teachers. This strong local leadership within career and technical education programs may be impacting teachers, including middle-school business information technology teachers. The local leadership for some systems may be able to provide the tools, materials, time, and job information needed to help middle-school business information technology teachers continue to instruct students and perform well in their job. However, there may still be a significant group of teachers that lack this leadership locally and are constrained by some of these issues within their programs.

More research needs to be performed to better understand the full nature of these situational constraints on middle-school business information technology teachers and their strategies for addressing these constraints and improving their programs appropriately.

A Discussion about Budget

Budgetary Support is a situational constraint identified in this study by most teachers as impacting their abilities to perform job expectations and instruct students. Kane (1993) considered budgetary support to be essential financial funds to successfully carry out peoples' jobs. When companies (schools) provide inadequate budgetary

allotments for their workers or employees, the degree to which they can effectively deal with and carry out their job responsibilities is jeopardized.

When considering this situational constraint, Peters, O'Connor and Eulberg (1985) determined that highly constrained workers performed at a lower level than workers in a less constraining work environment. The mean score for teachers participating in this research study in rating budgetary support as a situational constraint was 3.73. With 60 to 76 percent of respondents rating budgetary support as a situational constraint, middle-school business information technology teacher's attitudes toward the job may result in working at a lower level of productivity, the quality and quantity of work in support of their program suffering, and the overall development and preparation of enrolled students is less than optimal.

Administrative Subscale

The last analysis from this study pertained to administrative constraints to their work as middle-school business information technology teachers. Administrative constraints included additional duties assigned by the building administrator or central office director, or being required to complete extra duties beyond the regular teacher classroom day. According to Jorgensen and Peal (2008), teachers often feel like the building-level administrator has lost touch with what is happening in the classroom and is purely focused on test scores and making annual yearly progress. When the administrator is more focused on the logistics of the school day than on what happens in the classroom, a constraint is created with regard to instructional performance.

The first item of this subscale indicated the degree to which building level administrator's assigned specific duties beyond the given teaching responsibilities. A

mean of 3.05 was tabulated for respondent ratings on this item. Based on the survey scores, middle-school business information technology teachers may have grown to accept that they will have additional duties assigned to them beyond the given teaching responsibilities of the business education classroom. Teachers often have morning or afterschool duties, lunchroom duties, bus duties, responsibilities for a reading class, or any other duty related to the general operation of the school day with attention to keeping students safe and learning.

The second item on the subscale asked middle-school business information technology teachers whether school and county-level committee assignments were an additional part and expectation of their job. A mean score of 2.88 was computed for responses on this item. County-level committee assignments did not appear to add or extend the expectations of their jobs as middle-school business information technology teachers. Allowing teachers to have a voice or ownership over their work as middle-school business information technology teachers is a positive event and facilitative function. This ownership increases employee satisfaction, encourages work performance, and reduces frustration, according to Peters, O'Connor and Eulberg (1985).

The third item in this subscale asked middle-school business information technology teachers the extent to which the responsibilities required for their teaching position were beyond the scope and expectations of their assigned job. Teachers across Georgia indicated responses that resulted in a mean score of 3.90 for this item. This may refer to the belief that teachers expect to have additional duties as assigned given to them by their building or central office administrators throughout the year. Most of these additional responsibilities are related to keeping order and fulfilling daily expectations of

the school day. Additional responsibilities may include covering other teacher's classes instead of having planning time, giving up their instructional time for varying school events, assisting with maintenance of another teacher's computers, or other activities that impact their ability to focus on teaching middle-school business information technology courses. This impact on their work and job performance may lead to greater frustration and reduced job satisfaction, according to Peters, O'Connor and Eulberg (1985).

Overall, the administrative constraint is viewed by middle-school business information technology teachers to add additional duties above and beyond the assigned job duties and may impact their abilities to complete their primary duties of instructing students to learn the skills related to business. Additional research is needed to better understand and identify the point at which the administrative constraint would impact the middle school business information technology such that productivity in instruction would be affected.

Implications of the Study

Middle-school administrators, central office leaders, and state level leaders need to provide useful, practical, timely, and productive professional learning opportunities for teachers so that they experience true facilitative opportunities to develop as teachers and can learn effective ways and essential approaches to implement middle-school business information technology instruction. This could include implementing curriculum standards so that students gain the full range of experiences related to technical skills and career exploration in business information technology.

Teachers are often able to overcome some of the situational constraints studied in this research project. However, some constraints, such as work environment, help from

others, education and training, and job-related information, are to a certain point fixed and can result in teachers choosing to leave the school or the teaching profession. These constraints are fixed to the extent that a local system or state agency will clearly either be able to provide assistance or not in these areas. The impact of these situational constraints for middle-school business information technology teachers is usually evident. The prominence of these constraints resulted in the higher scores on these subscales for this administration of the Situational Constraints Questionnaire.

When discussing the remaining subscales in the Situational Constraints Questionnaire, middle-school business information technology teachers have a bit more control in how they will react and plan. When working with budgetary support, teachers are given an amount of funding they will receive for the year and they generally plan accordingly. The constraint of tools and equipment can be resolved through strategic planning and communications with the local system career and technical director. This planning may result in an equipment purchase schedule for the middle-school teacher and a systematic plan for purchasing, replacing, or repairing tools and equipment. Communications with the career and technical local system director can also result in plans for the purchase of materials and supplies for the middle-school business information technology program. Additional training and professional learning opportunities for local system administrators and middle-school business information technology teachers can better address these constraints. The final two situational constraints of time and administrative duties are usually determined by the leadership teams of individual schools. Some local systems provide the daily schedule to middle schools. The middle-school business information technology teacher needs to

communicate with the building level administrators to make sure the program is supported and given the time to operate and provide appropriate instruction. The assignment of additional administrative duties can also be addressed through building level meetings and communications. Teachers can make it known should additional duties impact the instructional support and delivery of a quality middle school business information technology instructional program.

Summary and Additional Research

The results of this study suggested that middle-school business information technology teachers report that they do experience situational constraints within their current job duties, though these situational constraints do not result in statistically significant differences for teachers in areas of Georgia with differing population densities. The situational constraints that result in the greatest impact for teachers as shown through the Situational Constraints Questionnaire are the areas of work environment, required help and support from others, education and training, and job-related information for middle-school business information technology teachers.

If these situational constraints exist now in middle-school business information technology programs, could they also exist in other middle-school classrooms? The potential is present for the existence of constraints to be found in many educational classrooms. The primary goal is to be proactive to identify the job performances and scheduled work within a daily schedule for each middle-school teacher. As a building level administrator the goal is to make remove potential situational constraints.

Although situational constraints impacted teachers differently as indicated by the standard deviation scores computed for the data, teachers found it challenging to perform

their work as middle-school business information technology teachers. Through additional research and study, policies could be developed to assist middle-school business information technology teachers in obtaining improved working environments or classrooms, specific curriculum help and technical assistance for their labs, additional professional learning, and clearer expectations for their jobs. The elimination of constraints may result in students receiving more benefits from the middle-school business information technology courses, greater connections to their academic classes, and opportunities to build relationship-filled experiences through high school work-based learning options and career and technical student organizations.

The ultimate purpose of removing situational constraints found in middle-school business information technology classrooms is to improve instructional delivery and the preparedness of middle school students as they matriculate to high school and choose their career pathway. The improvement of middle-school business information technology programs revolve around a stronger student possessing essential technical skills who graduates from high school and is prepared for any of the career pathways available to them. Entering these pathways may include additional preparation at a technical college, in the military, taking a position within the workforce, or undertaking a university education. The increased rigor of a higher quality program could provide a higher qualified student and increase the likelihood of success in the workplace.

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APPENDICES

APPENDIX A

Survey Participation Cover Letter

September 1, 2008

Dear Teachers,

Welcome back to another year of teaching. I hope this school year and your classes have started well. I am in the process of collecting data from middle school business education teachers. This data is being used as part of my graduate program at the University of Georgia in Athens through the Workforce Education, Leadership and Social Foundations department.

We are researching to see if there are constraints that exist in the middle school Business Education/Business Information Technology/Business and Computer Science classroom. All three names given above refer to the middle school business and computer application program offered through career and technical education programs in Georgia. Some of the suggested constraints that could be found in educational classrooms according to research studies include tools and resources, education and job training, materials and supplies, classroom environment and additional job responsibilities, and budget. Depending on work or classroom situations, these constraints may or may not be present for you.

On the attached survey are statements that may or may not describe your present classroom situation. We are interested in how well each of the statements below describes your classroom teaching situation. As you read through the list, you will notice that some of the statements are similar. However, no two of them are exactly alike or have exactly the same meaning. You should simply respond to them as they appear and avoid checking back to previous items to make sure your answers agree. **Please be sure to respond to all of the items.**

To make sure that this study is completed in a timely manner, please completely answer this survey and return in the self-enclosed, stamped envelope by October 1, 2008. If this survey is not returned initially, another copy will be mailed requesting again for you to complete and return to be a part of this research study. If you agree to participate in this study, the return of this survey indicates your consent.

We appreciate your assistance in this study.

Dr. Roger Hill
Principal Investigator

John Pritchett
Co-Principal Investigator

APPENDIX B

Situational Constraints Questionnaire

Please complete the following. While you may skip any question that you do not want to answer, we hope that you will complete all items. Thank you.

1. Gender: Male _____ Female _____

2. How many years have you taught middle school business education, middle school business information technology, or middle school keyboarding courses?

   _____

3. What are you certified to teach? (Check all that apply)

_____ Middle School (4-8) _____ Other, please specify:

_____ Business Education (6-12) _____

_____ Technology Education (6-12) _____

4. What grade levels do you teach? (Check all that apply)

_____ Grade 5 _____ Grade 6 _____ Grade 7

_____ Grade 8 _____ Grade 9

5. Which do you consider your school:

_____ Rural _____ Urban _____ Suburban

QUESTIONNAIRE

Listed below are statements which may or may not describe your present job situation. We are interested in <u>how well</u> each of the statements below describes your job situation.

Using the 1 to 5 scale below, rate how accurately you think each statement describes your job situation. In the space to the right of each statement, write the number which represents your rating. If any statement does not apply at all to your position (e.g., a statement refers to the materials and supplies you work with but you don't work with any materials or supplies), write the letter "X" in the blank space.

As you read through the list, you will notice that some of the statements are similar. However, no two of them are exactly alike or have exactly the same meaning. You should simply respond to them as they appear and avoid checking back to previous items to make sure your answers agree. <u>Please be sure to respond to all of the items</u>.

1 Not at All Accurate	2 Somewhat Accurate	3 Fairly Accurate	4 Very Accurate	5 Completely Accurate	X Does Not Apply

1. The way the classroom is arranged makes it difficult for anyone in this job to get his/her work done. _____
2. It is hard for anyone in this teaching job to get appropriate, useful periods of time set aside to perform all of his/her job duties. _____
3. Materials and supplies that a teacher in this job has to work with are often inappropriate or of poor quality. _____

1 Not at All Accurate	2 Somewhat Accurate	3 Fairly Accurate	4 Very Accurate	5 Completely Accurate	X Does Not Apply

4. A teacher in this job often doesn't have enough time to carry out his/her job duties adequately. _____
5. Frequently, a teacher in this job is not provided with enough tools and/or equipment to do his/her work. _____
6. An appropriate teaching environment is often hard to arrange or is not available _____
7. Inexperienced or untrained people are frequently assigned to work with the teacher holding this job. _____
8. Faulty equipment is often not repaired or replaced when needed. _____
9. The amount of information (curriculum, unit plans) given to the person in this teaching job is often inadequate. _____
10. A teacher in this job doesn't have enough useful work space to perform his/her work. _____
11. A teacher in this job often does not receive enough materials and supplies to perform his/her work. _____
12. A teacher in this job doesn't receive enough training or professional learning to perform the job at maximum effectiveness. _____
13. A teacher in this job is often unable to get equipment when he/she needs it to do the job. _____
14. Other people who are supposed to provide services or help that a teacher in this job needs fail to do so. _____
15. Advanced training that a teacher in this job needs to perform effectively is difficult to obtain. _____
16. Insufficient financial resources are budgeted to do this job. _____
17. A teacher in this job is often provided with incorrect or inconsistent information. _____
18. A teacher in this job often does not receive sufficient help from others (front or central office, CTAE Director) to do the job effectively. _____
19. Often, a teacher in this job doesn't get the time required to perform his/her duties when they need to be done. _____
20. A teacher in this job often cannot get necessary materials and supplies when they are needed. _____
21. Rules and procedures prevent teachers in this job from allocating budgetary resources where they are most needed. _____
22. Information that teachers in this job need to accomplish his/her work is frequently hard to obtain or not available at all. _____
23. People are sometimes hired to work with (or for) the teacher in this job who cannot provide the help or services required of them. _____
24. Financial resources to do this job are difficult or impossible to acquire. _____

1 Not at All Accurate	2 Somewhat Accurate	3 Fairly Accurate	4 Very Accurate	5 Completely Accurate	X Does Not Apply

25. Building-level administrators have assigned specific duties beyond the given teaching responsibilities to a teacher in this job. _____

26. School and county level committee assignments are an additional part and expectation of a teacher in this job. _____

27. There are teaching responsibilities required for this position that are beyond the scope and expectations of a teacher in this job _____

SCQ SCORING FORM

SUBSCALE	QUALITY	QUANTITY	AVAILABILITY	TOTALS
Job-Related Information	*17:* _____	*9:* _____	*22:* _____	_____
Tools & Equipment	*8:* _____	*5:* _____	*13:* _____	_____
Materials & Supplies	*3:* _____	*11:* _____	*20:* _____	_____
Budgetary Support	*21:* _____	*16:* _____	*24:* _____	_____
Help from Others	*23:* _____	*18:* _____	*14:* _____	_____
Education & Training	*7:* _____	*12:* _____	*15:* _____	_____
Time	*2:* _____	*4:* _____	*19:* _____	_____
Work Environment	*1:* _____	*10:* _____	*6:* _____	_____
Administrative	*27:* _____	*26:* _____	*25:* _____	_____
TOTALS	_____	_____	_____	_____

Appendix C

Institutional Review Board Approval Letter

PROJECT NUMBER: 2009-10065-0
TITLE OF STUDY: Identification of situational constraints in middle school business information technology programs
PRINCIPAL INVESTIGATOR: Dr. Roger B. Hill

Dear Dr. Hill,

The University of Georgia Institutional Review Board (IRB) has reviewed and approved your above-titled proposal through the exempt (administrative) review procedure authorized by 45 CFR 46.101(b)(2) - Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, /unless:/(i). the information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; /and/(ii). any disclosure of the human participants' responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants' financial standing, employability, or reputation.

You may now begin your study. Your approval packet will be sent by mail.

Please remember that no change in this research proposal can be initiated without prior review. Any adverse events or unanticipated problems must be reported to the IRB immediately. The principal investigator is also responsible for maintaining all applicable protocol records (regardless of media type) for at least three (3) years after completion of the study (i.e., copy of approved protocol, raw data, amendments, correspondence, and other pertinent documents). You are requested to notify the Human Subjects Office if your study is completed or terminated.

Good luck with your study, and please feel free to contact us if you have any questions. Please use the IRB number and title in all communications regarding this study.

Thank you,

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Appendix D

Situational Constraints Questionnaire Frequency Table

Table 3

Situational Constraints Questionnaire Frequency Table

Question 1 – The way the classroom is arranged makes it difficult for anyone in this job to get his/her work done.

Rating	Frequency	Percent	Cumulative Percent
1	2	1.9	1.9
2	5	4.6	6.5
3	12	11.1	17.6
4	18	16.7	34.3
5	71	65.7	100.0

Question 2 – It is hard for anyone in this teaching job to get appropriate, useful periods of time set aside to perform all of his/her job duties.

Rating	Frequency	Percent	Cumulative Percent
1	9	8.3	8.3
2	8	7.4	15.7
3	11	10.2	25.9
4	31	28.7	54.6
5	49	45.4	100.0

Question 3 – Materials and supplies that a teacher in this job has to work with are often inappropriate or of poor quality.

Rating	Frequency	Percent	Cumulative Percent
1	14	13.0	13.0
2	5	4.6	17.6
3	14	13.0	30.6
4	28	25.9	56.5
5	47	43.5	100.0

Question 4 – A teacher in this job often doesn't have enough time to carry out his/her job duties adequately.

Rating	Frequency	Percent	Cumulative Percent
1	10	9.3	9.3
2	9	8.3	17.6
3	16	14.8	32.4
4	35	32.4	64.8
5	38	35.2	100.0

Question 5 – Frequently, a teacher in this job is not provided with enough tools and/or equipment to do his/her work.

Rating	Frequency	Percent	Cumulative Percent
1	11	10.2	10.2
2	11	10.2	20.4
3	11	10.2	30.6
4	37	34.3	64.8
5	38	35.2	100.0

Question 6 – An appropriate teaching environment is often hard to arrange or is not available.

Rating	Frequency	Percent	Cumulative Percent
1	6	5.6	5.6
2	2	1.9	7.4
3	10	9.3	16.7
4	26	24.1	40.7
5	64	59.3	100.0

Question 7 – Inexperienced or untrained people are frequently assigned to work with the teacher holding this job.

Rating	Frequency	Percent	Cumulative Percent
1	2	1.9	1.9
2	6	5.6	7.4
3	30	27.8	35.2
4	9	8.3	43.5
5	61	56.5	100.0

Question 8 – Faulty equipment is often not repaired or replaced when needed.

Rating	Frequency	Percent	Cumulative Percent
1	9	8.3	8.3
2	11	10.2	18.5
3	12	11.1	29.6
4	24	22.2	51.9
5	52	48.1	100.0

Question 9 – The amount of information (curriculum, unit plans) given to the person in this teaching job is often inadequate.

Rating	Frequency	Percent	Cumulative Percent
1	11	10.2	10.2
2	15	13.9	24.1
3	21	19.4	43.5
4	19	17.6	61.1
5	42	38.9	100.0

Question 10 – A teacher in this job doesn't have enough useful work space to perform his/her work.

Rating	Frequency	Percent	Cumulative Percent
1	8	7.4	7.4
2	8	7.4	14.8
3	3	2.8	17.6
4	14	13.0	30.6
5	75	69.4	100.0

Question 11 – A teacher in this job often does not receive enough materials and supplies to perform his/her work.

Rating	Frequency	Percent	Cumulative Percent
1	11	10.2	10.2
2	9	8.3	18.5
3	13	12.0	30.6
4	23	21.3	51.9
5	52	48.1	100.0

Question 12 – A teacher in this job doesn't receive enough training or professional learning to perform the job at maximum effectiveness.

Rating	Frequency	Percent	Cumulative Percent
1	5	4.6	4.6
2	6	5.6	10.2
3	15	13.9	24.1
4	26	24.1	48.1
5	56	51.9	100.0

Question 13 – A teacher in this job is often unable to get equipment when he/she needs it to do the job.

Rating	Frequency	Percent	Cumulative Percent
1	10	9.3	9.3
2	13	12.0	21.3
3	11	10.2	31.5
4	28	25.9	57.4
5	46	42.6	100.0

Question 14 – Other people who are supposed to provide services or help that a teacher in this job needs fail to do so.

Rating	Frequency	Percent	Cumulative Percent
1	4	3.7	3.7
2	7	6.5	10.2
3	15	13.9	24.1
4	29	26.9	50.9
5	53	49.1	100.0

Question 15 – Advanced training that a teacher in this job needs to perform effectively is difficult to obtain.

Rating	Frequency	Percent	Cumulative Percent
1	4	3.7	3.7
2	8	7.4	11.1
3	18	16.7	27.8
4	24	22.2	50.0
5	54	50.0	100.0

Question 16 – Insufficient financial resources are budgeted to do this job.

Rating	Frequency	Percent	Cumulative Percent
1	18	16.7	16.7
2	10	9.3	25.9
3	15	13.9	39.8
4	26	24.1	63.9
5	39	36.1	100.0

Question 17 – A teacher in this job is often provided with incorrect or inconsistent information.

Rating	Frequency	Percent	Cumulative Percent
1	4	3.7	3.7
2	8	7.4	11.1
3	11	10.2	21.3
4	22	20.4	41.7
5	63	58.3	100.0

Question 18 – A teacher in this job often does not receive sufficient help from others (front or central office, CTAE Director) to do the job effectively.

Rating	Frequency	Percent	Cumulative Percent
1	3	2.8	2.8
2	8	7.4	10.2
3	9	8.3	18.5
4	24	22.2	40.7
5	64	59.3	100.0

Question 19 – Often, a teacher in this job doesn't get the time required to perform his/her duties when they need to be done.

Rating	Frequency	Percent	Cumulative Percent
1	9	8.3	8.3
2	6	5.6	13.9
3	14	13.0	26.9
4	40	37.0	63.9
5	39	36.1	100.0

Question 20 – A teacher in this job often cannot get necessary materials and supplies when they are needed.

Rating	Frequency	Percent	Cumulative Percent
1	11	10.2	10.2
2	9	8.3	18.5
3	18	16.7	35.2
4	26	24.1	59.3
5	44	40.7	100.0

Question 21 – Rules and procedures prevent teachers in this job from allocating budgetary resources where they are most needed.

Rating	Frequency	Percent	Cumulative Percent
1	9	8.3	8.3
2	7	6.5	14.8
3	19	17.6	32.4
4	25	23.1	55.6
5	48	44.4	100.0

Question 22 – Information that teachers in this job need to accomplish his/her work is frequently hard to obtain or not available at all.

Rating	Frequency	Percent	Cumulative Percent
1	4	3.7	3.7
2	4	3.7	7.4
3	16	14.8	22.2
4	33	30.6	52.8
5	51	47.2	100.0

Question 23 – People are sometimes hired to work with (or for) the teacher in this job who cannot provide the help or services required of them.

Rating	Frequency	Percent	Cumulative Percent
1	1	0.9	0.9
2	4	3.7	4.6
3	36	33.3	38.0
4	19	17.6	55.6
5	48	44.4	100.0

Question 24 Financial resources to do this job are difficult or impossible to acquire.

Rating	Frequency	Percent	Cumulative Percent
1	13	12.0	12.0
2	6	5.6	17.6
3	14	13.0	30.6
4	35	32.4	63.0
5	40	37.0	100.0

Question 25 – Building-level administrators have assigned specific duties beyond the given teaching responsibilities to a teacher in this job.

Rating	Frequency	Percent	Cumulative Percent
1	33	30.6	30.6
2	12	11.1	41.7
3	15	13.9	55.6
4	13	12.0	67.6
5	35	32.4	100.0

Question 26 – School and county level committee assignments are an additional part and expectation of a teacher in this job.

Rating	Frequency	Percent	Cumulative Percent
1	28	25.9	25.9
2	18	16.7	42.6
3	22	20.4	63.0
4	19	17.6	80.6
5	21	19.4	100.0

Question 27 – There are teaching responsibilities required for this position that are beyond the scope and expectations of a teacher in this job

Rating	Frequency	Percent	Cumulative Percent
1	11	10.2	10.2
2	10	9.3	19.4
3	9	8.3	27.8
4	27	25.0	52.8
5	51	47.2	100.0